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# IDEA

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**THIS ISSUE AND THE FORTHCOMING ISSUES OF VOLUME  
9 OF IDEA COMMEMORATE THE 175TH ANNIVERSARY  
OF THE UNITED STATES PATENT SYSTEM**

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# Comparative Patent Yields From Government Versus Industry Financed R&D

BARKEV S. SANDERS\*

## SUMMARY

**I**N AN EARLIER INTERIM REPORT relating to the number of patents resulting from Federal R&D with the number of patents resulting from industry's R&D expenditures, it appeared that in terms of the number of patents produced each industry dollar was equivalent to 12 Federal dollars.

In this report we have analyzed the patent production of 78 companies who returned a questionnaire sent to them by the United States Senate Subcommittee on Patents, Trademarks, and Copyrights. The questionnaire sought information on (1) the amount of Department of Defense R&D monies received by these companies for fiscal years 1949 through 1959 inclusive; (2) the R&D expenditures of company monies; (3) the number of patent applications, patents granted, and patent applications pending which resulted from Federal R&D; (4) the total number of patent applications, patents granted, and those pending for each company; (5) the number of Federal R&D contracts; (6) the percentage of total company sales to the Government; and (7) the number of patents resulting from Government supplied R&D that had been put to commercial use and the monetary gains from such use.

We have analyzed these returns with respect to comparative patent yields from Federal and industry supplied R&D dollars; the results indicate that our former finding of 12 Federal R&D dollars being equivalent to one industry supplied R&D dollar, if anything, was conservative. The mean Federal R&D expenditure per patent granted within the study period was \$3.702 million, as against industry supplied R&D expenditures of \$0.288, or a ratio of nearly 13 to 1.

The corresponding comparative patent yield ratios for individual companies show a very wide range of variation from 1,735 to 1 to 0.4 to 1. The question posed by this wide range in yields is: What are the factors which underly these differences?

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\* Dr. Sanders is a member of the Research Staff of The PTC Research Institute. Computations for this report were made by Mr. N. T. Chi under the guidance of Dr. Sanders.

**T**O THIS WRITER IT IS SURPRISING HOW LITTLE has been done to try to establish the comparative patent yield from R&D dollars supplied by Government and those raised by industry, and to inquire into the underlying reasons for differences found in this sort of comparison. Such an understanding and appraisal seems most pressing in view of the apparent low productivity of Federally supplied R&D dollars and the rapid rise in these expenditures since World War II.

It is the impression of this writer that Professor Schmookler was perhaps the first to sense in a vague way the lower patent productivity of R&D funds supplied by Government. Early in his economics training Schmookler became interested in inventions. He wrote his master's thesis, and later his doctoral dissertation on the number of patent applications as an index of what he calls "inventive activity." Lacking any better evidence in support of his hypothesis that the number of patents is an appropriate index of inventive activity, Schmookler used as such evidence the rough parallelism between average annual patent applications in each five-year period centered at the Census years with the Census count of what he labels collectively as "technological workers." The extent of this parallelism since 1870 may be seen in the summary data shown in Table 1.

TABLE 1

NATURE OF ASSOCIATION BETWEEN DOMESTIC PATENT APPLICATIONS AND THE NUMBER OF "TECHNOLOGICAL WORKERS" 1870 TO 1950<sup>1</sup>

CENSUS YEARS	Domestic patent applica- tions, average over 5 years	Technolog- ical workers (000,000)	Patent appli- cations per 100 techno- logical workers	Percentage change from decade to decade in the variables compared	
				Patents	Workers
				(5)	(6)
(1)	(2)	(3)	(4)		
1870	18,600	1.51	1.24	—	—
1888	22,200	2.01	1.10	19.0	33.4
1890	35,800	3.13	1.15	61.6	55.7
1900	36,600	3.75	0.97	2.1	20.1
1910	59,400	5.39	1.10	62.5	43.6
1920	71,900	6.29	1.14	20.9	16.7
1930	73,700	7.10	1.04	2.5	12.9
1940	52,200	6.59	0.80	-29.7	-7.9
1950	60,100	8.59	0.70	14.5	30.2

In the opinion of this writer there is very little that one can deduce from Table 1 as to possible cause and effect relationship between

<sup>1</sup>Derived from Table 1 given by Machlup, F., "Patents and Inventive Effort." The evidence is insufficient to prove or disprove the claim that patent protection promotes inventive effort; *Science*, Vol. 133, No. 3463, May 12, 1961, p. 1464, Table 1.

Column (2) and (3). The degree of parallelism found in the two series is quite small indeed as suggested by Columns (5) and (6). However, our point here is not to dwell on the merits of Schmookler's hypothesis and validity of the proof for it, but merely to emphasize the fact that despite his receptiveness to the idea, Schmookler himself could not accept continued parallelism between his two series beyond the nineteen-thirties. He enumerates a number of possible factors that could account for the break in the assumed validity of patent applications to serve as a measure of inventive activity after the thirties, among which is mentioned the growing magnitude of Government supplied R&D monies.<sup>1</sup>

Aside from this general vague sensing of the lower patent productivity from Federal R&D funds nothing formal has been done to establish the extent of this differential in patent yield, let alone to ascertain the underlying reasons for it. Perhaps to date the most definitive work on the low patent yield from Federal R&D dollars has been done by The Patent, Trademark, and Copyright Research Institute of The George Washington University. In a study of Patent Utilization by the present writer it was found that there were very few patents assigned to the Government and the commercial utilization rate of these patents was much lower. This was incidental, however, to the Patent Utilization Study.

In a subsequent study, conducted by the Research Institute entitled "Federal Patent Policies in Contracts for Research and Development," it is observed:

A tentative conclusion of this study, therefore, is that the value of the patent rights in Federally financed R&D contracts is actually very small. The bases for this conclusion are, first, the vagueness of industry's answers when asked about this; secondly, *the comparatively small number of patented inventions emerging from Federal R&D in the postwar period*; thirdly, the small proportion of commercially used inventions of this kind. It follows that the average experienced contractor knows, when embarking upon his next Federal R&D contract, that few patented inventions are likely to be made, and that of these few, only a small number have any commercial

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<sup>1</sup> In a paper presented before the Conference on the Economic and Social Factors Determining the Rate and Direction of Inventive Activity—May 12-14, 1960, this writer dwells on this relationship between effort and input and resulting patented inventions. See "The Rate and Direction of Inventive Activity, Economic and Social Factors," *A Conference of the Universities—National Bureau Committee for Economic Research*, pp. 54-57 (the entire paper is pp. 53-77).

The paper presented by this author to the Conference had a detailed critical analysis of Schmookler's hypothesis and the evidence presented in its support. These critical portions were, however, deleted from the published paper.

potential. The prospective dollar value of patent rights per million dollars of Federal R&D must indeed be a small amount.<sup>2</sup>

In an earlier interim report this writer addressed himself to the comparative patent yield of Government R&D as contrasted with industry financed R&D. Some crude comparability of patent yields were inferred as follows:

Assuming 32,000 is correct as the number of patents having resulted from Federal R&D expenditures [this figure is taken from Watson et al publication, p. 377], the comparison should be made between this figure and the number and proportion of patents assigned on or before the date of issue to corporations. This number for the period 1946-1959 is 284,400. Thus corporations whose outlays for R&D were about 40 percent, accounted for 284,400 patents and Government with 53 percent of R&D expenditures accounted for 32,000. This yields a ratio of 12:1 between corporate R&D expenditure per patent as compared to Government's expenditure for R&D per patent.<sup>3</sup>

From the method of derivation of the differential it is apparent that these were global approximations and nothing more. Moreover, there has been no penetrating inquiry as to what might account for this wide disparity in patent yields between respective Federal Government and privately raised R&D dollars. Such a study could prove highly instructive on the value of these huge and growing Federal R&D expenditures from the standpoint of their influence on future economic well-being of the country. Unfortunately, resources for such an appraisal are not available to the Research Institute's staff at this time.

Since the publication of the interim report on "What Should the Federal Government's Patent Policy Be?" the present writer has been in search for more definitive evidence on the comparative patent yield of Government and industry provided R&D funds. In this search, he has found some useful statistics published by the Senate Subcommittee on Patents, Trademarks, and Copyrights of the Committee on the Judiciary.<sup>4</sup>

In this report it is said:

In order to obtain information as to the patent aspects of the research and development activities of the Department of Defense,

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<sup>2</sup> Watson, D. S., Bright, H. F., and Burns, A. E., "Federal Patent Policies in Contracts for Research and Development," *PTC J. Res. & Ed.* (IDEA), Vol. 4, No. 4 (Winter 1960), p. 368. (Emphasis added.)

<sup>3</sup> Sanders, B. S., "What Should the Federal Government's Patent Policy Be"; *IDEA*, Vol. 8, No. 2 (Summer 1964), p. 172. In the original there is a typographical error, the 32,000 in the next to the last sentence is printed as 2,000.

<sup>4</sup> "Patent Practices of the Department of Defense," *Preliminary Report of The Subcommittee on Patents, Trademarks, and Copyrights of the Committee on the Judiciary*, United States Senate, 87th Congress, 1st Session pursuant to S. Res. 55, Washington, 1961.

the subcommittee sent a questionnaire to 120 prime contractors. The 120 firms in the survey included the 100 leading prime contractors as determined by the net value of DOD R&D contracts awarded during fiscal 1959 plus 20 of the smaller prime contractors. Of the 100 corporations receiving the largest volume of prime contracts during 1959, 24 are among the 100 largest patent holding corporations as judged by the number of patents issued to them during the 17 years, 1939-1955.

The subcommittee was first interested in determining the expenditures by these contractors of their own funds for research and the dollar volume of R&D contracts awarded to these firms by the Department of Defense during 1949-1959 period. No uniform accounting system has yet been devised to determine strictly what constitutes research and development in contrast to expenditures for production. However, an effort was made to obtain approximately accurate data as to expenditures of research. It should be observed that there are differences between a company-funded R&D program and a Government-sponsored R&D program. A company funded development often does not require the extensive prototype engineering effort usual in DOD contracts. Also, the development of military equipment is generally more costly than the development of commercial equipment due to the severe environmental conditions to which military equipment will be subjected.<sup>5</sup>

In all, only 78 corporations responded and some of them failed to supply information to some of the questions posed by the Subcommittee. With respect to R&D expenditures of these corporations, the Subcommittee makes the following observation:

Of the 78 corporations responding to the subcommittee's questionnaire, 18 reported expenditures of private funds for research in excess of the dollar volume of DOD R&D contracts received during the period of the study. Among the 17 were such leading DOD contractors as Westinghouse Electric, The Radio Corp. of America, General Motors, and Eastman Kodak. At the other end of the scale, 5 of the 78 firms (all 5 being small DOD contractors) reported that they had not expended any private funds for research.<sup>6</sup>

Further information regarding these returns is summarized in the Subcommittee report—pp. 34-38. The returns from each company are summarized in Appendix D, pp. 86-129. The typical pattern in which the information is supplied may be illustrated by the information given for A.C.F. Industries.

Number of R&D contracts: Approximately 350.  
Dollar volume of R&D contracts: \$41,466,000.  
Expenditure of company funds for research: \$12,478,000.  
Percentage of sales to the Government: 31.  
Number of patent applications filed by the contractor: 43.  
Number of these applications which have resulted in patents: 6.  
Number of these applications still pending: 37.

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<sup>5</sup> *Ibid.*, p. 33.

<sup>6</sup> *Ibid.*, pp. 34-35. Of the 78 companies returning a questionnaire, only 70 reported specific amounts which the company had spent on R&D.

Total number of patent applications filed by this firm: 483.  
 Number of these applications which have resulted in patents: 257.  
 Number of these applications still pending: 177.  
 Commercial use: None.<sup>7</sup>

We have subjected these data to further analysis to squeeze from them information bearing on the subject matter of this interim report—the comparative patent yield.

#### COMPARATIVE PATENT YIELDS

While the overall period for which information was sought is the years 1949-59, inclusive, some companies were not in operation for this entire period, therefore, for them the information is restricted to the shorter period when they were in operation. A few other companies lacked information for the earlier part of the period, but supplied information for the latter part of the period. We shall not concern ourselves with these minutiae, however (except where some of the information supplied is patently inconsistent we have either made what seemed to us an adjustment to correct the apparent inconsistency or we have refrained from using the specific statistics that we could not reconcile). It should be appreciated that, if there are such telltale inconsistencies there are probably many more subtle errors and inconsistencies above and beyond the lack of standardized uniform cost accounting to which the Subcommittee refers.<sup>8</sup> This is confirmed by the observation in the report that:

The Subcommittee has not attempted so far to conduct an independent verification of the information supplied in response to its questionnaire. It will be observed that there are some significant variations as to the dollar volume of DOD R&D contracts between the figures supplied by the Department of Defense and those furnished by defense contractors.<sup>9</sup>

In addition to reproducing the information supplied by companies, the Subcommittee report includes a table in Appendix B entitled: "Net value of military prime contract awards of \$10,000 or more to 112 selected companies for experimental, developmental, test, and research work, fiscal years 1954-1959."<sup>10</sup>

Therefore, we have not even the names for 8 of the 120 companies to which questionnaires were mailed. The DOD monies granted to the different companies and the average for the companies which responded to the Subcommittee's questionnaire and the average for

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<sup>7</sup> *Ibid.*, pp. 86-87.

<sup>8</sup> See quotation on page 5 of this interim report from the Subcommittee's work.

<sup>9</sup> *Supra*, footnote 4, p. 86.

<sup>10</sup> *Supra*, footnote 4, pp. 80-81.

those who failed to respond are summarized in Table 2, derived from the Table given in the Subcommittee report in Appendix B, pp. 80-81.

TABLE 2

DOD GRANTS FOR EXPERIMENTAL, DEVELOPMENTAL, TEST AND RESEARCH WORK TO 78 COMPANIES WHO RESPONDED TO THE QUESTIONNAIRE SENT BY THE SENATE SUBCOMMITTEE AND 34 WHO FAILED TO RESPOND <sup>1</sup>, <sup>2</sup>—FISCAL YEARS 1954-1959.

(Amount in thousands of dollars)							
Companies returning the questionnaire				Companies not returning the questionnaire			
Year (1)	Amount (2)	No. Co. (3)	Mean per company (4)	Amount (5)	No. Co. (6)	Mean per company (7)	Column (4)/(7) (8)
1954 <sup>1</sup>	645,693	61	\$ 10,585	\$ 62,511	23	\$ 2,718	3.89
1955	890,414	65	13,699	96,997	25	3,880	3.53
1956	1,660,500	70	23,721	199,596	27	7,392	3.21
1957	2,286,403	70	32,663	372,735	28	13,312	2.45
1958	3,009,602	74	40,670	418,782	33	12,690	3.20
1959	2,913,818	78	37,357	578,720	34	17,021	2.19
Total	\$11,406,430	78	\$ 158,695	\$1,729,342	34	\$57,013	2.78

<sup>1</sup>Compiled from "Patent Practices of The Department of Defense," *"Preliminary Report of the Subcommittee on Patents, Trademarks, and Copyrights of the Committee on the Judiciary, U. S. Senate, 87th Congress, 1st Session, Pursuant to S. Res. 55, Washington, 1961, pp. 80-81.*

<sup>2</sup>We have no information for the 8 companies not listed in the Table in Appendix B to whom questionnaires were mailed, but no returns obtained.

<sup>3</sup>The amounts included in 1954 are those of \$50,000 or more. For all other years they include all amounts of \$10,000 or more.

It is seen that non-reporting companies are those with substantially smaller average grant. By and large, they are the smaller corporations. To test this, we have checked information given in Moody with respect to (1) Net Sales, (2) Net Income, (3) Gross Assets, and (4) Number of Employees and have compared these with similar items of information given in Moody with respect to the 78 corporations who returned the questionnaire. By and large, the non-responding companies are, on the average, much smaller than the 78 companies which returned the questionnaire. For instance, arraying the companies according to their rank in net sales giving rank 1 to the company with the largest net sales, the mean rank for the companies that responded to the questionnaire for whom the information on sales was given was 40 and for companies not responding this average was 53.

In terms of actual sales the mean for the 62 companies reporting, for whom this information could be found in Moody, the amount was \$2,159 million, while the corresponding mean for 24 of 34 companies who failed to return the questionnaire was only \$248 million (for 10 no information was found in Moody). The comparisons with respect to net profits, gross assets, and number of employees, show similar con-

trasts between the two groups of companies. Of the 78 companies returning a questionnaire, 16 were not found in Moody; of the 34 companies not returning a questionnaire 10 were not in Moody. The 8 companies not listed in the Table compiled by DOD must have been companies with the smallest DOD grants—probably less than \$10,000 R&D grants in each of the years 1954 through 1959. This selectivity according to size of the companies responding or failing to respond should be kept in mind, since selectivity could have a biasing effect on the information derived from completed questionnaires as to the comparative yield of patents from Governmentally financed and industry financed R&D.

The gross information with respect to R&D expenditures and patent activities supplied by the companies responding, without major adjustments, is summarized in Table 3. It shows a total of nearly \$14 billion Governmentally supplied R&D grants reported by 75 of the 78 companies returning the questionnaire. Seventy of the 78 companies reported spending company raised R&D funds in these same years (1949 through 1959 fiscal years) amounting close to \$8 billion. The patent applications associated with government supplied R&D funds are about 8 thousand, and 52 thousand are from company supplied R&D. The patents granted up to the time of reporting numbered less than 4 thousand from Federal R&D, and nearly 28 thousand from company supplied R&D. The patent applications reported still pending were a little over three thousand from Government financed R&D and over 14 thousand from privately financed R&D.

The amount of DOD grants shown in Table 3 is \$2,374 million more than that shown in Table 2 for the 78 responding companies, based on information supplied by DOD, but limited to the fiscal years

TABLE 3

SUMMARY INFORMATION DERIVED FROM RETURNED QUESTIONNAIRES BEFORE MAKING ANY MAJOR ADJUSTMENTS OR EXCLUSIONS FOR ONE REASON OR ANOTHER—FISCAL YEARS 1949-1959.

SOURCE	Total R&D reported	No. reporting	Patent applications		Patents granted		Patent applications pending	
			No.	Co.	No.	Co.	No.	Co.
Government	\$13,780,200,141	75	8,002	78	3,678	77	3,221	73
Industry	7,883,650,593	72	52,410 <sup>1</sup>	77	27,620	76	14,386	72
Combined	\$21,663,850,834	75	60,412 <sup>1</sup>	78	33,737 <sup>2</sup>	78	17,607	73

<sup>1</sup>Does not include patent applications filed by All American Engineering Corporation generated from company supplied R&D.

<sup>2</sup>Includes Bendix Corporation which reports all patents granted but does not separate patent applications and related statistics resulting from Government R&D from the total.

Source: "Patent Practices of the Department of Defense," *Preliminary Report of the Subcommittee on Patents, Trademarks, and Copyrights of the Committee on the Judiciary*, U. S. Senate, 87th Congress, 1st Session, Pursuant to S. Res. 55, Washington, 1961, pp. 86-129.



1954-1959, while the company reports (Table 3) extend over the years 1949-1959. One would have expected a larger total of Federal R&D grants in Table 3 since it includes expenditures for five additional fiscal years, during most of which the Korean conflict was going on, implying higher DOD outlays for R&D per year than that for 1954, which in Table 2 is nearly \$646 million. It should be observed further, that the \$646 million is limited to amounts of \$50,000 or more, and for subsequent years the DOD amounts reported for the 78 companies exclude less than \$10,000 grants.

This difference between company reported Government supplied R&D and DOD reports could not be attributed to the failure of the three companies to report Federal R&D amounts even though they returned the questionnaire.<sup>11</sup> We are inclined to believe that there is appreciable underreporting of the Federal grants by some of the companies—which would reduce the “true” comparative patent yield differential between Federally supplied R&D and industry raised R&D which is our main concern in this interim report.<sup>12</sup> That is, had the amounts been fully reported, the comparative differential in favor of industry supplied R&D would have been more marked.

We have no independent check on the amount of industry supplied R&D funds. But we have no reason to assume that they too would be understated, if anything the reverse might be the case, that is, the amounts reported might be inflated, if anything,<sup>13</sup> since expenditure for research has become prestigious.

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<sup>11</sup> The companies who did not report an amount were Bendix Corporation, Fairchild Camera, and General Precision. In the Table in Appendix B in which the Subcommittee gives the DOD grants these three companies received between 1954 to 1959 a total of \$152,706,000 in Federal R&D monies. Adjusting for these three companies would raise the aggregate difference between figures reported by the companies representing Federal R&D grants for the years 1949 through fiscal year 1959 and the figures reported in Appendix B Table for 1954-1959 to \$2,526 million, or an average of about \$500,000 per year—which is believed to be low. We suspect, were the figures reported completely to conform with those shown by DOD, the total would have been appreciably higher—surely over \$16 billion, instead of less than \$14 billion.

<sup>12</sup> Since the National Science Foundation has been compiling from corporations Government and industry supplied R&D expenditures from 1953 on, it is conceivable that some companies reported only those amounts from the Federal R&D funds which they deemed conformed with this common definition for R&D expenditure. To the extent that this was done, the two amounts labeled R&D would be made more comparable—which otherwise they may not be, even though they are lumped together under a common label as if they were in the National Foundation Series on Annual R&D outlays.

<sup>13</sup> Federal Income Tax statutes were amended in 1954 exempting corporate R&D expenditures from taxation. This change in itself would have an inflationary effect, some borderline expenditures formerly not labeled R&D might be labeled R&D to bring them under the tax exemption provisions.

Before we proceed further in our analysis, it would be important to compare the aggregate totals with other more or less comparable data that are available. As indicated in footnote 12, since 1953 the National Science Foundation has been compiling global data on R&D expenditures. The estimated total R&D expenditures supplied by the Federal Government for the fiscal years 1954-1959, derived from the National Science Foundation<sup>14</sup> comes to about \$20,600 million. The amount paid by DOD to the 78 companies which returned a questionnaire for the same years aggregates \$11,406 million (see Table 2), or about 55.4 percent of the National Science Foundation reported total as estimated by us on a fiscal year basis (The National Science Foundation figures are given for calendar years).

We lack the necessary base to make a similar comparison for the industry supplied R&D. The National Science Foundation gives total company supplied R&D funds for the calendar years 1953 to 1959 inclusive as \$21,214 million, but this is only for 7 years while the R&D expenditures reported by the corporations is for 11 years. The annual expenditure of company R&D dollars has not increased as steeply as the Federal, thus the annual expenditures for 1955 was \$2,460 million, for 1954, \$2,320 million, and for 1953, \$2,200 million. We may be conservative if we assume an annual average of \$1,700 million for the four years preceding 1953, which are included in company reports. This would bring the estimated total to \$28,014 million. Compared with this, the amount of R&D reported by the 72 companies, \$7,884 million (Table 3) represents only 28 percent—about half of the percentage that Federal R&D grants to these companies represented in the period 1954 to 1959. This contrast is perhaps highly significant.<sup>15</sup> These relationships suggest that the 78 companies getting the lion's share of Federal R&D, perhaps, do not represent the most skilled companies of the land—companies which would have the highest patent yield per unit of R&D dollar. They suggest that these most efficient companies, perhaps, do not seek, and actually may avoid getting involved in Federally financed R&D contracts. Therefore, in our analysis, we may be excluding some of the most efficient corporations, i.e. corporations with

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<sup>14</sup> "Research and Development in Industry," *Surveys of Science Resources Series*, National Science Foundation, NSF 64-9, p. 7, Table II.

<sup>15</sup> The six companies included in the 78 for whom data on industry supplied R&D are not available are Airborne Instruments, Bendix Corporation, Fairchild Camera, General Precision, Ryan Aeronautical Co., and Sylvania Electric Products. From their sales, profits and other available information we have imputed to these corporations a total of \$142,141,000 R&D expenditures for the 11 years. Adding this to the total in Table 3 raises the total to \$8,026 million, which when related to the \$28,014 million gives 28.6 percent, which is not materially different from the 28 percent, without this imputation.

the highest yield from their own R&D expenditures. If this inference is correct, it could have very significant implications for the country regarding the economic value of Federally financed R&D grants.

That the above inference might be correct is supported by a study made by the United States Chamber of Commerce that the present patent policy of the Government,

... is a significant factor in discouraging responsible, competent organizations with substantial backgrounds of experience and proprietary rights, from bidding on work for the government.<sup>16</sup>

To the extent that this is correct, it would suggest that in our analysis of patent yield from industry financed R&D we have excluded the most efficient corporations, i.e. corporations with the highest yield per unit or R&D dollar. This, if true, would reduce the observed differential yields from the "true" differential. Perhaps some light would be thrown on this if we also compare the patent information for these 78 reporting companies with the overall patent statistics.

The 78 companies, for the fiscal years 1949-1959 inclusive, report approximately 8,002 patent applications resulting from Government financed R&D. What proportion is this of all the patent applications resulting from Government supplied R&D during 1949 to 1959? We have no figure as to the total number of patent applications filed by industry resulting from Government financed R&D. But the general magnitude of such a total could be deduced on the basis of certain assumptions. This deduced total is 17,900.<sup>17</sup> This total related

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<sup>16</sup> The Chamber of Commerce of the United States National Defense Committee, Subcommittee on Research and Development, Government patent policy and its impact on contractor cooperation with the Government sponsored technology: (See report by Helge Holst published in this issue of *IDEA*). The Chamber of Commerce study was based on questionnaires submitted to "organizations known to be contractors to the Government, or to be the types of organizations whose competence was such that their services were sought and would be of use to various Government agencies. Personal contact was made with these organizations by forwarding the questionnaire and an explanatory memorandum to urge accuracy and frankness in response."

<sup>17</sup> The guesstimated figure was obtained as follows:

(1) It was assumed the applications filed between 1949 and 1959 inclusive resulted in the patents issued between 1952 and 1962. For this period the number of Government licensed patents as given by Watson and Holman (see Watson, D. S., and Holman, M. A., "Patents from Government Financed Research and Development," *IDEA*, Vol. 8, No. 2. (Summer 1964), p. 207, (Table 1) was 16,953. All patents resulting from Government provided R&D for which companies acquire title the Government retains unrestricted license in. The 16,953 includes all patents resulting from government financed R&D for which the title is held by industry or an individual who is or was a government employee.

(2) On the basis of Watson-Holman information on Government licensed

to 8,002 suggests the percentage of patent applications reported by the 78 companies to be about 45 (44.7) percent. Why it is lower than the 55 percent which we obtained for the funds we are not certain. But it must be observed that 17,900 is only a guesstimate subject to appreciable error, herefore the difference might not be real. Were the difference real it would suggest that the 78 companies which returned the questionnaires were relatively less efficient in terms of patent application per unit of Federally supplied R&D dollars than the non-responding companies, or companies not included in the sample that were circularized by the Subcommittee. In all probability the ratio of patents granted is lower for applications resulting from Federal R&D. Were this the case, the number of total applications would be less than 17,900 and the percentage of patent applications filed by the 78 corporations would be upped, closer to 55.

The total number of patent applications filed by these companies, using the figures as reported—which are subject to obvious errors which, if corrected, would raise slightly the number of patent applications and patents granted) is 60,412.<sup>18</sup> Between 1949 and 1959 (fiscal years) the total number of patent applications filed was 785,079.<sup>19</sup> Again, we have no outside information as to what proportion of these were filed by corporations. But if we apply to the annual number of patent applications filed the proportion of patents issued to corporations 3½ years later we would have a rough estimate of the number of patent applications filed by corporations within the 11 year period

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patents for the years 1952 to 1962 inclusive, 69 percent are patents with title held by contractors (this percentage includes a few from grantees, donors, purchases and from foreign Governments), see p. 220, Table 6, of Watson-Holman article referred to above. Therefore, the correct percentage for our purpose, were it available, would be somewhat lower. This would imply that all the patents issued to corporations between 1952 and 1962 inclusive that were filed by contractors as a result of Government R&D between 1949-1959 totaled about 11,000—if anything, less than this.

(3) The ratio of all patents issued between 1952 and 1962 to patent applications filed between 1949 and 1959 is 1.63 (see "Annual Report of the Commissioner of Patents, Fiscal year 1964," U.S. Department of Commerce, p. 11). If we assume that patent rejection rate for patent applications resulting from Government financed R&D is the same as for all other applications (indications are that the rejection rate for patents resulting from Federal R&D is higher actually than for other patent applications) it gives an estimated total of about 17,900 patent applications. This figure probably errs on the high side.

<sup>18</sup> The figure would have been somewhat higher had All American Company (which is not in Appendix B Table) reported all the patent applications filed. Instead it only reported patent applications resulting from Federal R&D. This, however, could at most add one or two hundred patents which would make no perceptible change in the overall picture.

<sup>19</sup> "Annual Report of the Commissioner of Patents, Fiscal Year 1964," U.S. Department of Commerce, Patent Office, p. 11.

under consideration.<sup>20</sup> This estimate is 437,289. It assumes that the rejection rate for patent applications filed by American corporations is the same as that filed by individuals, foreign patentees and Government.<sup>21</sup> The number of patent applications filed by the 78 companies is less than 14 (13.8) percent of this estimated total. This figure is surprisingly low in comparison to the other percentage,<sup>22</sup> i.e., percentage of total industry supplied R&D funds supplied by these same companies.

So far our analysis, with respect to these 78 companies which returned the Subcommittee questionnaire, has revealed that between 1949 and 1959 these 78 reporting companies obtained more than 55 percent of Federal R&D monies going to corporations; they filed at least 45 percent of the patent applications resulting from Federal R&D grants, filed by corporations. In terms of private R&D expenditures, these 78 companies accounted roughly for only about 28 percent of all the industry generated R&D, and their patent applications represented less than 14 percent of the patent applications filed by all American corporations.<sup>23</sup> These relationships very much strengthened our earlier inference and the Chamber of Commerce's allegations that many of the most skilled and efficient corporations in the United States shun Government R&D monies. Our figures indicate that the patent yield per unit of industry supplied R&D, which we can derive from the experience of these 78 companies, would be materially lower than would be the case if we had the entire universe of the companies patenting, or a

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<sup>20</sup> The figure of percentage of patents issued to United States corporations for the calendar years 1952 through 1957 was obtained from "Historical Statistics of the United States, Colonial Times to 1957," prepared by the Bureau of the Census with the Cooperation of the Social Science Research Council. Series W-66-67 "Patent Applications Filed and Patents Issued, by Type and by Patentees: 1790 to 1957," p. 607. The figures for later years were obtained from the Patent Office through personal communication.

<sup>21</sup> Another way to estimate this number is to multiply the number of patents issued to corporations between 1952-1962, inclusive, by the ratio of patent applications to patents issued. These numbers are 272,832 (see source cited in footnote 19 and 1.63 and their product is 444,716, not materially different, since essentially the same assumptions underly the two estimates.

<sup>22</sup> For the companies reporting the ratio of patents to patent applications filed in the 11 years, the ratio of patents issued to patent applications is 1.79, which would mean even a higher base and therefore a smaller proportion of the total than 14 percent going to these 78 companies. We are inclined to believe that if 13.8 percent is in error, it errs in being too high rather than being too low—for it is believed the proportion of patent applications which result in patents is higher for patents assigned to corporations in relation to unassigned patents, or patents assigned to individuals or to the Government.

<sup>23</sup> In other words the average company supplied R&D expenditure per patent application for these 78 companies is at least twice that for the remaining companies not reflected in these statistics.

more representative sample of this universe than that which we have in terms of these 78 companies who received more than half of all the Federal R&D funds.

Turning to the number of patents issued, 77 companies which reported patents granted, resulting from their Federal R&D monies, had 3,687 patents. Relating these to the 10,284 estimated total number of patents resulting from Government R&D for which companies acquired the title, we obtain 36 percent (35.8).<sup>24</sup> The fact that the total of 3,678 fails to include Bendix Corporation could not raise this percentage over 38, since, even if we assume that all the applications of Bendix were granted, which is not possible, it would raise the percentage to 38.6 only. This lower percentage of patents granted, vis-a-vis at least 45 percent of the applications filed for such patents, would suggest a lower ratio of patents granted to patent applications for the 78 companies from their Federally financed R&D activity than is true for other companies. It is also possible that some of this deficit results from a longer period of pendency for these Federally financed patents in the Patent Office. Such longer stay may be attributed in part, to secrecy imposed by national defense requirements, assuming that more of the patents resulting from Department of Defense R&D would have defense implications.

With respect to all patents issued to these corporations, the total of 33,737 excludes the patents generated from company funds for All American Engineering Company. To allow for these we shall raise the total arbitrarily to 33,850 patents—probably erring on the high side. The total number of patents issued to American corporations for the period 1949 to 1959 is 237,975.<sup>25</sup> Relating to this total, the patents issued to the 78 reporting corporations constitutes 14.2 percent of the total, which is in accord with the percentage of patent applications that were filed by these companies. Thus, the evidence is strengthened that

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<sup>24</sup> Watson-Holman (see footnote 17) give the total number of patents resulting from Government R&D in which the Government has an exclusive license for the calendar years 1949-1959 as 16,031. If we adjust this to a fiscal year basis by adding to it one-half of the total for 1948 and subtracting from it one-half of the total for 1959 we obtain 15,821. This is the approximate number of all patents resulting from Government R&D between 1949 and 1959 (fiscal years for which either an employee (or one-time employee) or a contractor got the title. Again on the basis of Watson-Holman information (Table 6, p. 220) between 1949 and 1959 (adjusted to give results approximating fiscal years) the total patents resulting from Government R&D regardless of who got the title was 23,860. Of this total 15,418, or 65 percent, was contributed by the contractors, and the balance 8,442 by employees. Multiplying 15,821 by .65 gives an estimate of 10,284 as the number of patents resulting from Government financed R&D for which the title was held by private companies.

<sup>25</sup> *Supra*, footnote 20.

the 78 companies reporting are not among those distinguished for their high yield of patents in relation to their own R&D expenditures.

Turning to the number of pending applications shown in Table 3, 73 companies, reporting this information for patent applications resulting from Federal R&D grants, reported 3,221.<sup>26</sup> Adjusting for the missing information raises this total to about 3,416 pending patent applications. How does this compare with the total number of patent applications pending? On July 1, 1959, the total number of pending applications was 198,248. If we apply to this the same ratio which we obtained earlier in estimating the number of patent applications filed by companies resulting from their patent activities<sup>27</sup> from Federal R&D funds, it gives in all 4,520 applications pending. The 78 companies returning a questionnaire account for nearly 76 percent (75.6) of this estimated total of pending patent applications. This is a significantly higher fraction than the proportion of patent applications accounted for. If we assume a longer than average length of patent applications pending with respect to patent applications resulting from Federal funds, this could account, at least in part, for this markedly higher proportion. It could also partly explain the lower proportion of patents granted, 35.8 percent, because of this longer pendency—perhaps longer than other patents from non Federal R&D funds.

The patents pending reported by the 73 corporations number 17,607. If we adjust this number to allow for the unreported information, it would raise the total to 18,980 as the probable number of patents pending, assuming the same proportion of pending patents per application for those companies which failed to report this information as derived from those that reported. The estimated number of corporation patents pending, based on the same assumptions as we made before, would be 110,424.<sup>28</sup> The pending patents of the 78 companies

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<sup>26</sup> The corporations failing to report this information were (1) Bell Aircraft (18 applications filed), (2) Bendix (287 applications), (3) Cook Electric (40 applications), (4) Hazeltine (87 applications). For all of these 456 applications, information as to whether the patent was still pending is missing. If we assume for these companies the same proportion of pending patents as for the 7,546 patent applications for which this information was supplied, it would raise the estimated number of patents pending, which we shall use, from 3,221 to 3,416.

<sup>27</sup> In footnote 17 we estimated the total number of patent applications for inventions resulting from Federal R&D between 1949 and 1959, by corporations, was 17,900. Now 17,900 is to 785,079, the total number of applications filed, as the number of applications pending would be to 198,248. On this basis the estimated total number of applications would be 4,520.

<sup>28</sup> This estimate is obtained by dividing the estimated number of applications filed by corporations, 437,289, by the total number of applications filed between 1949 to 1959 (fiscal years) and using the quotient to multiply the number of patents pending at the end of fiscal year 1959.

constitutes 17.2 percent of all the pending patent applications filed by American corporations at the end of fiscal year 1959, which is consistent with other findings, when the longer pendency of patents resulting from Department of Defense R&D, which constitutes more than 18 percent of the 18,980 pending patents, is taken into consideration.

The results, from our comparative analysis of Table 3 as against the appropriate totals, are recapitulated in Table 4.

TABLE 4

QUANTITIES IN LINES ONE AND THREE OF TABLE 3 AS PERCENT OF THE APPROPRIATE ESTIMATE AGGREGATES.

ITEM CONSIDERED	Percent of each aggregate accounted for by the 78 companies
Federal R&D granted to the 78 corporations	55.4
Industry R&D accounted for by the 78 corporations	28 to 29
Patent applications from Federal R&D	45.0
Patents granted from Federal R&D	35.8
Patents pending from Federal R&D	75.6
Patent applications by corporations	13.8
Patents granted to corporations	14.2
Patents pending for corporations	17.2

The percentages of Table 4 strongly support our inferences that the 78 companies returning a questionnaire are in no way typical of United States Corporations in their patent productivity. They received more than half of the Federal R&D funds and seem to account for three fourths of all pending applications for patents resulting from Federal R&D. But they account for only slightly over a quarter of company supplied R&D expenditures, about 28 percent. Their patent applications and patents granted are about half of their relative R&D outlays, indicating that their average expenditure per patent is at least twice the average for corporate industry in general. Their one distinction to fame is the persistence with which they retain their pending patent applications resulting from Federal funds. While their patent applications account for 45 percent of all patent applications resulting from Federal R&D monies, they accounted for 76 percent of the pending patent applications originating from Federal R&D (as we have said this high proportion of pending patents might be largely spurious). It should be obvious from these relationships that the differential that we would get regarding the comparative patent yield of these companies from their expenditures of Federal and their own funds would be lower than the true differential if we had proper information from all the companies or from a representative sample of these companies.



With these reservations in mind, let us proceed with our analysis to see what the differential is between the yield from Federal R&D and industry provided R&D for these 78 companies. Some overall relationships are apparent from figures summarized in Table 3. Thus the Table shows, for 75 companies, an aggregate R&D amounting to about \$13,780 million. As we have suggested, this aggregate is perhaps somewhat understated in comparison to what would have been reported by Department of Defense for this 11 year period. The 75 companies accounting for this aggregate for the fiscal years 1949 to 1959 reported filing 7,688 patent applications for inventions resulting from Federal R&D grants.<sup>29</sup> These figures imply an average of \$1,792,000 Federal R&D dollars per patent application. The corresponding relationship of patent applications resulting from industry supplied R&D for the 69 companies for which both items of information are supplied are: \$7,884 millions of R&D expenditures and 48,256 patent applications.<sup>30</sup> Relating these two quantities yields \$163,000, as the average industry supplied R&D expenditure per patent application. The ratio in expenditure of R&D funds per patent application for Federal and industry funds is 11:1. That is, on the basis of these averages, it takes about 11 times as many Federal R&D dollars as industry supplied R&D dollars to produce a patent application.

Proceeding with the same sort of analysis for patents issued, the average for Federal R&D dollars per patent was \$3,702,000 (\$13,595,735,307/3,673). The corresponding average from industry's own expenditures by the 71 companies is \$288,000 (\$7,789,088,709/26,999). The ratio of these two averages is 1 to 12.9 or almost 13 times as many Federal dollars as industry raised dollars are required per patent granted. This ratio, for reasons already indicated, should be regarded as conservative in the light of biases in our data, attention to which was called earlier. Moreover, it supports the cruder estimates, 12 to 1, used in an earlier interim report.<sup>31</sup> On the other hand, the "true" differential might not be materially higher if all the elements of both over and under estimations bearing on this differential could be taken into consideration. We have pointed out the selective bias which

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<sup>29</sup> The companies which did not report their Federal R&D expenditures were: Bendix Corporation, Fairchild Camera and General Precision. The number of patent applications reported by these companies totaled 314.

<sup>30</sup> Corporations failing to report expenditures or patent applications or both were: Melpar, 30 applications; Pan American, 5 applications; Ryan Aeronautical, 59 applications; Sylvania Electric, 1489 applications; Airborne Instruments, 22 applications; Bendix, 2,438 applications; Fairchild Camera, 111 applications. On the other hand, All American reports its R&D as \$148,000, but failed to report the number of patent applications resulting from this R&D.

<sup>31</sup> *Supra*, footnote 3.

lead to unduly low differential in comparative yield, but there are offsetting factors which have not been considered so far. One of these is that we have not given any consideration to patent applications and patents issued to Federal agencies, in this instance to Department of Defense, from these same R&D expenditures; that is, patents resulting from R&D grants to industry in which the contractor shows no interest in the resulting invention, so the Government files the application and acquires the title to any issuing patent. Watson-Holman study<sup>32</sup> shows for instance that, during the period 1945-1962, of the total patents associated with Department of Defense grants 25.8 percent or 8,667 were patents the title for which was left to the Government. In our analysis this portion of patent activity receives no consideration at all. The Subcommittee questionnaire sought no information with respect to patents for which the title was taken by the Government. In terms of the number of patents resulting from Government R&D dollars spent through industry, without any qualitative consideration of these patents, this additional number of patents would have to be taken into consideration in measuring differential patent yields.

A second type of overstatement is committed in our tacit assumption that all the patent applications which companies file (other than those resulting from Government supplied R&D), and patents that they receive are produced by their R&D expenditures. This is not strictly correct—a number of patent applications result from departments other than research and are not directly the product of the expenditure of company monies labeled R&D. It is our impression, however, that this number could not be large and, moreover, it is perhaps partly offset by the inclusion of funds as R&D which in a real sense are not R&D funds. We are inclined to believe nevertheless that on balance perhaps there might be a slight exaggeration of patents attributed to company supplied R&D.

A third offsetting factor is the longer time that patents resulting from Federal R&D apparently remain in the Patent Office, or other factors which contribute to the differential of the longer pendency of these patents. This effect, however, must be very small, in view of the fact that the differential in patent application is almost 11 and some of the difference between 11 and 13 might be real, that is, there might be a higher rejection rate of patent applications resulting from Federally supplied R&D.

The combined effect of these offsetting errors in comparative patent yield perhaps offset in large measure the bias in our sample, and our

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<sup>32</sup> Watson, D. S., and Holman, M. A., "Patents from Government Financed Research and Development," *IDEA*, Vol. 8, No. 2 (Summer 1964), pp. 199-222.

ratio of 13 to 1, in favor of company supplied R&D funds, might not be too far below the "true" differential that prevails if data free from these diverse deficiencies were available for this analysis.

The expenditures per pending patent implied by Table 3 for applications resulting from Federal R&D grants is \$4.235 million. The corresponding average per pending patent resulting from company supplied R&D is \$0.575 million. The ratio between these two averages is 7 : 1 emphasizing the greater length of time that patent applications resulting from Department of Defense supplied R&D remain pending. What accounts for this longer pendency we cannot be certain of at this time. The overall comparative yields derived from the aggregates shown in Table 3 are summarized in Table 5.

TABLE 5

COMPARATIVE APPROXIMATE PRICE TAGS FOR PATENTS FROM FEDERALLY PROVIDED AND INDUSTRY SUPPLIED R&D DERIVED FROM THE INFORMATION SUPPLIED BY THE 78 COMPANIES.

SOURCE OF MONEY	IN \$1,000,000		
	Per patent application	Per patent issued	Per patent application pending
Government R&D	1.792	3.702	4.235
Industry R&D	.163	.288	.575
Ratio of Gov./Ind.	11/1	13/1	7/1

#### VARIABILITY IN PATENT YIELD DIFFERENTIAL

Our analysis so far has been in terms of aggregates to arrive at some general index of comparative patent yield from Federally supplied as against industrially raised R&D money. We believe this average is something like 13 to 1, perhaps somewhat higher. However, the differential in yield for the individual companies varies tremendously—this is shown by Table 6 in the appendix. Table 6 is arrayed according to the ratio of dollar value per patent application attributed to industry supplied R&D to the dollar value per patent applications for Federally supplied R&D for each of 57 companies supplying the necessary information for obtaining these ratios. The highest ratio of 1136.5 was obtained for Stavid Engineering Corporation. This corporation showed an average of \$11,364,947 Department of Defense R&D dollars per patent application, and for company supplied R&D dollars, the average was \$10,000. This is equivalent to saying that disregarding any qualitative considerations of different patents, the productivity of each privately supplied dollar in giving rise to patent application

TABLE 6

RATIOS OF MEAN VALUES PER PATENT APPLICATION, PER PATENT GRANTED, AND PER PATENT PENDING USING THE DOLLAR VALUE FOR COMPANY SUPPLIED R&D AS THE BASE UNIT—AND THE AVERAGE DOLLAR VALUES FROM WHICH THE RATIOS IN COLUMNS (2) (3) AND (4) WERE OBTAINED FOR THE 78 COMPANIES RESPONDING TO THE QUESTIONNAIRE AND SUPPLYING THE INFORMATION NECESSARY FOR THESE COMPUTATIONS—1949-1959 (COMPANIES ARRAYED ACCORDING TO THE DIFFERENTIAL IN R&D DOLLARS PER PATENT APPLICATION).<sup>1</sup>

COMPANY  (1)	Government R&D divided by industry supplied R&D per patent				MEAN VALUE IN 1000 DOLLARS					
	Appli- cation (2)	Granted (3)	Appli- cation pending (4)	Patent applications		Patents granted		Patent appli- cations pending		
				Federal R&D (5)	Indus- trial R&D (6)	Federal R&D (7)	Indus- trial R&D (8)	Federal R&D (9)	Indus- trial R&D (10)	
1. Stavid Engineering Corporation	1,136.5	1,136.5	—	\$11,365	\$10	\$11,365	\$10	—	—	
2. The Marquardt Corporation	852.5	1,734.6	514.0	3,828	4	19,905	11	\$6,635	\$13	
3. Continental Electronics	600.0	300.0	—	30,000	50	30,000	100	—	167	
4. Northern Ordnance, Inc.	468.5	—	—	4,394	9	—	9	4,394	—	
5. American Bosch Arma Corp.	402.6	454.6	248.4	3,605	9	9,915	22	6,397	26	
6. Radiation Inc.	184.0	168.7	276.1	4,536	25	10,583	63	10,583	38	
7. North American Aviation	155.6	148.5	124.1	5,051	32	11,483	77	10,340	83	
8. Cook Electric Co.	132.0	132.0	—	1,100	8	3,143	24	—	—	
9. Sanders Associates	120.2	84.6	121.7	1,295	11	2,158	26	3,238	27	
10. Lockheed Aircraft Corp.	99.2	57.7	—	40,407	407	40,407	700	—	1,250	
11. Avco Corporation	76.0	77.6	14.0	7,480	98	13,464	174	7,317	521	
12. Thiokol Chemical Corp.	73.9	—	32.2	6,514	88	—	235	6,685	207	
13. Martin Company	67.3	43.4	113.4	6,160	92	9,358	216	18,031	159	
14. Aerojet General	65.5	207.1	64.2	2,103	32	27,590	133	3,398	53	
15. Bell Aircraft Corporation	56.3	34.4	—	3,887	69	5,830	170	—	—	
16. American Machine & Fdtry. Co.	42.3	58.2	20.6	3,923	93	8,630	148	7,192	349	
17. Litton Industries Inc.	34.7	40.3	21.2	633	18	1,114	28	1,615	76	
18. A.C.F. Industries	34.0	139.0	12.6	964	28	6,911	50	1,121	89	
19. Hazeltine Corporation	31.3	22.1	—	585	19	661	30	—	—	
20. Hayes Aircraft Corporation	31.1	—	15.5	14,665	472	—	944	14,665	944	
21. Hughes Aircraft Co.	29.8	31.1	26.2	1,747	59	4,598	148	3,556	136	

24. Thompson Ramo Wooldridge Co.	20.2	48.7	12.2	1,747	86	9,315	191	2,218	182
25. Sperry Rand Corporation	20.2	23.6	12.4	1,751	87	3,390	143	3,797	307
26. Curtiss Wright Corp.	18.4	22.7	17.5	1,862	101	6,797	300	8,577	205
27. Radio Corp. of America	18.3	51.2	9.1	1,129	62	6,407	125	2,315	255
28. Cont. Aviation & Eng. Corp.	16.5	16.5	15.4	1,363	83	2,725	165	3,236	210
29. International Tel. & Tel. Corp.	16.4	10.5	21.0	826	50	1,216	116	2,882	137
30. The Garrett Corporation	14.9	8.7	23.6	515	35	716	82	1,611	68
31. Land-Air Incorporated	14.7	8.7	—	5,522	375	5,522	600	—	1,500
32. Eastman Kodak	14.6	25.7	6.6	1,737	119	4,964	193	2,780	425
33. Rohm & Haas Company	14.1	96.5	6.0	715	51	8,222	85	967	163
34. American Standard	13.1	7.5	—	960	73	1,200	159	—	245
35. Boeing Airplane Company	12.4	10.1	34.5	2,838	229	3,332	330	25,545	740
36. Douglass Aircraft Company	11.1	7.2	9.9	1,656	149	2,622	365	5,245	529
37. General Electric	11.1	12.1	7.0	1,866	168	3,185	264	5,814	834
38. Vitro Corp. of America	11.0	7.4	17.4	974	88	1,859	250	3,719	214
39. Texas Instruments	10.4	14.2	10.9	626	60	2,380	168	1,488	136
40. Fairchild Eng. & Airplane Corp.	10.0	8.3	15.6	5,097	512	7,878	951	17,331	1,109
41. Hercules Powder Company	9.1	21.9	—	817	90	3,922	179	—	—
42. Northrop Corporation	8.3	6.3	28.2	1,147	138	1,263	201	12,551	445
43. International Business Machine	7.1	16.6	5.1	625	88	3,730	225	813	159
44. Chrysler Corporation	6.6	5.8	12.0	5,105	777	8,083	1,406	32,333	2,693
45. Goodyear Aircraft Corp.	6.4	18.8	3.5	2,335	366	7,297	388	5,838	1,648
46. Westinghouse Electric Co.	4.9	6.3	3.7	953	196	2,030	320	3,374	902
47. Emerson Elec. & Mfg. Co.	4.3	10.6	7.9	1,227	283	4,500	425	6,750	850
48. Collins Radio Company	4.0	4.0	1.1	512	128	840	212	1,692	1,591
49. Clevite Corporation	3.6	2.0	4.0	368	101	552	273	1,104	276
50. Western Electric Company	3.4	4.3	1.7	1,814	531	3,077	722	4,750	2,828
51. Grumman Aircraft Eng. Corp.	3.3	.4	—	16,045	4,870	16,045	38,960	—	6,493
52. Atlantic Research Corp.	2.8	.6	4.2	402	143	1,052	1,710	720	171
53. General Motors	2.8	2.9	2.4	747	267	1,261	432	2,386	986
54. Motorola, Inc.	2.4	41.6	9.3	2,358	989	6,092	147	4,061	435
55. Olin Mathieson Chem. Corp.	1.9	4.8	1.1	120	63	813	168	160	140
56. Arthur D. Little, Inc.	1.7	2.4	1.7	487	290	1,566	663	843	498
57. United Aircraft Corp.	1.5	1.3	2.0	1,806	1,176	2,936	2,273	5,906	3,034
WEIGHTED MEAN	10.7	12.5	7.2	1,744	164	3,658	293	4,118	576

<sup>1</sup>Requisite information for the ratio of patent applications was supplied by 59 companies out of the 78 which returned the questionnaire. The companies supplying all the necessary items of information to derive the differential for patents granted and patent applications pending are even fewer.

<sup>2</sup>United Aircraft. In the report it is said: "A recent report shows increased expenditures in development projects for which the company is paying the bill without contractual support from the government. The company hopes to sell those projects eventually to the Government."

and also in patents granted, was equivalent to \$1,137 Federal R&D dollars. This is the highest differential observed. This differential is lower for other companies. The next highest differential is \$852.5 to one for Marquardt Corporation. The third is \$600 to 1 for Continental Electronics. Of the 57 companies for which this ratio could be calculated, in 9 the ratio is in excess of 1 to 120. For 31 the ratio is over 10 but under 100; and only in 17 is it less than 10. The lowest ratio is 1.5 to 1 for the United Aircraft Corporation. The weighted average ratio for these 57 corporations of comparative dollar values per patent application is 10.7 to 1. This comparatively low average suggests that companies with largest Department of Defense R&D grants tend to have the lowest ratio—since the unweighted average ratio of column 2 in Table 6 is 88.9.

Considering the ratios per patent granted, these although correlated with column 2, are somewhat different, i.e., the correlation is not complete. The highest ratio in column 3 is \$1,734.6, that is, one industrially supplied dollar per patent granted is equivalent to \$1,735 Federal dollars as far as this company's experience is concerned. This ratio is shown for the Marquardt Corporation. There are 9 companies which show a ratio in excess of 132 to one, out of a total of 53 companies for which this ratio could be computed, 26 companies which show a ratio of less than 100 but more than 10, 16 companies which show a ratio of less than 10 but more than 1. There are two companies which show a higher cost per patent for privately supplied R&D dollars. These are Atlantic Research Corporation showing a ratio of 0.6, and Grumman Aircraft Engineering Corporation, showing the lowest ratio, 0.4. The weighted average ratio of comparative dollar expenditure per patent granted is 12.5 to 1. The unweighted average ratio for column 3 is 102.3, again this indicates a positive association between a high ratio and the size of the Department of Defense grant.

With respect to the number of patent applications pending, the highest ratio observed is 514.0 for the Marquardt Corporation, i.e. 1 industrial dollar equivalent to \$514 Federal R&D dollars. There are 6 other ratios all above 113, out of a total of 47 corporations for which this ratio could be computed. There are 23 for which the ratio is between 10 and 100, and 17 for which the ratio is between 1.1 and less than 10. The weighted mean ratio for column 4 is 7.2 to 1, but the unweighted average ratio is 44.5 to 1.

Column 6 shows the average Department of Defense R&D dollars per patent application. These averages range from a high of \$40,407,286 for the Lockheed Aircraft Corporation to \$120,023 reported by the Olin Mathieson Chemical Company. The overall average for the 57

companies per patent application is \$1,743,529. For company supplied R&D dollars the highest average per patent application is \$4,870,045 reported for the Grumman Aircraft Engineering Corporation, and the lowest \$4,490 reported by the Marquardt Corporation. The overall average per patent application for column 7 is \$163,587.

Column 8 shows the highest average Federally supplied expenditure per patent granted the same as per patent applied for, i.e. \$40,407,286 reported by Lockheed, and the lowest \$551,929 reported by Clevite Corporation. The weighted average Department of Defense supplied R&D dollar expenditures for this column is \$3,658,390. For industry supplied dollars the highest average per patent granted is \$38,960,360 reported by the Grumman Aircraft Engineering Corporation, the lowest is \$9379 reported by Northern Ordnance, Inc. The weighted average mean expenditures per patent granted for column 8 is \$292,506.

For patent applications pending, the highest average for Federally supplied R&D is \$32,333,333 reported by Chrysler Corporation, and the lowest is \$159,674 reported for Olin Mathieson Chemical Company, the weighted average dollars per pending patent is \$4,118,302. For industry supplied dollars per pending patent application, the highest average is \$6,493,393, reported for the Grumman Aircraft Engineering Corporation, and the lowest \$12,910, reported by the Marquardt Corporation. The weighted average dollars per pending patent application for column 10 is \$575,680.

The wide variation in dollar values and in the ratios derived from these dollar values indicate the contribution of many factors responsible for these differences. It is important for us to analyze such information as is available to us to see to what extent these differences could account for the wide variations in comparative patent yield obtained from information reported by the different corporations responding to the questionnaire. This analysis would be the theme of the next interim report.





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## CURRENT INTERNATIONAL ISSUES

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### Latin Americans View Their Own National Industrial Property Systems

L. JAMES HARRIS\* and IRVING H. SIEGEL\*\*

#### NATURE OF INSTITUTE INQUIRY

**I**N JANUARY 1963 THE PTC INSTITUTE initiated a three-pronged inquiry into views of Latin Americans on their own industrial property systems. Letters first were sent to leading practitioners—individuals and firms—in several of the countries south of the border. In addition to requesting information and opinion on the industrial property systems, the Institute asked for the names of resident “English-speaking persons in industry, government, science, and education” who might also be able to provide pertinent facts and make competent evaluations. These persons were specifically asked for comments on the nature and effectiveness of the arrangements in their countries for stimulating and rewarding creativity and the industrial enterprise based thereon. Finally the Institute sent questionnaires to leading Latin-American industrial firms. These questionnaires sought information on domestic and foreign sources of technical data and judgments on the adequacy and needs of domestic industrial property systems.

The present article summarizes the replies of Latin-American practitioners and of English-speaking countrymen to whom the Institute had been referred in the correspondence. More technical materials obtained in the course of the study will be presented and discussed in subsequent reports in this journal. Some are mentioned in the footnotes of the present paper.<sup>1</sup>

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\*\* Institute Project Consultant.

<sup>1</sup> These materials cannot pretend to be complete. Our correspondents have omitted certain laws, rules, and decrees, apparently of lesser importance to them. Also omitted are items enacted since they wrote us. For a more complete picture of Latin-American Industrial Property legislation, the reader may wish to consult such documents as: *Manual for the Handling of Applications for Patents, Designs,*

The Institute inquiry was undertaken for several reasons. Above all, it promised first-hand reports from qualified Latin Americans on national industrial property systems. Furthermore, it started what may become a dialogue with English-speaking Latin Americans not only on industrial property systems but also on additional matters of mutual interest. It has contributed to the base for later research, providing the Institute with information on, and samples of, pertinent literature available in Spanish and Portuguese, as well as material translated into English. As already noted, the documentation of the present paper has benefited from the correspondence, which supplied legal references and copies of laws. Another reason for the Institute's inquiry was to supplement the findings of an earlier canvass confined to U. S. firms<sup>2</sup> doing business in Latin America. Finally, the current survey advances a dual objective stated in the paper reporting on the earlier canvass—to focus attention on the need for greater compatibility of the industrial property laws of the various Latin-American nations and on the desirability of establishing a more deliberate hemispheric community of interest and understanding with respect to such systems.

Developments in Latin America since the prior survey have warranted allocation to the present inquiry of a small share of the Institute's modest research resources. The concept of a common market<sup>3</sup> has taken hold in two areas; and progress in this direction, in turn, requires closer integration of the industrial property systems of Latin-

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*and Trademarks Throughout the World*, Octrooibureau Los En Stigter (2nd Edition: Amsterdam, 1936) which is kept up to date by correction sheet; William Wallace White and Byfleet G. Ravenscroft, *Patents Throughout the World* (2nd Edition: New York, 1952 and Supplements to date), Trade Activities Inc.; William Wallace White and Byfleet G. Ravenscroft, *Trademarks Throughout the World* (New York, 1930 and Supplements to date), Trade Activities Inc.; *Patent Laws of the World* (1913 edition, Supplements to 1941, London), Chartered Institute of Patent Agents; *A Statement of the Laws of [individual Latin-American countries] in Matters Affecting Business*, Division of Laws and Treaties, Department of International Law, Pan American Union (Washington, D. C.); G. Breuer, *Patents and Trade Marks in Argentina and South America* (Buenos Aires, 1947); *Index to Legislation in Latin America 1950-60*, Library of Congress Law Library, 2 vols., kept current; *World Trade Information Service*, U. S. Department of Commerce, *Operations Reports, Patent and Trademark Regulations of [individual Latin-American countries]*; *Derwent Patent Manual 1964*, Derwent Publication Limited, London; *Patents at a Glance—A Survey of Substantive Law and Formalities in 45 Countries*, Hans Schade, Carl Heymanns Verlag K. G., Munich (2nd Edition, Revised, 1964); *International Trademark Protection*, Eric D. Offner, Fieldston Press (New York, 1965); "Notes from Other Nations," section in *The Trademark Reporter*, United States Trademark Association.

<sup>2</sup> IDEA, Volume 6, Number 3 (Fall 1962), pp. 327-346.

<sup>3</sup> See for example, *Wall Street Journal*, May 27, 1965, p. 12.

American countries—with each other, with the United States, and with the rest of the world. A quickening effort has recently been noted to bring Latin-American nations under the Paris Convention.<sup>4</sup> Hemispheric coordination, perhaps temporarily slowed by events in the Dominican Republic, will probably be speeded in the aftermath as industrial cooperation and reduction of barriers to trade and commerce are pressed with new vigor in the spirit of the Alliance for Progress.

#### INSTITUTE QUESTIONNAIRES

Five substantive questions were asked of the Latin-American practitioners. The first requested copies of, or information regarding the availability of, “the most authoritative and most recent English translation of the laws of your country concerning intellectual and related properties.” For the purpose of the inquiry, such properties were defined to “include a wide variety of intangible creations of the mind, such as inventions, useful know-how, technical and ornamental designs, and literary, visual, and other art.” The second question requested copies of, or information on the location of, “the most authoritative and most recent English translation of the anti-trust laws of your country.” The next question referred to availability of “published statistical and other information and reports issued by your country with respect to intellectual and related properties.”

The remaining substantive questions sought opinions. Thus, the fourth solicited “comments as to whether (a) the laws of your country on intellectual and related property rights are adequate to foster technological progress, industrial developments, and economic and social advancement; and (b) the administrative and judicial interpretation of these laws effectively promotes such progress, development, and advancement. What remedies, if any are required, would you propose respecting the laws and their administration?”

The fifth question sought “comments on the degree of compatibility or uniformity of the laws of Latin-American countries concerning intellectual and related properties.”

A sixth question included in the Institute letters to Latin-American practitioners was purely administrative. It requested the names of knowledgeable English-speaking persons located in industry, gov-

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<sup>4</sup> *IDEA*, Volume 8, Number 2, (Summer 1964), pp. 295-296; “Industrial Property Congress at Bogota for Latin America (July 6-11, 1964),” *Industrial Property*, published by United International Bureau for the Protection of Industrial Property, Geneva, Switzerland, Third Year (August 1964) Number 8, pp. 164-170.

ernment, science, and education. The Institute then undertook correspondence with these persons, asking their views on the following set of five queries:

1. What have the systems meant to the welfare of your country?
2. To what extent are they, for example, an important factor in providing employment opportunities?
3. Are the creative incentives of the systems to the scientist, inventor, and author adequate?
4. Are the means for rewarding the contributions of the inventor, scientist, and author adequate?
5. How do the systems affect the attitude of the industrialist and businessman toward investment of risk capital in new enterprise and toward the growth of his company or industry?

#### RESPONSES OF PATENT PRACTITIONERS

The range of viewpoints expressed by respondents engaged in patent law is fairly reflected in the summaries presented in the following paragraphs.

In reply to the first question on the availability of English translations of laws relating to intellectual and related properties, a considerable amount of material was accumulated. Since translations were not always available, several of the pertinent documents supplied by the respondents had to be translated through arrangements made by the Institute.<sup>5</sup> Technical information culled from the translations has already been organized for presentation in *IDEA* at a later date.

The second question, concerning the availability and location of English information on antitrust laws, revealed that only Brazil, Chile, Mexico, and Argentina had such legislation.<sup>6</sup> An unofficial translation of the 1962 Antitrust law of Brazil was published with commentary in Volume 7, Number 4 of this journal. Sections of Chile's "Regulation on Monopolies"<sup>7</sup> were forwarded to the Insti-

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<sup>5</sup> Arrangements were made through the courtesy of Mr. Francis C. Browne for the Pan American Union to exchange translations of the statutory laws of several Latin-American countries with The PTC Research Institute.

<sup>6</sup> The Institute has acquired copies of the following: Ley 11.210 (69).—Represion del monopolio (B. O. 11/IX/923); Ley 12.906 (3).—Reprime los monopolios y deroga la ley 11.210 (Bol. of., 22/2/947); Decreto No. 5428 del 2 de marzo de 1949 (L. y C.).—Reglamenta la ley contra los monopolios (Bol. of., 8/3/949). (Argentina) (Spanish)

Law No. 4.137 of September 10, 1962 (Published in the Diario Oficial on November 12, 1962). (Brazil) (English Translation [Footnotes added])

Law 13.305; Law 15.142. "Regulations on Monopolies." (Chile) (English Translation)

<sup>7</sup> *Op. cit. supra*, note 6.

tute by a respondent. The Institute also acquired a Spanish version of the Argentine law.<sup>8</sup>

In response to the third question, the Institute learned that several of the countries have published official information on patents, copyrights, and trademarks. Among the countries issuing periodic reports on aspects of industrial or intellectual property are Argentina, Brazil, Chile, Colombia, and Mexico.

The replies to the fourth question showed, as had been anticipated, significant intercountry differences with respect to the quality of existing legislation and the effectiveness of enforcement. A need is evident for updating the legislation, and perhaps even a greater need is felt for improvement in the caliber and consistency of administration and decisions promulgated by government bureaus and the courts.

An Argentine respondent considered his nation's laws on industrial and intellectual property<sup>9</sup> "not yet adequate to foster technological advancement, industrial development, etc." Administrative enforcement and compliance left much to be desired because of limitations in manpower and financial resources. On the other hand, he regarded judicial interpretation as "adequate" and made favorable comments on the quality of the judiciary.

A response from a Chilean practitioner assessed the industrial property legislation<sup>10</sup> as "ample, clear, and efficient." Fault was found with bureaucratic patent procedures which entailed undue delays, but the same complaint was not made with regard to copyrights and trademarks. The protection afforded to persons using a trademark or industrial design without prior registration is regarded as insufficient.

Members of two Colombia firms acknowledge shortcomings, but they differ in the intensity of their criticism. One of these practitioners frankly appraises the present laws as inadequate. He also opines that administrative and judicial interpretation does not contribute to technological progress, industrial development, and economic or social advancement. The other respondent states, in part: "Our Industrial Property Law dates from the years 1925 and 1931."<sup>11</sup>

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<sup>8</sup> *Op. cit. supra*, note 6.

<sup>9</sup> The Institute has received a copy of Argentina's Law III (307) Patents of Invention, R. N. 1863/1869, p. 165. (Spanish and English Translation)

<sup>10</sup> Decree-Law on Industrial Property (Published in the *Diario Oficial* of July 27, 1931), Santiago, Chile, June 8, 1931. (Spanish and English Translation)

<sup>11</sup> We have in our files a copy of Colombia's Ley 31 de 1925, sobre proteccion a la propiedad industrial y por la cual se dicta una disposicion sobre impuesto

The general principles are based on the Argentine Law (going back to 1864). In general, this legislation has fulfilled its function adequately." Noting a transition from the original registration role of the Trademark Office to "a more ample interpretation of the Law," he remarks that the Office "is now acting more technically on the various matters within its province." On the other hand, he also sees a need for general revision in the interest of economic development and concedes the inadequacy of precedents to guide judicial interpretation. He suggests the organization of "a specialized government agency, with very definite powers and functions, at the same time endeavoring to unify the now scattered and somewhat incoherent legislation."

A Costa Rican practitioner considers the patent and copyright laws of his country as out of date (they originated in 1896) and inadequate for emerging needs, but he states that the trademark law is "undoubtedly the best" in Central America. He believes that administrative and judicial interpretation is generally effective, but he also deems enactment of a new patent and copyright law to be "imperative."

A respondent from Ecuador likewise refers to the antiquity of patent and trademark laws,<sup>12</sup> but feels that they have a flexibility desirable for early stages of industrial development. The difficulty lies in administrative and judicial interpretation, which has followed no clear precedents and has frequently changed.

A Haitian correspondent reports that, while the trademark law<sup>13</sup> is adequate, the patent law<sup>14</sup> requires overhauling. Furthermore, separate legislation should be enacted with respect to industrial designs.

A reply from Honduras indicates that the laws regarding industrial and intellectual property<sup>15</sup> are not really adequate. While the law may meet the narrow technical purposes for which it was conceived, new legislation would be required for promotion of technological advance.

sobre la renta, and of Ley 94 de 1931 adicional y reformatoria de la Ley 31 de 1925, sobre proteccion de la propiedad industrial y por la cual se dictan otras disposiciones (Spanish)

<sup>12</sup> Law on Exclusive Exploitation of Patents of Invention, as amended on October 2, 1961. (Ecuador) (English Translation)

<sup>13</sup> "Trade Marks," *Digest of the Laws of Haiti*, p. 42. (English)

<sup>14</sup> "Patents" [Haitian Law of December 14, 1922], *Digest of the Laws of Haiti*, pp. 33-34. (English)

<sup>15</sup> We have a copy of the Honduran Law Concerning Patents for Inventions [as amended to December 14, 1939]. (English Translation)

A Peruvian respondent regards the new laws<sup>16</sup> of his country as an improvement. He also sees them, however, as only "an intermediary step."

A practitioner in Uruguay considers his country's legislation<sup>17</sup> adequate, but he comments unfavorably on implementation. He believes that the few cases have thus far provided only limited guidance and that administrative interpretation is "unstable, changing, and even harmful." He further says that "no administrative jurisprudence really exists," and he also refers to "the irritating slowness of the administrative proceedings." On the whole, he concludes that invention is prejudiced and the progress of industry and trade impeded by administrative shortcomings.

Another respondent from Uruguay affirms that existing legislation on patents is generally satisfactory, and he also comments favorably on provisions for trademarks and copyrights:

Our legislation on the subject is, in our opinion, a fairly good one. In the patent field we could perhaps criticize it on the grounds that it is old fashioned. It includes, for instance, a prohibition on pharmaceutical and chemical products based on the old principle of absolute freedom of trade in the pharmaceutical field. This principle, as you know, has been proven incorrect and other countries which are more advanced in that branch of science are those who allow product claims in their patents. Trademark-wise we think that our law is a good one. It is a compromise between the "declaratif" and "attributif" systems; it has certain drawbacks but on the whole the principles it includes are perfectly sound. From a copyright viewpoint, our law is more than generous. Uruguay is not a member of the International Convention on the subject, but evidence of copyright protection in the country of origin is sufficient to enforce such protection in Uruguay as long as, of course, the subject matter falls within the scope of our legislation which, by the way, is pretty broad.

The same Uruguayan respondent, however, confirms the adverse opinion on administration that was expressed by his countryman:

There is very little patent and trademark litigation in this country and, in consequence, there is not a sufficient body of jurisprudence to warrant any specific comment. Administrative-wise the prosecution of patents and trademarks is painfully slow. A lot could be done in respect to this aspect of the matter. This, of course, is a matter of deficiency of people and not of regimes, with the possible exception of examination as to novelty in respect to patents. The writer be-

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<sup>16</sup> Peruvian Industrial Promotion Law No. 13270 (November 30, 1959). The Regulations of Law No. 13270 were promulgated April 26, 1960. (English Translation)

<sup>17</sup> The Institute has acquired a copy of Patent Law No. 10,089 (December 12, 1941), and of Uruguayan Trademark Law, effective October 24, 1940. (English Translations)

lieves that our Administration has not got the means to properly examine patent applications and perhaps we would do better by following the French, Italian, Belgian, etc. systems.

In response to the fifth question, practitioners in Latin America noted a high degree of compatibility among the laws of the various nations; but they also recognize that uniformity is not easily obtainable and, furthermore, are not convinced of the desirability of uniformity. The pressures for developing common markets will doubtless encourage close coordination of hemispheric legislation.

#### RESPONSES OF LATIN AMERICANS TO SECOND QUESTIONNAIRE

A special effort was made to get additional information from English-speaking Latin Americans regarding the status of industrial property systems, especially in the less industrialized countries. The responses were spotty, reflecting the uneven familiarity with the subject matter involved. Occupation obviously was a factor influencing disposition to reply and the quality of the information supplied. Furthermore, not all of the respondents gave equal attention to the five questions directed to them.

A comprehensive reply was received from an English-speaking attorney in Santiago, Chile, who specializes in patents and trademarks. The industrial property systems, in his opinion, are "well conceived" and well administered. He considers them to have had a beneficial influence on the development of Chile. Latin-American industrialists and foreign firms, in his view, extensively patronize the patent and trademark systems. He notes that a tremendous shift has occurred from agriculture and mining to industry during the past thirty years; and this increase, significant to the longrun economic development of the country, was facilitated by "the sound organization of the industrial property system." Believing that Chilean legislation provides adequate incentives to creativity, he added that foreign inventors would feel greater security if Chile were a member of the International Union (Paris Convention). He adds that the Chilean legislature was considering improvement of statutory provisions governing patents and trademarks. In his experience, businessmen are sensitive to the opportunities afforded by patents in making their own investment decisions; and they also take account of the patent rights of others in planning projects.

A high official of a trade association in Costa Rica states that, at the present time, the industrial property systems have limited impact on his nation. He recognizes, however, that scientists, inventors, and authors are afforded some protection thereby. On the other



hand, he believes that the means for rewarding creative persons are inadequate. He also states that "the only rights in connection with industry" that are important are "trademark registrations." He concludes that intellectual property has not yet reached a high state of development in Costa Rica.

An officer of a trade association in Honduras replied that industrial property systems are still of little significance for his own country. The limited degree of industrial development is cited as a factor. Domestic firms seem to have little interest as yet in the development of Honduran patents. On the other hand, they are alert to the possibility that a United States company with a strong patent position may provide a safe umbrella for local investors.

From several respondents in Uruguay, we learned that the smallness of the market and the limited development of manufacturing have encouraged the treatment of industrial property as a source of revenue rather than as an incentive for creativity and investment. Pharmaceutical products may represent an exception. It is also reported that pirating occurs in spite of the law. Delays in registration, aggravated by lack of staff, are a contributing factor.

#### CONCLUSION

This limited survey of Latin-American views reenforces impressions gathered from other sources. Intercountry variation in provisions for industrial property protection is less than the variation in levels of industrialization. Legislation, in general, seems to be more advanced than administration and judicial interpretation, but the laws often lag behind modern requirements. It may be anticipated that further industrial development, facilitated by the establishment of common markets, by additional United States private investment and governmental aid, and by competitive bids for markets from countries in the Eastern Hemisphere, will stimulate improvements in legislation and administration.

Three kinds of international alignment of Latin-American industrial property systems will probably be pursued in the coming years, but at some point in time one may well become favored above the others. One of the three routes is affiliation with the United International Bureau for the Protection of Industrial Property. Already moves are afoot in Europe to encourage such affiliation.<sup>18</sup> The second route of evolution is the establishment of a closer parallelism

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<sup>18</sup> *Op. cit. supra*, note 4.

between Latin-American and United States laws.<sup>19</sup> Change in this direction, which would facilitate further United States investment, may be encouraged by agreements leading to greater United States governmental assistance. The third pattern of cohesion is culturally and geographically plausible: the increasing mutual adjustment of the laws in the various Latin-American countries entering into common-market arrangements with each other. The area of unhampered trade will correspondingly expand.<sup>20</sup>

As these different modes of economic and legal integration are explored, internal and external forces will interact to determine the ultimate dominant form or mix. Industrialization itself is a dynamic internal force, as well as a consequence of the interaction. This process will be influenced by, and will also influence, the opinions and wishes of informed Latin Americans, a small segment of whom our inquiry sought to reach. Resurveys of Latin-American views will contribute to the Institute's understanding of the great changes occurring in a part of the world in which the United States has a vital interest.

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<sup>19</sup> *Op. cit. supra*, note 2, p. 342.

<sup>20</sup> *Op. cit. supra*, note 2, pp. 340-342; 420-421. *Multilateral Economic Cooperation in Latin America*, Volume 1, United Nations, Department of Economic and Social Affairs, 1962.

# Recent EEC Antitrust Activity Relating To Exclusive Distributorships And Trademarks

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## SUMMARY

**T**HIS REPORT IS ONE OF A SERIES published by the Institute as part of its continuous research project on the European Economic Community. A prior report covered the *Proposed New European Patent* which will provide a patent system for the EEC superimposed on the national patent systems.<sup>1</sup> Another report<sup>2</sup> published an *Analysis of the Regulations Implementing the Antitrust Provisions (Article 85 and 86) of the Treaty of Rome* which subjects certain agreements to a procedure of notification to the EEC Antitrust Commission, and discusses recent decisions, both of the National Courts and antitrust agencies and of the EEC Antitrust Commission. A further report<sup>3</sup> evaluated the *Right to Apply for a Common Market Patent* and its possible consequences for United States corporate applicants. The compensations and incentives provided for discoveries to EEC inventors under their respective national laws were evaluated at an Annual Conference.<sup>4</sup> Another report published a series of interviews conducted in Europe with leading EEC and national authorities in the patent, trademark and antitrust fields after they had lectured in the United States under the auspices of the Institute.<sup>5</sup>

This report discusses recent developments in the field of antitrust under national laws of the EEC member countries and under EEC laws. The focus of the report is particularly, but not exclusively, on the

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<sup>1</sup>*PTC J. Res. & Ed. (IDEA)*, Vol. 5, No. 3 (Fall 1961), p. 233.

<sup>2</sup>*PTC J. Res. & Ed. (IDEA)*, Vol. 6, No. 1 (Spring 1962), p. 20.

<sup>3</sup>*PTC J. Res. & Ed. (IDEA)*, Vol. 6, No. 3 (Fall 1962), p. 317.

<sup>4</sup>*PTC J. Res. & Ed. (IDEA)*, Vol. 7, Conference Number (1963), p. 88.

<sup>5</sup>Pieter VerLoren van Themaat, Director General of the General Direction for Competition of the Commission of the EEC, "Current Antitrust Developments in the European Common Market and the Relation thereto of Industrial Property Rights," *PTC J. Res. & Ed. (IDEA)*, Vol. 6, No. 4 (1963) p. 432. Franz Froschmaier, General Direction for Competition of the Commission of the EEC, "Progress Toward the Proposed Conventions for a European Trademark," *PTC J. Res. & Ed. (IDEA)* Vol. 6, No. 4 (1963), p. 483.

developments which relate to patent, trademark and distributorships with aspects of exclusivity.

### **Decisions of the National Member Countries**

**P**ERTINENT RULINGS have been issued both by the national courts and the administrative agency for trade regulations.

#### **NATIONAL COURTS**

During the past five years both the national courts of the Member countries of the EEC and the German administrative antitrust agency passed on numerous arrangements involving EEC antitrust. A number of the more pertinent rulings are discussed here.

#### *Number of Parties to Agreement*

In a decision of the Court of Appeals of Munich,<sup>6</sup> the Court, confronted with the important issue of the number of parties or enterprises to an agreement, distinguished between the number of parties under the EEC law and under German law. The case involved a price maintenance agreement imposed on customers of the plaintiff in conjunction with the sale of its cameras. The plaintiff imposed on his domestic buyers export prohibitions which prevented them from selling the cameras abroad directly or to other exporters. For a price maintenance system to be valid under German law, it must, in addition to being registered with the German Cartel Office, be complete from the manufacturer to the retailer, through the wholesaler. The individual agreements between plaintiff manufacturer and the individual retailers must be imposed on all the other retailers and it must be accepted by all of them; the system must be enforceable against all parties. If there is a gap of obligations in the system, for instance, because some portions are unenforceable, the entire system becomes likewise unenforceable. In effect, there is a complex system of price maintenance and marketing restrictions involving more than two enterprises. The Court pointed out that even if under German law the system involves more than two enterprises because the supplier has similar agreements with other enterprises, it did not preclude that the individual agreement between the manufacturer and his retailer be considered as an agreement between "two enterprises" only. Hence, the agreement came under the EEC antitrust provisions for

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<sup>6</sup>7/8 *Wirtschaft and Wettbewerb*, hereinafter cited as *WuW*, *WuW* 626 (1963) OLG Munich 30 Mai 1963.

notification for only two enterprises. The notification submitted by the plaintiff before February 1, 1963, was therefore timely. If the agreement had not been construed as one between only two enterprises the notification would have been belated, and presumably the validity of the price maintenance system would have been affected.

Accordingly, the export prohibition imposed by the plaintiff on the individual retailers is, as ruled by the Court, at a minimum provisionally valid under the decision of the Bosch case of the European Court of Justice of April 6, 1962.<sup>7</sup>

The decision is of further interest in illustrating how a national court tended to disregard its domestic law to determine an EEC issue which affected the validity of a national agreement. The decision, insofar as it deals with the number of parties to an agreement, has application to licensing agreements of trademarks, patents, and know-how.

### *Export Restrictions*

Another case upholds the provisional validity of a re-export provision.<sup>8</sup> In this case, Brown, a manufacturer of electric appliances which included electric shavers, distributed these shavers under a trademark which was subject to a price maintenance agreement on the German market. Brown had imposed an export prohibition (a re-export prohibition including re-export to Germany), on his German wholesalers and on the foreign distributors in the EEC. All agreements had been duly registered with the German Cartel Office and notification had also been properly and duly given to the EEC Commission. A German wholesaler of electric appliances, re-importing the products from Belgium, offered them on the German market at prices lower than those stipulated in the price maintenance agreement.

The Supreme Court of Germany, overruling the Court of Appeals which had held the price maintenance incomplete because it was possible to re-export the shavers from EEC countries to Germany, ruled that loopholes in the price maintenance system were not determinative if violations were detected and enjoined promptly, as they had been here.

It is significant that the Court, proceeding further than in the prior

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<sup>7</sup>*Société Kledingverkoopbedrijf de Geus en Uitdenbogered v. Robert Bosch GmbH*, Cour de Justice des Communautés Européennes, April 6, 1962, 8 Rec. de la jurisprudence de la Cour 89, [1962] JOCE 1081, hereinafter referred to as "Bosch" case. For a discussion of the Bosch decision, see "A Symposium Antitrust and the Common Market," 38 *New York Univ. Law Rev.* No. 3 at 516 (1963).

<sup>8</sup> *Bundesgerichtshof Karlsruhe KZR 5/62*, June 14, 1963, WuW 175 (1964).

case, looked to EEC law solely to decide the validity of the re-export prohibitions imposed on the foreign wholesalers and thereby to determine the validity of the German arrangement. It is questionable whether an entire German price maintenance system would be held invalid if an export prohibition imposed on a non-German were invalid, because, for instance, it is belatedly registered with the Commission. Would it make a difference under the decision, if the re-export prohibition were imposed on a non-EEC party precluding re-export with the EEC? If the Commission at a future date rules the re-export prohibition improper, can the party thereafter assert invalidity of the German price maintenance system? It is evident that in both of the above cases, the parties benefited from having given notification of their agreements to the EEC Commission. Actually, here the Court enlarged the German concept of "pending unenforceability" of agreements where due notification with the Cartel Office is "provisionally valid," an EEC concept for properly notified agreements. The parties gained in legal and commercial security.

### *Trademarks*

Two recent decisions deal with trade restrictions arising from the territorial application of the trademark laws. In this first case,<sup>9</sup> a German importer imported detergents in packages bearing the trademark "Persil-Ideaal" from Holland at prices which were lower than those at which German plaintiff marketed the detergents under the name "Persil" in Germany. The Court of Appeals, affirming the District Court, enjoined the party from importing and marketing the product "Persil-Ideaal" in Germany. It held that the trademark owner who registers a particular trademark in a country is protected only within that country. Here the defendant had exhausted his trademark rights when he had exported the product from Holland to Germany.

This application of the territorial principle, the Court pointed out, is consistent with German decisions, and with those of the Supreme Court of Austria and Switzerland. On the other hand, the plaintiff could not be denied the injunction on the basis that he had exhausted his trademark right. The Court could not find any corporate connection between the Dutch exporter and the plaintiff. If a relationship had been found between the Dutch exporter and the German party, relief probably would have been denied. The defendant asserted that there was an illegal territorial division of market between the plaintiff

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<sup>9</sup>Henkel & GmbH v. Sommer, Oberlandesgericht Hamm, January 17, 1964, Case No. 4 U209-63 6 WuW 535 (1964).

and the Dutch firm since each one was enforcing its own trademark, and that such agreement would violate Article 85 and 86 of the Treaty of Rome. The Court, rejecting the defendant's position, ruled that the provisions of Article 85 and 86 do not prohibit restriction on trade between the member states of the EEC which result from the principle of territorial application of trademarks, and their enforcement where imports or exports would violate the trademark rights of the trademark owners. It emphasized that the Treaty of Rome had not rendered inapplicable the trademark laws of the member states. These, in turn, are also interwoven with international conventions protecting industrial property rights. Accordingly, if the enforcement in Holland of the trademark "Persil" by its rightful owner on one hand, and the enforcement by the plaintiff in Germany of the trademark "Persil" created a territorial division of the markets adversely affecting trade between the member states it would not be the result of an agreement between the parties and the Dutch firm, but would be merely the rightful enforcement of the national trademark laws. The decision is significant in the length to which the Court went to distinguish the obligations imposed on the parties and flowing from the proper exercise of the trademark law and the restrictions on trade derived from other agreements. A valuable analogy can be drawn with respect to the exercise of patent rights.

#### *Spanish Owner of Trademark*

In two cases, the German Courts found expiration of the trademark rights. Both cases involved parties outside of the EEC.

In the first case,<sup>10</sup> the Supreme Court of Germany, confirming the judgment of the Court of Appeals, denied relief to a German exclusive distributor and importer of a Spanish soap "Maya" against another German importer who sold it on the West German market. The plaintiff had the exclusive right to use the trademark. The Spanish wholesalers did not have, in their agreement with the manufacturer, any prohibition precluding them from exporting the soap abroad. The Court, applying the principle of territorial application and exhaustion of trademarks rights, held that the trademark owner is only protected within the country of registration of the trademark and that he has no right extending beyond the national frontiers. Under the principle of territorial application, the trademark rights were exhausted when the manufacturer put the products bearing the mark on the market and sold them. The Supreme Court pointed out that if the trade-

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<sup>10</sup>Bundesgerichtshof 22 January 1964.

mark owner could object to the imports of another importer, then the trademark right, rather than being used to distinguish the goods from the same or similar goods from another manufacturer, would simply indicate the place of origin of production of the goods. As such, it could be used as a means for dividing markets, fixing prices, and controlling distribution along political lines. The trademark rights cannot be used for such means. Such rights and obligations must be entered into by separate agreements and must not be predicated on the trademark right itself.

#### *U. S. Owner of Trademark*

In this case a German Circuit Court of Appeals denied an injunction to the German subsidiary and exclusive distributor of a parent American company against an importer of the articles on the ground that the parent company had exhausted the trademark right once it had marketed the article outside of Germany. The Court distinguished the situation where the article is marketed against or without the consent of the holder of the trademark by another party, and in which case, there is deemed no exhaustion by the owner of the trademark. The Court pointed out that the trademark could not be used to restrict international trade when, as here, the trademark owner has introduced the article in trade, irrespective of whether this is inside or outside the country where it is sought to be enforced.

The case is of particular interest in that it involved a subsidiary of an American company. It raises highly significant implications regarding use of trademarks by joint ventures with American partners.

#### *Jurisdiction of the National Court*

In two French cases, the Court dealt with the issue of jurisdiction of the court reaching opposite results properly.

In the *Photo-Radio Club* case,<sup>12</sup> the Court de Cassation of Paris, affirming the Court of Appeals of Amiens, rejected an appeal to have the case brought within the exclusive jurisdiction of the EEC Commission. The Court upholding the Court of Appeals held that the timely notification of licensing agreements of the party with his various dealers to the EEC Commission did not remove these agreements from the jurisdiction of the National Court's concurrent jurisdiction.

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<sup>11</sup>Decision of Circuit Court Dusseldorf 22 March 1963, Revlon 3 WuW 257 (1964).

<sup>12</sup>Paul Nicholas & Soc. Brandt v. Photo-Radio-Club, Court de Cassation (Ch. Crim.) October 22, 1964, affirming the decision of the Court of Appeals of Amiens May 9, 1963, 5 WuW 435 (1964).



Applying Regulation 17,<sup>13</sup> the Court held that since the EEC Commission had not yet initiated any proceedings, the jurisdiction as to the applicability of Article 85, ¶ 1, still remains with the National Court concurrently with the EEC Commission. Accordingly, the Court of Appeals of Amiens properly had jurisdiction to hold that the agreement was a domestic one, not subject to notification, since it involved only parties in France responsible for goods manufactured in that country and that it was not likely to affect trade between the member states of the EEC.

In another French case,<sup>14</sup> the Court of Appeals of Paris held that it does not have jurisdiction to decide the unfair competition case where the Commission had started proceedings pursuant to an application under Article 85, ¶ 3. According to Regulation 17 the Commission's jurisdiction to grant exemptions is exclusive of that of the national courts.

It is evident that the national courts are applying the EEC antitrust law and that the parties are using it as a defense in actions under the national laws.

#### ADMINISTRATIVE AGENCY—THE GERMAN CARTEL OFFICE

The German Cartel Office has continued its active application of the German antitrust law<sup>15</sup> to a wide area of business arrangements.

#### *License Agreements*<sup>16</sup>

The Cartel Office has dealt with numerous cases involving license agreements for patents and know-how. The Office reports that the number of pending proceedings has again considerably decreased due to the smaller number of new actions and to the fact that a number of legal problems were settled. The docket of the Office included 364 agreements carried over from the prior year, and 103 newly initiated proceedings. Of these, 71 proceedings involving 244 agreements have been closed. In eight proceedings, permission was granted pursuant to Section 20 ¶3,<sup>17</sup> but in several cases, it was granted only after the parties agreed to amendments and other limitations on the agreements. Eight further proceedings were closed by withdrawal of the applica-

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<sup>13</sup>[1962] JOCE 204, as amended.

<sup>14</sup>UNEF v. Consten Court of Appeal of Paris 1ère Ch.) 26 January 1963, [1963] Rec. D. Jur. 189.

<sup>15</sup>Law Against Restraints of Competition, July 27, 1957 (1957) 1 Bundesgesetzblatt 1081 (Ger. Fed. Rep.) (hereinafter cited as Cartel Law), 1 OEEC Guide D.I. 0 The German Cartel Law is administered by the Bundeskartellamt, cited as BKartA.

<sup>16</sup>Cartel Office Annual Report 1963 Bundestagsdrucksache IV/2370.

<sup>17</sup>*Supra*, note 15.

tion for permission, partly because the parties' agreements conformed with the law.

*a. Actions under Section 20, ¶ 1, clause 1 & Section 21*

Sections 20 and 21, ¶ 1 of the Cartel law do not only apply to pure, patent agreements dealing only with patent rights, but these Sections also apply when the agreement contains arrangements as to the utilization or transfer of trade secrets together with patent questions. For so-called mixed agreements which also contain, in addition to license arrangements, the elements of other contract types, Sections 20 and 21 are applied without consideration of the legal nature of the agreement, at least insofar as the agreement provides restrictions on the user of patents, utility designs and trade secrets.

A variety of different types of restrictions were examined. Prohibitions to compete are among the most frequent and lasting restrictions imposed on the licensee. They are void according to Section 20, ¶ 1 since they are considered beyond the scope of the licensed rights. As a contractual restriction on the licensee, they also do not qualify for the exception clause of Section 20, ¶ 2 since they are not explicitly stated in Sections 1 to 4 which represent a complete enumeration of the admissible domestic restrictions.

The Cartel Office comments that the licensor need not rely on such a clause to protect his interests. He can protect his interests adequately by agreeing, with the licensee, to a sufficiently high royalty (e.g. lump license fees and minimum license fees in addition to license fees per unit), by prescribing to the licensee's specific minimum amounts, and by fixing the price for licensed products. The licensor can also protect himself against misuse of his trade secrets, contrary to the agreement; for instance, by providing for penalties.

Other types of restrictions which have been the basis of complaints are restrictions on the production and distribution of products which are in direct or indirect competition with the licensed products; restriction of participation, directly or through third persons, in other enterprises which produce or market competitive products; restrictions on the right to grant licenses to such parties or to be a licensee of these parties. Obligations by licensees to pay the same license fees per unit as for other products similar to the licensed products were objected to by the licensee.

*b. Actions under Section 20, ¶ 1, clause 2*

The obligation imposed on the licensee to mark each article produced under the license as produced under the licensed patent, does

not exceed the scope of the licensed right, since this is still concerned in a broad sense with the "manner . . . of the exercise of the protected right." Such patent markings draw attention to protected rights to avoid infringement. In one case that was decided by the Office, the protected right was a process patent; the purpose of the obligation was to clarify that patent protection extends to the products directly produced according to the patented process. Restrictions as to the quantity (e.g. specific numbers of pieces, weight units, annual turnovers), and as to territorial and technical areas are valid insofar as they are imposed on the licensee by the licensor.

In 1962, the Cartel Office, in a change of policy, ruled that export restrictions in agreements about patents and utility designs are beyond the licensed right. This policy was also applied to trade-secret license agreements. Export restrictions in agreements, according to Sections 20 and 21, therefore now come within the terms of the exception clause of Section 20, ¶ 2, Section 5.

*c. Section 20, ¶ 2, Section 1*

Under this section the Cartel Office reports that when the characterizing portion of claims of a process patent contain statements as to the nature, condition and properties of the material to be used for the production, according to the patented process, provisions by the licensor on the licensee to use only such material do not exceed the scope of the protected right. Section 20, ¶ 2, Section 1 is to be applied only to such restrictions which are not within the scope of the protected right, but which are designed to serve the technically unobjectionable utilization of the subject matter protected by the patent. The licensor has no unlimited right to prescribe to the licensee the source of supply for the material to be processed because of the material and time limitation of Section 20, ¶ 2, Section 1. Authorization by the Office must be denied in case of intermediate products of the same type, condition and quality to be processed which are available on the market. Section 20, ¶ 2, Section 1, may apply to restrictions and limitations on use and sales restrictions, as well as to quality and supervisory regulation imposed on the licensee.

*d. Section 20, ¶ 2, Section 2*

If obligations as to fixed prices for several licensed products are imposed on the licensee on the basis of various patents and trade secrets, the obligations should expire on the date on which the corresponding protected right expires or the trade secrets become publicly known.

*e. Section 20, ¶ 2, Section 3*

Obligations for exchange of technical know-how and experience cannot be imposed on the licensee separately from the licensed protected rights. The obligations must be related to the protected subject matter and shall not exceed the term of the acquired or licensed right. If there is no reference to the protected or licensed subject matter, the obligation according to Section 20, ¶ 1, clause 1 is invalid even if the licensor is subject to reciprocal obligations of a same nature. On the other hand, the licensee is not relieved of obligations to inform the licensor of his commercial experiences, such as to disclose the calculation, to report on sales, advertising costs, and the like.

Obligations to transfer already existing or future inventions of the licensee do not come within the terms of Section 20, ¶ 2, Section 3. Also patents of addition are not a suitable basis for justifying the transfer to licensors. If the licensee makes an invention which is to be protected as a patent of addition, it may only be granted to the licensor as owner of the main patent because of the requirement of community of inventorship. Therefore, it is not contrary to Section 20, ¶ 1, clause 1, if the licensee had the obligation to file for patents for addition to the licensee's inventions in the name of the licensor, provided the patent of addition is reassigned to the licensee after granting. After grant of a patent of addition, community of inventorship with the parent case is no longer necessary. The licensor, however, may claim a license under the patent of addition.

Obligations not to challenge the licensed patent imposed on the licensee may be imposed until expiration of the patent or utility design even though the license is of a shorter period.

*f. Section 20, ¶ 2, Section 5*

The Cartel Office continued its policy that obligations on the licensee which concern foreign markets must also be related to the protected subject matter. The requirements, however, should be adapted to the circumstances of the individual case as well as to the justified interest of the licensor. Thus, in numerous cases an adequate relationship to the protected subject matter has been found. Section 20, ¶ 2, Section 5 has been applied if a domestic licensor has imposed a restriction on a foreign non-European license in order to avoid an unsupervisable use in violation of the agreement.<sup>18</sup> According to Section 20, ¶ 2, Section 5, the effects on foreign markets are disregarded if, at the date of the examination, no significant effects on competition

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<sup>18</sup>Decision of 2 September 1964 BKartA 4 WuW 345 (1964).

could be ascertained on the domestic market; merely theoretical secondary effects on the domestic market are not sufficient. Extension for prior appeals have continued to be filed with the Office, such as that for an export association linking German manufacturers amongst themselves and also German with foreign manufacturers.

g. *Section 20, ¶ 4*

The Office reports also that in some proceedings agreements between domestic and foreign enterprises had to be examined, where in the enterprises granted one another cross-licenses for a specific field on a great number of patents in connection with an extensive exchange of know-how. It is difficult to ascertain to what degree such an agreement is void under Section 1 or to what degree it represents only a large number of independent license agreements. The actual effects of such license agreements can be similar to those of a cartel. Because the conditions required for Section 1 could not be proved, no action was taken by the Office.

*Cooperation of the Cartel Office with the EEC Commission*

The Cartel Office reports extensive discussions with the EEC Commission. Further, the Cartel Office has drawn the parties' attention to possible violations of Article 85 so that the agreements have been amended or notified in Brussels. But the jurisdiction of the Office has been curtailed since the EEC Commission has exclusive jurisdiction to rule on the applicability of the exception under Article 85, ¶ 3.

With the exception of the question of export prohibition on a German patent, the practice of the Cartel Office, in 1963 and continuing into 1964, serves to reflect an attempt to settle cases along decided lines, rather than attempting new approaches. It seems also to attempt to deal with the complex problem of the application of the German Law in relation to the EEC antitrust law. It reflects also its recently restricted jurisdiction in cases involving the EEC and ¶ 3 of Article 85 as to the same trade arrangement. The practice of the Office appears also to reflect the influence of pending changes in the Cartel Law.

*Amendments to the Cartel Law*

The Cartel Law reflects the need for revision in light of the experience gained in the past years and the economic development of the EEC and the German Parliament, with advice and consent of the German Senate, has recently drafted an important revision to that Law.<sup>19</sup> The revision provides, inter alia, for abolition of the price fix-

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<sup>19</sup>7/8 WuW 622 Notice No. 29/64 BKartA and 10 WuW 840 (1964).

ing privileges, closer supervision and control of exclusive dealing arrangements, market dominating enterprises, mergers and new criteria therefore.<sup>20</sup> The implementation of the amendments which tighten the law are likely to affect business arrangements in Germany and also influence the EEC law.

### The Decisions of the EEC Commission

The EEC Antitrust Commission has also issued a number of significant rulings, including the landmark case of *Grundig v. Consten*,<sup>21</sup> and a number of grants of Negative Rulings. In the *Grundig* case, the Commission refused to grant the exception of Article 85, ¶ 3 and in the negative clearances cases, the Commission confirmed the non-applicability of Article 85, ¶ 1.

#### DECISIONS HOLDING A VIOLATION OF ARTICLE 85

##### *The Grundig-Consten Case*

##### a. *The background*

Recently the Commission issued its decision on the Grundig-Consten agreement which involves important trademark questions interwoven with an exclusive distributorship arrangement. The case originated with the Commission as a result of a complaint submitted by UNEF pursuant to Article 3 of Regulation 17 against Grundig and Consten, German and French parties respectively, on the ground that these two parties had violated the provisions of Article 85 by having an agency contract agreement and a supplementary agreement concerning the registration and use in France of the trademark "GINT." The agreement was entered on April 1, 1957. It is interesting to note right at the outset that the action with the Commission originated as a result of a complaint by a third party; in that it too sets an important precedent. Subsequent to the complaint by UNEF, Grundig notified its agreement on January 29, 1963, in accordance with Article 5, ¶ 1 of Regulation 17. Thus Grundig availed itself of the benefits flowing from notification of agreements pursuant to Regulation 17. This means Grundig protected itself from the adverse results, both those that might originate in civil suits between the parties as well as from the Commission or other administrative agencies. Moreover, as noted previously,<sup>22</sup> it suspended the action of Consten against UNEF on the

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<sup>20</sup> *Id.* at 628.

<sup>21</sup> Commission's Decision, 23 September 1964, No. IV-A-0004-03344, 161 JOCE 2545 (1964); [1964] WuW 1069, only the French and German texts of the Decision are controlling.

<sup>22</sup> *Supra*, note 14.

basis of unfair competition in the Court of Appeal of Paris. In a second action of Consten against UNEF, on the basis of infringement of the "GINT" trademark, no ruling has as yet been issued by the Court.

*b. The facts*

Briefly, the facts of the case show that Grundig appointed Consten its exclusive distributor for France, The Saar and Corsica, for radios, tape recorders, dictating machines and similar equipment, as well as for parts and accessories manufactured by Grundig. Consten, acting on its own account, is prohibited from representing other German manufacturers who produce or sell similar or like products; nor is Consten allowed to sell for his own account or for other products that compete with the products under the contracts or that might interfere or hinder their sale. As a further explicit prohibition, Consten is precluded from making deliveries directly or indirectly from its territory to any other country. Furthermore, Consten is authorized, for the term of the contract, to use the name and symbol "GRUNDIG" to distribute Grundig products; Consten is, however, precluded from registering this trademark. Consten is further prohibited from using this trademark after expiration of the contract, regardless of the reason for the expiration. Grundig, in turn, has the explicit restriction not to sell directly or indirectly to other parties in the territory of the contract. This clause which is part of a system of territorial protection required from the entire Grundig sales organization, prohibits other Grundig purchasers, German as well as foreign, from exporting or re-exporting. Thus, both parties, Grundig and Consten agree not to export into or from the territory. The trademark "GINT" was registered in France in October 3, 1957, in the name of Consten. The trademark is affixed to all appliances manufactured by Grundig, including those sold in Germany; and under the agreement, Consten agrees that at the termination of the exclusive agreement, the "GINT" trademark would be assigned to Grundig or would be allowed to expire. The "GINT" trademark was introduced by Grundig after it lost a decision in Holland, December 1956, against a parallel importer, where Grundig attempted to insure territorial protection through the Grundig trademark for its Dutch exclusive distributor. The decision against Grundig is similar, in that extent, to the above discussed *Maya* case in holding that Grundig had exhausted the Grundig trademark by placing it into trade and that it had no rights outside of Germany. As a result, the "GINT" trademark is registered in Germany in the name of Grundig, but in other several member states in the name of the exclusive distributor.

*c. The decision*

The Commission examined systematically each one of the elements of Article 85, ¶ 1 and then those of ¶ 3 before holding the agreements prohibited and issuing its injunction. The Commission showed that the agreements here are between two enterprises and that they fulfill the two requirements set forth in Article 85, namely that they restrict and distort competition within the Common Market and that agreements are likely to affect trade between the member states. The Commission pointed out that regarding the first point, the restrictions imposed on Consten and on Grundig's dealers resulted in the fact that no dealer in Grundig products established outside of France could sell these products in France; and furthermore, that imports in France of Grundig products by third parties into France are also precluded. The Commission then placed great reliance on the effect of the "GINT" trademark and showed that the arrangement's object was to protect the exclusive distributor in France against parallel imports. Thus, it completely insulates Consten from the competition of other enterprises dealing in Grundig's products insofar as the territory is concerned. The Commission did not look further into the purpose of the trademark "GINT" except to note here that the trademark was not needed to show the origin of the goods since the Grundig trademark already serves this purpose.

Rejecting the argument of Consten that competition at the stage of the producer's level was adequate so that further distortion of competition could not possibly result at the stage of the exclusive distributor, the Commission held that it was sufficient that competition be prevented or restricted at just one single stage of competition within the meaning of Article 85 ¶ 1. The Commission held that it was important for the consumer to have a true choice between two distributors dealing through parallel sales network. And for this reason, therefore, where the distributor bears the same trademark, competition at distribution level is particularly important between wholesalers, particularly where cost of distribution represents a significant portion of the total cost. Accordingly, for these reasons and heavily relying on the effect of the supplementary agreement concerning the "GINT" trademark, the Commission ruled that competition is restricted within the meaning of Article 85, ¶ 1.

The Commission further held that the agreements tend to affect trade between the member states. It is noteworthy that the Commission for the first time adopted a broad construction of the term "affect



trade" by using the expression "likely to affect trade,"<sup>23</sup> thus conforming its interpretation more closely to the original German and French text of Article 85 and perhaps clarifying and putting to rest a controversy prevailing since the enactment of Article 85. The Commission showed that the export and import prohibition imposed on the two parties and on the other distributors of Consten, as well as the supplementary agreement concerning the registration of the "GINT" trademark in the name of Consten, contributed to the isolation of the national French market from the rest of the European Common Market and therefore the agreements were likely to affect trade between the member states. The Commission rejected the defense that trade between France and Germany had increased substantially while the agreement was in existence. It is sufficient, the Commission ruled, within Article 85 that the agreement causes trade between member states to develop under conditions different from those under which it would have developed without such a restriction and that the effect on market condition be of some significance. Here, therefore, the Commission has provided additional criteria respecting the words "affect trade" in requiring that the effect be of some commercial or economic significance.

The Commission then turned to Article 85, ¶ 3 to determine if the conditions set forth by that paragraph were fulfilled. In its notification of the agreement by Grundig and Consten on January 29, 1963, the parties requested an exemption under ¶ 3 of Article 85. The justifications provided nine major reasons for requesting the grant of the exemption. Only on one of these points did the Commission find for Consten and Grundig in holding that an improvement of production and distribution could be found in this case. Even this point, however, was not fully examined since, as the Commission stated, the other conditions of ¶ 3 were not fulfilled.

First, the Commission ruled that the consumers were prevented from being given a fair share of the profit resulting from the improvement of the distribution system. It is not enough to satisfy the word "profit" in ¶ 3 of Article 85 that the consumers be given only the improvement derived from the distribution of the products, but also that they must share in any price reduction which follows this improved distribution. The Commission rejected the argument that a general lowering of consumer prices was satisfying the requirement of fair share in profit for

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<sup>23</sup>Les contrats sont susceptibles d'affecter le commerce entre Etats membres pour les raisons-suivantes. (Fr.) Die Vereinbarungen sind aus folgenden Grunden geeignet, den Handel zwischen Mitglied-staaten zu beeinträchtigen. (Germ.). Note 20 at 2548.

the consumer, since no evidence had been shown tracing the lowering of prices to the activities of the sales organization of the parties. Accordingly, the price differential which is made possible by the absolute territorial protection which was imposed here on Consten precludes the consumers from being given a fair share of the profit, and therefore, there was a violation of this clause.

The crux, however, of the decision ruling ¶ 3 not applicable to the agreement is that not all the restrictions imposed on the enterprises were indispensable for the fulfillment of the desired end. The Commission ruled that the restraint of competition, which is most objectionable, is the agreement regarding absolute territorial protection designed to prevent imports of the products by parallel importers into the territory of the agreement. The criteria to apply is whether or not it is possible to improve distribution of the products by a sole agency, even though parallel imports from a wholesaler outside of France are allowed by other wholesalers and retailers in France, delivered directly by Grundig or from any other dealer established outside of France. If the goal of improving production and distribution of the goods can no longer be achieved by weakening the territorial protection, then such absolute territorial protection would be indispensable. If, however, even under such conditions, improvement of production and of distribution of the goods is still possible, then absolute territorial protection would not be indispensable. The Commission found no reason why Consten, even without absolute territorial protection, would not be in a position to exploit the French market as a sole agent. On the contrary, the Commission relying on the Dutch experience of Grundig's sale organization, pointed to the fact that parallel imports can be considered as a useful means of correcting the price differential between the various countries without, however, substantially hampering the activities of the sales organization.

The Commission then further ruled that the absolute territorial protection was not justified and that it had no relation to advance planning, guaranteed service, post sale service and cost of advertising and guaranteed service. (Because of these grounds, the Commission held that the agreement could not be exempted under Article 85, ¶ 3.)

It is significant that in discussing the cost of advertising, the Commission stated that it is sufficient if Grundig agrees not to export directly to another enterprise within the territory. The Commission therefore would apparently condone such an obligation imposed on the manufacturer outside the exclusive distributorship territory. Following the reasoning of the Commission, this would oblige the parallel importer to obtain his supplies from wholesalers in other countries,

including the country of the manufacturer, and would also promote efficiency in lowering of prices to enable the parallel importer to compete with the exclusive distributor.

d. *The "GINT" Agreement*

Highly significant also are the comments of the Commission regarding the supplementary "GINT" agreement. That agreement, as stated by the Commission, was not notified to the Commission. The Commission further held that the agreement respecting the "GINT" agreement was not a candidate for the classes of agreements which are exempted from a notification under Article 15, ¶ 2a of Regulation 17. These provisions provide that certain agreements involving industrial property rights, such as patents, trademarks or know-how are not subject to notification when only two enterprises participate in the agreement and when its sole effect is to impose certain limitations on the user of the industrial property rights. The Commission's ruling strongly suggests that it considered the supplementary agreement regarding the "GINT" trademark not to have as its sole effect the imposition of obligation regarding the trademark, as is required under that section.<sup>24</sup> The specified obligations imposed with the trademark license were too closely connected with the exclusive distributorship agreement tightening further its absolute territorial protection.

Noteworthy further is a comment of the Commission to the effect that it refused to decide whether or not the supplementary agreement respecting "GINT" had been implicitly notified to the Commission along with the exclusive distributorship agreement, because of its close connection therewith. This point may be an issue in the civil action of Consten against UNEF for infringement of the "GINT" trademark.

If the French Court should take the position that the trademark "GINT" is not necessary to indicate origin of the goods since the mark GRUNDIG is already affixed thereto by Grundig, it could be foreseen that the court could refuse the enjoined UNEF on the basis that the mark has been exhausted when the goods are placed in trade by Grundig.

The Commission enjoined Consten and Grundig from engaging in any measures designed to hinder or to impede third parties in the EEC from buying from wholesalers or retailers of their choice the products covered by the agreement for resale in the territory. Both

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<sup>24</sup> 38 *New York Univ. Law Rev.* 496, 513 (1963) "A Symposium Antitrust and the Common Market."

Grundig and Consten are further enjoined from using "GINT" trademark for that purpose. It therefore leaves UNEF free from continuing its purchase from wholesalers in Germany or elsewhere in the EEC and then selling it on the French market. The Commission's decision in the *Grundig-Consten* case has been appealed by the parties to the Supreme Court of the EEC.<sup>25</sup>

*e. The Commission's Interpretation of the Decision*

In an announcement the Antitrust Commissioner<sup>26</sup> of the EEC underscored the fact that the decision did not hold that Consten could not be the exclusive distributor for Grundig in France. The principle objection of the Commission was to the effect that Consten was being sheltered in the exercise of exclusive selling rights beyond those of the exclusive distributorship. The Commission further stresses the point that its decision was not aimed at exclusive distributorship agreements in general, but against those agreements where the restraints on competition go beyond those which are indispensable for the improvement of production or distribution. The Commission's decision provides an important guide line in evaluating those agreements which are likely to violate Article 85 and those in contrast, which would minimize risks under Article 85.

*The Faence Convention*

In another case the Commission refused trade associations both a negative clearance and an exemption of ¶3 of Article 85. After reviewing in detail the arrangement, the Commission found that not all restrictions were necessary to reach the purposes of the agreement. The Commission pinpointed its objections on clauses which forbade recognized customers to sell and use products that are covered by the agreement and are manufactured by non-member producers. Also the Commission objected to the member-manufacturers' obligation to supply only recognized customers to the exclusion of general contractors, as an entire class of buyers. Throughout the decision, the Commission showed its concern and raised its objections because of the lack of objective criteria for determining the qualified customers to whom the member-manufacturers could sell. The Commission further showed that the agreement did not prevent unqualified parties from using the products.

The agreement between the trade associations was amended pursuant to the Commission's objections twice, in November 1963 and in March

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<sup>25</sup>2 JOCE 17 (1965) and 3 JOCE 21 (1965).

<sup>26</sup>Announcement of Dr. Hans von der Groeben, Brussels, 25 September 1964.

1964, and then submitted again for a negative clearance or, in the alternative, for the grant of an exemption under ¶3 of Article 85. The Convention, as amended, established a list of qualified purchasers with a detailed list of objective criteria which the customers must meet in order to qualify. Moreover, a mixed Commission is established to pass on the qualification of any other party who wants to belong to the list of qualified customers. It is explicitly provided that the general contractors can also qualify if they fulfill these objective criteria. It is further explicitly provided that any enterprise may become a member of the Convention and that it shall not determine the price and the other trading conditions of the products. Moreover, the customers may, at their option, purchase from members or non-members of the Convention.

The Commission's ruling is significant in view of its applicability to trade associations or other organizations with a large number of members, some of whom are in the EEC, and some others are not. Again, the Commission emphasized its objection to the clauses which are not necessary to achieve the ends and the purposes of the agreement.

#### DECISIONS HOLDING ARTICLE 85 NON-APPLICABLE

##### *Commission's Actions*

The decision in the *Grundig* case, holding that Article 85 was violated and that Section 3 was inapplicable, follows a series of negative clearances granted by the Commission holding Article 85 inapplicable. An analysis of these negative clearances reveals that the Commission has examined a number of agreements arrangements typifying various situations: the parties located in different states within the European Common Market; the parties located within the same state of the EEC; one of the parties located in the EEC and the other party outside, regardless of whether the party outside of the EEC is in EFTA or not. Where one party is in the EEC and the other is not, two situations arise with respect to the different functions accomplished by by each one of the parties. In the *Grossiflex* arrangement,<sup>27</sup> Fillistorf, the exclusive distributor in Switzerland, was prohibited from selling or producing products competitive with those of *Grossiflex*, and *Grossiflex* agreed not to sell directly to Switzerland. In the *Nicholas Frères*<sup>28</sup> arrangement with *Vitapro*, a British company, each party agreed to limit their activities to their respective territories, the

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<sup>27</sup>*Grossiflex Co. & Fillistorf* (Zurich) 58 JOCE 915 (1964); Request for Negative Clearance for Exclusive Delivery to Qualified Buyers, 7/8 WuW 618 (1964).

<sup>28</sup>*S.A. Nicholas Frères & Vitapro* (UK) 136 JOCE 2287 (1964).

Nicholas Company covering the European Common Market. The agreement was entered in conjunction with a sale and purchase of the assets for which Vitapro was the exclusive distributor in Great Britain. In both of these agreements the Commission ruled that the agreements did not come within Article 85, Section 1.

In a further ruling<sup>29</sup> involving an American party the Commission found that the agreement to be a non-exclusive concession was not designed to insure territorial protection. Pursuant to the agreement, the American party had appointed a Dutch distributor for its products without restriction as to territory, explicitly reserving the right to appoint other distributors in the same territory and sell the products to certain classes of buyers and even directly to other purchasers. Furthermore, the Dutch distributor was allowed to sell competitive products; he also fixed his own prices and conditions of sales of the product of the American manufacturer.

In another agreement,<sup>30</sup> the Commission acted on a multiparty agreement involving parties throughout the European Common Market, including four in Holland, concerning an agreement with respect to export to non-member countries. DECA, an organization of Dutch building and construction firms, had associated and subsidiary companies in the other countries of the European Common Market. They agreed to report to a central office their capacity to undertake orders; they distributed these orders amongst the members of the association in order to insure their most efficient operations. The agreement also provided for cooperation and joint execution of the project submitted to the association. The Commission ruled explicitly that Article 85 not only covers goods and articles but also services, and that, therefore, building and construction must comply with the competition rules. The Commission recognized that the agreement affected the restriction of competition with respect to markets lying outside the EEC where the rules of competition do not apply. The Commission found that there was no competition, restriction or distortion within the EEC. Accordingly, the negative clearance was granted.

#### *Characteristics of Applications for Negative Clearances*

A study of the applications for negative clearances furthermore reveals the following types of cases. A French firm with an exclusive distributorship, one in Italy and the other one in Holland, respectively granted the distributors the right to sell competitive products by other

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<sup>29</sup>Bendix International Div. of Bendix Corp. and S.A. Mertens & Straet 92 JOCE 1426 (1964).

<sup>30</sup>Dutch Engineers & Contractors Association (DECA) 173 JOCE 2761 (1964).

manufacturers.<sup>31</sup> There were no restrictions on the right to resell to third parties. In another agreement,<sup>32</sup> a German manufacturer and his Belgium distributor were involved with no restriction on his right to resell to third parties. Likewise, an agreement<sup>33</sup> setting up a French exclusive distributorship for a Dutch manufacturer, provided no restriction on the French distributor's right to resell to third parties or to set his own resale prices, but he was under obligation not to sell competitive products of foreign origin. He was allowed to sell competitive products of French origin. A French manufacturer notified his arrangement with a German distributor on one hand and a Belgium distributor on the other, requesting a negative clearance or, alternatively, an exemption under Article 85.<sup>34</sup> The German and Belgium distributors were granted exclusive right to import and distribute the products in their respective territories. In both agreements, there were no export prohibitions imposed on the distributor. The restriction not to sell competitive products in Germany was imposed on the German distributor, but not the Belgium one. In both cases, the resale prices are freely set by the distributors.

It may be noted that no decisive pattern emerges from these rulings and applications regarding who is the notifying party. Where both parties are willing to notify, the decision appears to be one that can lend itself properly for determination by commercial and business considerations.

When the various decisions and rulings of the EEC Commission are superimposed on the decisions of the national courts and agencies, an impressive body of law tends to emerge.

## **The Development Towards a *per se* Exemption Doctrine**

### **BACKGROUND**

The Commission of the EEC deemed it necessary that it promulgate a regulation granting an exemption for certain categories of agreements from the prohibition of Article 85, ¶1 under ¶3 in order to carry out effective supervision of trade practices coupled with the simplest possible administrative control. Other than for practical reasons, this approach to trade regulation is also justified on the basis of economic theories and studies carried out in the EEC tending to show that at least at this stage of economic development in certain types of trade

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<sup>31</sup>Notification No. IV/A-01487 and 01488, 165 JOCE 2606 (1964).

<sup>32</sup>Notification No. IV/A-02702, 165 JOCE 2607 (1964).

<sup>33</sup>Notification No. IV/A-03036, 165 JOCE 2607 (1964).

<sup>34</sup>Notification No. IV/A-22491, 179 JOCE 2860 (1964).

practices the favorable effects on economic integration outweigh their undesirable effects. Moreover, the Commission believed that such a regulation would promote legal security for the enterprises in allowing them to formulate their business relationship through agreements which they would know are proper under EEC antitrust. An important step toward exemption by categories or by groups of agreements has now been taken.

#### COUNCIL'S REGULATION NO. 19/65

In Regulation No. 17, it is provided by Article 22, ¶1, that the Commission could submit to the Council proposals for making certain categories or groups of agreements, decisions and concerted trade practices all subject to notification. There is, however, no counterpart provision allowing the Commission to issue rules for exemption for entire groups of trade agreements which have in common the absence of certain objectionable features and that they may embody certain desirable or non-objectionable features. The Commission, therefore, did not have the power to issue regulations to rule Article 85, ¶3 inapplicable to groups of agreements. Its competence only related to individual agreements whose objects were specifically and extensively defined. It is the Council, as the principal decision making authority, which is competent to issue a regulation authorizing the Commission to apply Article 85, ¶3 to categories of agreements. On February 2, 1965, the Council adopted a regulation<sup>85</sup> granting to the Commission the power to issue a regulation to grant group exemptions to certain agreements under Article 85, ¶3. The Commission's regulation was issued pursuant to a formal proposal of the Commission after extensive consideration by the EEC Assembly and with the advice of the Economic and Social Committee.

The Regulation, in which the Commission has been given the power to issue, will be limited to agreements in which only two enterprises participate. It is confined to essentially two types of agreements; exclusive dealing and distributorship agreements, and licensing agreements with respect to industrial property.

#### *Distribution Agreements with Exclusivity Features*

The first group of agreements which are candidates for this special favorable treatment of group exemption are certain exclusive distributorship agreements whereby one enterprise undertakes to deliver specific products to only one other enterprise, for resale in a specified

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<sup>85</sup>Council's Regulation No. 19/65, 2 March 1965, 36 JOCE 533 (1965).



part of the territory of the Common Market, or whereby one enterprise agrees, with respect to the other, to purchase certain products from the latter only, for the purpose of resale, or whereby two enterprises agree to reciprocal obligation of this type.

The Council's Regulation further specified that the Regulation of the Commission must include in its definition of the groups of agreements to which it can apply a definition of the type of restrictions or clauses that may not appear in the agreements, what clauses must appear, or what other conditions must be fulfilled by the agreement in order for it to qualify under the group exemption Regulation.

#### *License Agreements for Industrial Property*

The Commission is authorized to issue a regulation exempting agreements in which only two enterprises participate and which include limitations imposed with respect to the acquisition or use of rights of industrial property—namely patents, utility models, designs and models or trademarks—or with rights resulting from contracts assigning or licensing manufacturing processes or know-how relating to the use and application of industrial techniques.

The authority granted thus has a substantial analogy with the types of situations covered by the communications of the Commission respecting distributorships.<sup>36</sup> The power of the Commission is not limited by the Consultative Committee on Capital and Monopolies which must be consulted before a regulation is issued. This provision dispels the concern that the Consultative Committee would have a veto power on the actions of the Commission.<sup>37</sup> The Commission has already construed the Regulation to mean that the Commission need not even have the agreement of the Consultative Committee, but that it merely needs to consult it before publication of the draft or the issuance of a regulation. Thus, the power of the Consultative Committee is analogous to that provided under Article 10, ¶5 and 6 of Regulation No. 17.

The proposed regulation group exemption would apply only to agreements in which two enterprises take part. Hence, as in the past under EEC legislation, only those agreements in which two enterprises participate will receive more favorable treatment. Accordingly, it continues to be critical to determine the number of parties that take part in any particular agreement. The question of joint ventures

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<sup>36</sup>First Communication on Application of Article 85 to Certain Patent Licensing Agreements [1962] JOCE 2627, 2629; Official Notice on Patent Licensing Agreements [1962] JOCE 2922.

<sup>37</sup>Question and Answer No. 114, Deringer to Commission 45 JOCE 679 (1965).

always also raises this question,

The proposed regulation can be made to apply retroactively to those agreements which could have benefited from a decision having retroactive effect under Article 6 of Regulation No. 17. Hence, again it becomes critical to determine if the original agreement under Article 17 could have been benefited by such retroactive provisions.

It is noteworthy that under Regulation 19, a distinction is again made between existing or old agreements and new agreements, thus perpetuating the distinction introduced by Regulation 17 between agreements existing on March 13, 1962, and those concluded thereafter. The regulation may provide that Article 85, ¶1 shall not apply, for a specific period, to agreements in existence on March 13, 1962, which do not fulfill the conditions of Article 85, ¶3, provided that within three months from the date of the regulation, these agreements are amended to comply with the provisions of the regulation and provided these amendments are notified to the Commission within the time limit fixed by the regulation.

Insofar as the private right of the parties, it is noteworthy that in Regulation 19, the Council has attempted to preclude a party from invoking the benefits of the proposed group exemption in an action pending at the date on which the regulation may issue, or to invoke its benefits as a basis for a claim for damages against third parties. This significant provision again shows the attempt of the Council to avoid affecting the private rights of litigants retroactively. It would thus appear that a defendant could not invoke as a defense against the claim of the other party that his agreement conforms to those exempted under Article 85, ¶3 under the proposed regulation.

#### THE TREND

The proposal to establish new regulations for group exemptions is a further step in EEC antitrust legislation tending to establish a class of agreements which are proper as such under EEC antitrust.

In providing legislative definition of a class of agreement, which, *prima facie* fulfill the standards of Article 85, ¶3, the Commission could be considered as establishing a *per se* validity doctrine.<sup>38</sup> Insofar as the EEC attempts to define the area of legality rather than of illegality as under United States law, the two laws are opposite. Both laws have in common the point that for agreements which do not fall in the area which is not within the scope of the definition of *per se* illegality or of legality, the law of incertitude prevails. Within that

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<sup>38</sup>"A *per se* Exemption Doctrine?" *Supra*, note 23 at 520.

area, however, the EEC law affords, in contrast to United States law and as a characteristic of its own, the relative protection provided by notification against private liability and action by the Commission. This is an important advantage.

Furthermore, beyond tending to distinguish between what is legal and what is not, EEC law displays a greater legislative selectivity with respect to the various trade practices. Because of national differences of approach to these practices and because legislation in the EEC is often based on economic studies, EEC antitrust has tended to selectively favor certain trade arrangements over others. This has been the tendency insofar as agreements that involve only two parties, certain distributorships, and licensing of industrial property agreements. Such legislative selectivity in trade practices tends to promote economic arrangements between the parties which suit such legislative patterns. To that extent, a certain type of indirect economic planning results which brings about a not entirely free competition, but rather a type of indirectly regulated competition between and within these various trade arrangements.



# Non-Accessibility of Proposed Common Market Patents of Third Party Nationals and Its Effect on U.S. Convention Rights

SAUL JECIES\*

## SUMMARY

**O**NE VERSION OF THE PROPOSED PATENT LAW for the Common Market countries would exclude non-members from obtaining a Common Market patent, that is, a patent covering the territory of all members. Whether such an arrangement by the Common Market country members would be contrary to the Paris Convention appears to be moot since the Paris Convention contains no machinery for enforcing the provisions thereof. The present article points out that exclusion of non-members from obtaining Common Market patents might result in a loss of the benefits of the Paris Convention in the United States for the members of the Common Market.

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**T**HE GOVERNMENTS OF THE MEMBER COUNTRIES of the Common Market are continuing with their efforts for the recreation of Common Market patents and trademarks. A number of articles have been published regarding this problem.

The object of the present article is to deal with one aspect of the project, namely the accessibility of non-member countries to the proposed Common Market patents and trademarks. The version denying accessibility to non-member countries has been discussed extensively from the point of view of whether or not the Paris International Convention<sup>1</sup> permits such an exclusion. It is, of course, not yet settled whether access will be allowed or denied. It is, however, pertinent to discuss the result of the clause denying accessibility, should it be enacted eventually.

It is deemed advisable to dwell on the history of the Paris International Convention before the effect of denial of access is explored, at least as far as the United States is concerned.

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The Paris International Convention differs in its basic aspects and conceptions from other international treaties at least in two major points. There never was, and there is no *quid pro quo* for obtaining the benefits of the Paris International Convention, neither for the original signatories nor for any other country which wishes to join.<sup>2</sup> Additionally, there is no possibility for any member or members of the Paris International Convention to exclude or prevent or have any say in the matter of another country joining the Paris International Convention. Furthermore, the Paris International Convention does not contemplate any sanctions for members which derogate from the articles of the Paris International Convention and there is no forum to decide whether a member has or has not fulfilled the obligation under Article 2 of the Convention.<sup>3</sup> These points will be discussed at greater length below, since they are intimately connected with the coming into existence of the Paris International Convention and with the point of the present discussion.

#### HISTORICAL BACKGROUND OF THE PARIS CONVENTION

The events leading up to the Paris International Convention are of interest. An international exhibition was to be held in Vienna in 1873, in which a great number of countries, including the United States, proposed to exhibit the latest fruits of their industry. It should not be forgotten that, at that time, Vienna was an important center of commerce and all countries, particularly industrial countries, wished to show the latest developments to the general public on this occasion.

The Austrian Patent Law in existence at that time provided for invalidation of any patent unless manufacturing was started in Austria twelve months from the issue of the patent. It was understood that exhibitors intending to show a patentable invention must make timely application for patent protection in Austria. Exhibition at the International Convention in Vienna would of necessity make the exhibit known and would provide a bar for filing later patent applications in most countries, since the visitors would take with them reports about the exhibits together with leaflets and other descriptions. Additionally, it was likely that descriptions of a number of exhibits would be published in newspapers and magazines. Industrial countries, particularly representatives of the United States, found the above rules relating to invalidation most vexatious. Voices were raised in the United States to refuse the invitation by the Austrian Government to exhibit, unless this legal rule was changed.<sup>4</sup> The American Minister in Vienna mentioned to the Austrian Foreign Ministry that American nationals

and corporations might refuse to show at the exhibition unless the Austrian Patent Law relating to forfeiture of patent rights based on "non-working" was changed.<sup>5</sup> This provision of the Austrian Patent Law was enacted to protect local industry.

The efforts to consider protection for inventions on a broader scale than the protection of local industry, made under the leadership of the United States, led to the Vienna Congress of 1873.<sup>6</sup> The Vienna Congress of 1873 dealt with the problem at hand, the exhibition of 1873, in an acceptable manner. The United States pressed, additionally, for a general patent reform on an international scale.<sup>7</sup> The Vienna Congress decided to hold an international conference on the possibility of international protection of inventions. The resolution adopted read: "Governments should endeavour to bring about an international understanding of patent protection as soon as possible";<sup>8</sup> a high-spirited resolution which remained a resolution, as such high-spirited resolutions tend to remain.

Nothing happened about the resolution, passed at the Vienna Congress of 1873, until another international exhibition provided a further impetus for improving patent protection for foreign inventors. A conference was held in Paris in 1878, in connection with the International Exhibition of that year.<sup>8</sup> The United States of America again pressed for an abolition of compulsory working and for an abolition of the laws requiring revocation due to non-working which could be found in the patent laws of a great number of countries.<sup>8</sup> In effect, the United States attempted to obtain a resolution which would treat American nationals in a manner comparable with the United States Patent Law. The principle of each country giving foreign nationals the same rights as they have in their own respective home country was rejected in its entirety.

The contrary principle, namely that foreigners should, in all cases, be treated as equals with the nationals in each and every country in which they try to obtain protection was adopted. The resolution meant that no country should give its own nationals greater protection, in relation to patent and trademark rights, than it allowed to foreigners.

A commission was set up by the Paris Conference of 1878 to incorporate the above principle in a draft agreement. A draft agreement was agreed upon which was submitted to the Paris Conference of 1880.

The Paris Conference of 1880 approved, with some minor amendments, the draft Convention prepared by the Commission. The most important clause of the approved draft was the clause which is now Article 2, incorporating the concept that each of the contracting states took on an obligation to treat the subjects or citizens of any member

states in the same manner as their own nationals regarding patents and trademarks.

A brief conference was held in Paris in 1883, in which the Convention for the Union for the Protection of Industrial Property was finally approved and signed. It should be noted that of the eleven original signatories two countries, Holland and Switzerland, had no provision for the protection of patents, that is, no patent law, at the time of signature.

The point that some countries might become signatories or later accede to the Paris International Convention without having any laws enacted for the protection of patents, was not overlooked. It was decided that any country desiring to do so should become members of the Paris International Convention, even countries having enacted no laws for the protection of patents. It was held that the moral forces and the exigencies of commercial and industrial life were such that, ultimately, all members would enact appropriate patent laws. Later events proved that the decision was a correct one, since all signatories of the Paris International Convention of 1883 have since enacted patent laws for the protection of industrial property. Strong external pressure was, however, required to bring about the enactment of the Swiss Patent Law.<sup>9</sup>

It is significant that the Paris International Convention is perhaps the only international treaty which avoids purposely the principle of *quid pro quo*. Thus the Convention enables any country to join by simply notifying the Bureau set up by the Convention.<sup>2</sup>

The United States representatives tried repeatedly to obtain better treatment for their nationals, pointing out that there were, at that time at least, no restrictions such as compulsory licensing or revocation provided for in the United States laws; additionally, no yearly taxes or renewal fees were payable. United States representatives tried to obtain reciprocal benefits for their nationals.<sup>10</sup> The proposals made by the United States representatives were decisively rejected on each occasion. The reason propounded was that the universal treatment of all patentees could not, and should not, be undermined since it is the basis of the Paris International Convention.<sup>11</sup> In other words, the principle of giving foreign nationals the same or similar protection as their own country granted to foreigners, was again rejected.<sup>1</sup>

A number of articles have been published, dealing with the question of accessibility to the proposed Common Market patents by nationals of third party countries, such as by Ladas,<sup>12</sup> Colas,<sup>13</sup> Frayne,<sup>14</sup> Colas,<sup>15</sup> Ulmer,<sup>16</sup> Armengaud,<sup>17</sup> and Bucknam.<sup>18</sup> These articles apparently are



based on the assumption that the Paris International Convention<sup>1</sup> was fully incorporated into the national laws.

It is deemed necessary to discuss briefly the manner in which international treaties are incorporated into national laws.

#### INCORPORATION OF INTERNATIONAL TREATIES INTO DOMESTIC LAW

The main difference between the effect of a validly concluded treaty on the domestic laws of the various countries resides in the constitution and the legal principles applied in the various countries. Some countries make a validly executed treaty part of the domestic law automatically, if this is intended. Such a treaty would be "self-executing" as far as the specific country is concerned.<sup>19</sup> Other countries require the passing of a specific statute incorporating the subject matter of the treaty.

For example, the law of the United Kingdom of Great Britain and Northern Ireland does not make treaties self-executing and they do not become ipso facto part of the law of the land. The ratification of an international convention creates merely an obligation on the part of the British Government to enact a statute somewhat in accordance with the international convention if this is the intention of the same. This is due to the supremacy of the Parliament.<sup>20</sup> A statute must be passed in requisite form whenever a treaty requires a change in the existing domestic law of the United Kingdom.<sup>21</sup> It might happen, and actually often happens, that the statute as enacted will not conform entirely with the treaty. It is assumed that the other countries, that are parties to the international treaty, will accept the treaty as ratified by the United Kingdom, even if the statute enacted does not conform to the treaty. This is assumed to be so unless the other parties raise specific objections.<sup>22</sup>

One instance where a statutory provision in Great Britain differed from the International Convention was the British Patent Acts,<sup>23</sup> at least as they were interpreted by the courts. The theory creating the disparity between the Convention and the Act involved the so-called "disconformity" between the claims of the priority document and the claims filed in the corresponding British patent application. The British Patent Acts allowed the filing of a provisional specification to be followed by a complete specification. The date of the filing of the provisional specification could not be relied on if the invention was "not substantially the same",<sup>24</sup> "other than described in the provisional specification,"<sup>25</sup> "it is not the same,"<sup>26</sup> or "further or different."<sup>27</sup> The courts in England applied this theory of disconformity not only be-

tween the provisional specification and the complete specification, but also as a ruling between the priority document and the claims of the complete specification. Numerous cases decided that the claims in the British application could not be broader or different from the claims in the priority document.<sup>28</sup>

One of the main reasons for the proposals of denying non-members the right to obtain European Common Market patents is the fear of the predominance of United States inventors and corporations. A similar fear prevailed in Switzerland in the 1880's, particularly after Switzerland had become a member of the International Convention without having enacted a patent law of its own. The question of patent protection was intimately connected with the Swiss custom tariff which was very low at that time. Most industrialists feared that the low tariff prevailing in Switzerland would enable foreign corporations to obtain Swiss patents and thereafter introduce their own foreign manufacture into Switzerland. Foreign experts and patent agents applied strong pressure to have Switzerland introduce patent laws. Swiss industrialists received the impression that the introduction of a Swiss patent law would be more in the interest of foreign industrialists and foreign patent agents than in the interest of Swiss industrialists and the Swiss economy. Germany, one of the main importers of Swiss manufacture, threatened to raise its tariffs to a height which would practically exclude the importation of Swiss products.<sup>29</sup> Switzerland gave way to this pressure and introduced a patent law in 1888.

Subsequent developments showed that the fear of Swiss industrialists of being swamped by patents issued to foreigners was not borne out. Switzerland remained for many decades a leader in such branches of industry as textile, chemistry, watch-making and a number of machine tools. It is believed that the fears of the members of the Common Market countries are equally unfounded.

The position in relation to the United States of America is governed by Article VI, Clause 2 of the Constitution. The Article appears to require that a treaty such as the International Convention be enacted by a specific statute in the United States.<sup>30</sup> A contrary view has also been expressed.<sup>31</sup>

It should be noted that some treaties must be submitted to the United States Congress for approval while others are voluntarily submitted for the approval of the Congress by the Executive Branch of the Government of the United States. The author has formed the opinion that international treaties having provisions substantially affecting domestic matters require statutory enactment. The Patent Law of the

United States incorporated the Paris International Convention originally.

Very often, conditions and reservations are inserted by the Congress in the instrument of acceptance. Insertions of conditions and reservations will constitute official notice to the other governments of the limitations placed upon the treaty by the United States. Failure of the other governments concerned to question the conditions and reservations is usually taken as a tacit consent.<sup>22</sup> The result, as far as the laws of Great Britain and the United States of America are concerned, appears to be similar in this respect.

Another facet of the effect of a treaty in relation to the domestic law requires discussion at this junction. The Government or the legislature may wish to change, or abrogate in part, the clauses of the treaty subsequent to its incorporation into the domestic law. There is a long line of decisions in the United States, beginning with Justice Marshall's holding in *Chirac v. Chirac, 2 Wheat (1817)* enunciating that later laws, conflicting with treaties, prevail.<sup>32</sup>

There is in existence a body of international law which is not enacted by treaties, but which is termed "The Rule of Customary International Law." The Customary International Law occupies a position similar to validly concluded international treaties.<sup>33</sup> In the United States, the Rule of Customary International Law will be abrogated by subsequent domestic legislation.

#### THE PARIS CONVENTION AND THE UNITED STATES PATENT LAW

The Paris Convention of 1883 became originally part of the United States domestic law in an appropriate manner, as stated above. Paragraph 1 of Article 2 was incorporated into Paragraph 2 of Article 32 of the United States Patent Law and read as follows:

"An application for a patent for an invention or discovery or for a design filed in this country by any person who has previously regularly filed an application for a patent for the same invention, discovery or design in a foreign country *which, by treaty, convention, or law, affords similar privileges* to citizens of the United States shall have the same force and effect as the same application would have if filed in this country on the date on which the application for patent for the same invention, discovery, or design was first filed in such foreign country: provided . . .".

The domestic patent law of the United States was changed in 1946, and a new patent law enacted, replacing the provision with Paragraph 1 of Article 119, reading as follows:

"An application for patent for an invention filed in this country by any person who has, or whose legal representatives or assigns have, previously regularly filed an application for the same invention in a foreign country which affords *similar privileges* in the case of applications filed in the United States or to citizens of the United States, shall have the same effect as the same application would have if filed in this country on the date on which the application for patent for the same invention was first filed in such foreign country, if the application . . .".

It should be noted that the original term "affords similar privileges by treaty, convention or law" is now replaced by the term "similar privileges." It is submitted that the new version of the statute of 1946 has brought about a substantial change in the domestic law of the United States. The change has not been objected to by the other countries and the United States has remained a full member of the International Convention.

Originally, the domestic law of the United States gave Convention rights to the parties of the Paris Convention of 1883 if those parties formally, that is, by treaty, convention or law, promised to give similar privileges to citizens of the United States. The domestic statute of the United States, in force since 1946, now stipulates as a condition that the actual grant of similar privileges, that is, similar privileges not only in form but also in fact.

Frayne<sup>14</sup> mentioned that Article 15 of the Paris International Convention does not allow exclusion of outsiders from the benefits of proposed Common Market patents. Frayne bases his view on the terminology of Article 2 of the Paris International Convention.

The late Colas<sup>15</sup> argues that the proposed exclusion does not contradict Article 2 of the Paris International Convention in view of the extraordinary character of the proposed Common Market patents as compared with the Paris International Convention, both in view of the extra-territorial extent of the rights which the proposed Common Market patents confer and the supra-national character of the authorities which will be responsible for the patents and the decisions concerning their validity.

The Paris International Convention does not require that the various members enact provisions which are identical. It has previously been pointed out that the Paris International Convention gives any member the right to claim the benefits thereof even if it has no provision for patent protection at all.

The International Convention requires the filing, within twelve months, of an application claiming the benefits of this Convention. No

provision is made in the Paris Convention for extension of the period for any cause whatever. In other words, there is no provision for extension of the time limit based on force majeure. It was realized after the end of World War II that grave injustice would be done if no extension of the time limit were provided to file a patent application claiming the benefits of the International Convention. A number of countries concluded an international convention at Neufchatel on February 8, 1947. The United States passed a statute allowing some foreign nationals to file, after the end of the War, patent applications claiming the benefits of the International Convention if the application had been filed on or after September 8, 1938, in the respective country to which the benefit was granted by the statute. This statute is generally referred to as the Boykin Act.<sup>34</sup> Certain restrictions were made in the Boykin Act as to the duration of the United States patent and intervening third party rights.

A number of countries made similar provisions by an international convention generally referred to as the Neufchatel Agreement.<sup>35</sup> The benefits of the Neufchatel Agreement were extended to United States nationals in the countries which were signatories of the Neufchatel Agreement. The provisions of the Neufchatel Agreement contained no restrictions equivalent to the provisions of the Boykin Act. It has been contended<sup>36</sup> that the difference in the benefits obtained by the Neufchatel Agreement and by the Boykin Act respectively entitled the member countries of the Common Market to exclude United States nationals from the benefits of Common Market patents. This view is untenable, in the author's opinion. First of all, there was no obligation created by the Paris International Convention to pass the Boykin Act, since the Paris International Convention does not make provisions for force majeure of any sort. Additionally, the United States treated foreign nationals at least as well as their own nationals since the benefits of the Boykin Act would normally accrue only to foreign nationals. In other words, foreign nationals were given preferential treatment over United States nationals. It has been pointed out before that the United States was unsuccessful in obtaining benefits for their own patentees which were comparable to the benefits they obtained in the United States. An attempt to obtain such benefits for United States nationals was defeated every time. Even assuming that the arrangement of Neufchatel gave United States nationals more benefits than the Boykin Act gave to the nationals of the signatories of the Neufchatel Agreement, this is in full accord with the theory underlying Article 2 of the Paris International Convention. Every signatory should give the nationals

of the other signatories similar benefits to those granted to its own nationals. The Paris International Convention does not require any signatory to give the nationals of the other signatories the same benefits its own nationals can obtain under the statutes of the other signatories.

Colas relies on opinions previously expressed by Marcel Plaisant.<sup>15</sup> Plaisant<sup>37</sup> deals with the interpretation and the scope of the Paris International Convention, particularly the relation of Article 2 to Article 15. He does not deal with the requirements of similar privileges expressed in the United States Patent Law of 1946.

Colas discusses the position of prospective domestic legislation in Great Britain in connection with the proposed Common Market patents and puts forward his view that Great Britain would have to integrate any Common Market patent provision *in toto*. A requirement to integrate *in toto* is a requirement which is contrary to previous usage.<sup>22</sup>

According to one proposal, Common Market patents are to replace the separate national patents of the members. It would require statutory enactments by each and every one of the members to transfer the right to grant a patent to the patent office of the Common Market. It has not been contented that such an arrangement could only be maintained if outsiders would be given the right to apply for such a Common Market patent unless the Common Market members are prepared to forego the benefits of the International Convention.

It has, on the other hand, been contented that such a requirement, i.e., right of outsiders to apply for Common Market patents does not exist if the separate and individual patent offices and patent laws be maintained and the Common Market patents would be granted in addition to the separate national patents. Passing of statutes in each and every one of the countries of the Common Market would, of course, also be necessary if this arrangement would be the one put into practice. It has been contented that the International Convention does not, and could not, prevent the individual member states from transferring some of their regulatory functions to a supra-national authority. The supra-national authority would in this case grant Common Market patents in addition to the national patents.

It is, in the author's opinion, immaterial whether a national or a supra-national authority grants a patent in each and every of the Common Market member states which subscribes to this arrangement. What matters is not which authority or what type of authority grants a Common Market patent, but whether the statute creating such a possibility is within or without the meaning of the provisions of the United States Patent Law. As already stated, this requires that "similar privi-

leges" be granted to United States citizens as the foreign country grants to its own nationals, if the national of the other foreign country wishes to take advantage of the privileges of the International Convention.

The International Convention does not refer to patents alone, but also to trademarks. Foreign nationals can obtain Federal protection in the United States for inventions and for trademarks.

Some of the separate colonies, before unification as the United States of America, did not have laws giving protection for inventions. The grant of patent rights now rests entirely with the Federal Government. Trademark acts were originally enacted in a number of the states comprising the United States of America, and are still in force, and trademark protection can be obtained in some of the states. In addition, Federal trademark protection can be obtained. The situation in the United States has therefore some similarity with the prospective arrangement of the Common Market countries.

#### THE ANSWER LIES WITH THE U. S. COURTS

It is possible, perhaps even likely, that the United States Federal courts will come to the conclusion that American citizens are not given "similar privileges" if the Common Market patents exclude United States citizens from obtaining such privileges. There are two major areas where this point could be decided. The United States Patent Office does not investigate the right of an applicant for a patent to rely on the filing date of a Convention application, under normal circumstances, by ascertaining whether the Convention country in fact gives similar privileges.

Whether an applicant can rely on a Convention date could be of importance under the following circumstances:

A patent is issued for a United States application which claims the benefits of the International Convention. The patentee thereafter sues for infringement before a Federal District Court,<sup>37</sup> and the defendant alleges that the patent is invalid due to a prior publication. This prior publication would not be a bar and would not invalidate the patent if the patentee could rely on the benefits of the International Convention. The defendant additionally alleges that the patentee is not entitled to the benefits of the International Convention because the country from which the benefits are derived does not grant "similar privileges" to United States citizens.

The Federal court which decides both infringement and validity of the patent which is allegedly infringed may very well come to the conclusion that the patentee is not entitled to the benefits of the In-

ternational Convention because his home country does not grant "similar privileges" to United States nationals.

The United States Patent Law provides for "Interference Proceedings"<sup>88</sup> if more than one application contains claims directed to the same invention. The interference proceedings are decided initially by the Board of Patent Interference.<sup>88</sup> The losing party has the right to obtain review of the decision of the Board of Patent Interference by filing a suit before the Federal District Court.<sup>89</sup>

It will be noted from the above that the Federal courts will render the ultimate decision about the rights of nationals of the Common Market countries to obtain the benefits of the International Convention, if United States nationals are excluded from obtaining Common Market patents. Federal courts are known to guard jealously their independent rights regarding interpretation of statutory provisions.

There appears to be a real danger that enactment of provisions excluding United States nationals from obtaining Common Market patents will have the result of depriving nationals of the Common Market countries of the benefits of the International Convention. This might lead to the loss of valuable patent rights for these nationals.

<sup>1</sup>Convention d'Union de Paris du 20 Mars 1883 pour la Protection de la Propriété Industrielle.

<sup>2</sup>Article 16 of the Paris International Convention.

<sup>3</sup>Article 12 of the Paris International Convention obliges each of the countries of the Union to undertake to establish a special government department for industrial property. No time limit is set for putting the undertaking into effect.

<sup>4</sup>"A reevaluation of the International Patent Convention," *Law and Contemporary Problems*, pp. 766-770 (1947).

<sup>5</sup>U.S. Patent Office, Report of the Commissioner, 1873, p. 75.

<sup>6</sup>Amtlicher Bericht ueber den internationalen Patentcongress zur Eroerterung der Frage des Patentschutzes, Der Erfindungsschutz und die Reform des Patentgesetzes, Dresden (1873).

<sup>7</sup>*Papers Relating to the Foreign Relations of the United States*, Part I, v. 2 (1873), p. 75.

<sup>8</sup>Louis Devaux, "Les brevets d'invention au point du vue international," Paris (1892), p. 73.

<sup>9</sup>Alois Troller, *Der schweizerische gewerbliche Rechtsschutz*, Basel (1948), p. 13.

<sup>10</sup>United States Patent Office, *Proposals for Changes in the United States Patent Law, Report of the Commissioner* (1877), p. 226.

<sup>11</sup>Conference internationale pour la Protection de la Propriété Industrielle, Paris (1880).

<sup>12</sup>Stephen P. Ladas, "Common Market Patent and Trademark Treaties. Open or Closed?" *Industrial Property*, pp. 23, 24 (1962).

<sup>13</sup>A. Colas, "Harmonization of Patent Legislations," *Industrial Property*, pp. 25-30 (1962).

<sup>14</sup>Gabriel Frayne, "The EEC (Common Market) Patent and the National Treatment Principle," *Industrial Property*, pp. 126-138 (1962).

<sup>15</sup>A. Colas, "Would Non-Accessibility of the Benefits of the European Patent



Convention to Nationals of Third Party Countries be Contrary to Article 2 of the Paris Convention of 1883?", *Industrial Property* (March 1963), pp. 48-51.

<sup>16</sup>Eugen Ulmer, "Availability of European Patents and the Paris Convention," *Industrial Property* (1963), pp. 51-60.

<sup>17</sup>Andre Armengaud, "Political Aspects of the Accessibility to the European Patent," *PTC J Res. & Ed. (IDEA)*, Vol. 7, No. 3 (1963), pp. 314-320.

<sup>18</sup>Ralph E. Bucknam, "Access to the European Patent System," *PTC J Res. & Ed. (IDEA)*, Vol. 7, No. 4 (1963), pp. 427-430.

<sup>19</sup>*Laws and Practices Concerning the Conclusion of Treaties*, United Nations Legislative Series, New York (1953).

<sup>20</sup>Carter Medicine Co.'s Trade Mark (1892) RPC 401.

<sup>21</sup>*Laws and Practices Concerning the Conclusion of Treaties*, United Nations Legislative Series, New York (1953), pp. 120-125.

<sup>22</sup>*Ibid.*, p. 131.

<sup>23</sup>Patent and Design Act 1907 (1946).

<sup>24</sup>*Ibid.*, Section 6 (3).

<sup>25</sup>*Ibid.*, Section 11 (1) (d).

<sup>26</sup>*Ibid.*, Section 25 (2) (e).

<sup>27</sup>*Ibid.*, Section 42.

<sup>28</sup>56 R.P.C. 23, 35, Electric and Musical Industries et al. v. Lissen; 57 R.P.C. 263, 268, 270, Application by Paul Alling Sperry.

<sup>29</sup>Edith Tilton Penrose, "The Economics of the International Patent System," pp. 120-124, *Bericht an das eidgenoessische Handels-und Landwirtschafts-Department* (1880), pp. 16-17 cited there.

<sup>30</sup>Ignaz Seidl-Hohenveldern, "Transformation or Adoption of International Law into Municipal Law," pp. 101-105.

<sup>31</sup>Stephen P. Ladas, *The International Protection of Industrial Property*, Harvard (1930), p. 156.

<sup>32</sup>Ignaz Seidl-Hohenveldern, "Transformation or Adoption of International Law into Municipal Law," pp. 95, 113, 114.

<sup>33</sup>*Ibid.*, p. 95.

<sup>34</sup>Public Law 690 of August 8, 1946; 60 Stat. 940.

<sup>35</sup>International Convention concluded at Neufchatel on February 8, 1947.

<sup>36</sup>A. Colas, "Would Non-Accessibility of the Benefits of the European Patent Convention to Nationals of Third Party Countries be Contrary to Article 2 of the Paris Convention of 1883?", *Industrial Property* (March 1963), p. 50.

<sup>37</sup>28 USC 1338.

<sup>38</sup>35 USC 135.

<sup>39</sup>35 USC 146.



# Proprietary Rights and East-West Trade

HERSCHEL F. CLESNER\*

## SUMMARY

**S**TATESMEN AND BUSINESSMEN AROUND THE WORLD continue to seek a positive approach to United States East-West trade despite the continuing political and military crises between the two camps. Regardless of the violent clash in Viet Nam, there are signs that the Berlin Wall may be brought down.

In the past decade, there has been considerable improvement in the relations between the market-oriented trading nations of the West (hereafter referred to briefly as the West), and the Communist countries of Eastern Europe (hereafter referred to as Bloc countries).

The trend toward increased trade with the Bloc countries appears to be inevitable and, in the opinion of many, desirable. Willy Brandt, Mayor of West Berlin and Chairman of the West German Social Democratic Party, proposed that the West consider East-West economic cooperation in financing joint projects including the expansion of road, canal and power networks of Europe. Senator J. William Fulbright, Chairman of the Senate Foreign Relations Committee, has urged East-West experiments in "practical cooperation" on specific joint ventures for "cooperation, like conflict, tends to feed itself." He further suggested normal trade relations with Russia in nonstrategic goods "involving neither special favors nor special discrimination" as "one of the preconditions for active cooperation." This has been followed by statements by Vice Chancellor Erich Mende and Franz Joseph Strauss of the German Federal Republic urging full diplomatic relations with the Bloc states. Past efforts, recent and prospective changes, as well as persisting impediments to trade are described in the following essay. The role of patented inventions, technical know-how and assistance, still confronted by a set of unfamiliar conditions in the exchange of intangibles, are explored. Evidence is developed that despite economic, political and philosophic differences, it has become possible for the West and the Bloc to do business with each other for their mutual advantage.

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*The Past*

**T**RADER MAY SERVE EITHER AS A POLITICAL WEAPON—embargo or boycott—in international relations or as a channel for the exchange of goods and/or services on a mutually profitable basis.

Today, the United States leads the Western industrialized nations while the USSR dominates the Communist countries of Eastern Europe. Because of the deep seated ideological gulf between them, a basic division exists in both the Western and Eastern Blocs regarding the other side, its goals and motives, and whether to treat each other as a hostile enemy seeking world domination or as a political equal deserving of better relations through trade and negotiation.

During the past twenty years the United States' foreign trade and balance of payments have been extremely favorable enabling us to trade with whom we wished and as we desired. Our practices disclosed the assumption of a hard line toward trading with the Bloc countries. Yet, representatives of many Western governments, political groups, privately-owned businesses, and individuals have taken both sides of the argument with, in many instances, self-interest serving largely to determine which side to back. The United States' position has not stopped other Western industrial countries from trading with the East.

East-West trade received impetus in June 1958, with Khrushchev's assertion that the Soviet Union could carry on a broad trade program, based on mutual advantage, with the United States. This was an intended follow-up of the cultural exchange program undertaken by the United States and the Soviet Union, and received with enthusiasm by the peoples of both countries. The later suggestion that the USSR and the United States exchange professional economists to study and acquire a better appreciation of each other's economic system was successfully implemented.

*Trade Statistics*

In 1959 free world exports to the Soviet Bloc came to \$3 billion, with imports of \$3.04 billion. In 1963 free world exports to the Soviet Bloc came to \$4.5 billion, with imports of \$4.6 billion.

Western Europe exported \$3 billion and imported \$3.6 billion from the Sino-Soviet Bloc. West Germany was the heaviest trader with \$669 million in exports and \$750 million in imports in 1963 of which a good one-third were with East-Germany under the special interzonal arrangement for exchange of goods. Britain was next with \$412 million in sales and purchases of \$534 million in 1963. Italy's trade with the area ranked third with \$292 in exports and \$444 in imports.

In 1963, United States exports to the Soviet Bloc countries of Eastern Europe came to \$167 million of which \$109 million (\$45 million Public Law 480 shipments) were to Poland. Imports from the Bloc in 1963 came to \$85 million with \$43 million coming from Poland.

In 1963, for example, about half of all the total value of goods imported from the industrial West by the USSR consisted of machinery and transport equipment: \$589 million out of a total import value of 1,389 million dollars. Under the Rumanian state plan for 1965 more than 90 percent of their imports, with machinery and equipment of the highest technological level as the major items, are earmarked for production investment. As a result, a high proportion of the import requirements of East Europe from the West consists of machinery, of new technology, of new design, or assembled into engineered industrial plants.

### *Trade Needs—Technology*

Imports of equipment from the West loom large in the plans of all the Communist countries of Eastern Europe. Each of these countries is committed to its own program of rapid industrialization and finds itself from time to time confronted either by a physical shortage of specific types of machinery within the Bloc, or by a lack of equipment with the latest engineering advances, efficiency, and production capacity.

In recent years the purchasing agents for the Soviet Bloc countries have been turning regularly toward the West for machinery and processes embodying the latest concepts of operational efficiency. The Director of the Department of the Circulation of Goods of the Rumanian State Planning Commission has asserted:

We put great emphasis on modern techniques. We do not purchase equipment from abroad unless we are convinced that it is at the top of the world in technology. We find that the United States, West Germany, France and Great Britain make the finest equipment and we want to procure it. This accounts for the increase in our trade with the West.

The Bloc countries possess numerous successful research and development programs of their own and can obtain, in addition, a large amount of their needs as a result of intra-Bloc trade. Despite the fact that intra-Bloc trade rose 5½ times within the 1952-1962 period, there still remains a large net deficit of technology, advanced plants, and know-how required within the Bloc to fulfill desired immediate needs. The frequent reshuffling of their economic planning apparatus, with added emphasis on the development of the chemical process industry to meet newly revised agricultural goals and consumer items, has im-

pelled many Bloc industries to look to the West for relief in such cases where the planning commissions had not originally recognized the need for, or received the mandate to develop, new models of equipment.

### *Intra-Bloc Trade—CEMA*

Intra-Bloc trade is aided and stimulated by the Council for Mutual Economic Assistance (CEMA). The Bloc nations formed CEMA (COMENCON) as their answer to Western Europe's economic unions and as a means to promote the integration of their long term economic planning and production.

CEMA, not a supranational planning unit directing the allocation and development of each member's national economy, makes recommendations and attempts to coordinate common efforts respecting the principle of the equal sovereign rights and interests of the participating countries. Each recommendation must, before it can go into effect, have the agreement of each member nation.

Each Bloc nation has its own planning unit which arbitrarily formulates its own retail and wholesale prices based on their own fiscal objectives and preferences, rather than on market considerations. In bargaining with one another the Bloc state finds that the other Bloc nations set high prices on their sale items and low prices on purchase products. So, to create a firm basis of competitive exchanges among themselves the Bloc countries presently seek a more realistic pricing system. At the same time they also seek Western buyers and sellers to achieve a greater degree of economic advantage.

Opening the 19th CEMA session in Prague on January 28, 1965, Czechoslovakian Deputy Premier Simunek emphasized the guiding principles of the policy of CEMA members as peaceful coexistence and intensification of economic ties with states which have different economic systems. The CEMA meeting led to limited multilateral agreements on the production of diverse equipment which the member states thus far have not manufactured and which otherwise would have to be acquired as imports from the West. The desire of the CEMA members to expand trade with each other and with other nations is very evident. Rumanian Premier Ion G. Maurer asserted to the Rumanian National Assembly, while giving details of the state plan for 1965, that his Communist country is determined to extend economic ties with other countries "irrespective of their social system" and "on the basis of advantage" as the modernization of their production equipment calls for the import of the best machines, equipment and technological installations.

### *Developmental and Cost Engineering Lag*

Despite their organized monitoring of the world's scientific and industrial literature, the Soviet Union and the Bloc countries cannot, in the case of many rapidly changing civilian industries, rely on ultimately developing engineering capability to attain current goals.

The Soviet technical community has learned, at great cost in time and resources, that the laboratory discovery of a chemical process is not by itself sufficient to enable the domestic industry to apply such knowledge economically or to market an innovation embodying this knowledge. For example, Soviet technicians devised certain laboratory processes in making a form of nylon. The Soviets, though the advance was promptly published in a technical journal, were not successful in moving the process through pilot stages to ultimate production. However, a governmental research institute for the textile industry in Japan was able to push this process successfully through the pilot stages. The Japanese are underaking feasibility studies to determine whether their engineering efficiency is sufficient to use this new process in world market competition.

Czechoslovakian Minister Cernik, addressing the Czechoslovak legislative assembly regarding the state economic plan for 1965, asserted that in certain instances the quality, standards, and development of their products lag, in contrast to other countries. He cited the example of an auxiliary radio receiver that took three and one-half years from development to production. In the interim, Japan had overtaken them by three years, even though the item was a Czechoslovakian invention.

The Chief of the International Department of the Czechoslovakian State Commission for the Development and Coordination of Science and Technology asserted that millions have been granted for the development of items which had already been developed elsewhere. The resulting product did not raise the level of economic performance in that country.

Some examples of varying scope are cited regularly by the Soviets in their technical press as examples of Western piracy of Soviet technology or the failure of Soviet technologists to recognize the economic potential of their own work.

Experience has shown that innovation development in the Soviet Union and other Communist Bloc countries has not been sharpened either (1) to compete with other commercial processes or products for a portion of the market within the planned economy or (2) to compete pricewise in a sustained manner for world markets. The present economic planning system simply won't allow it, for it calls for allegedly

planned, fixed allocation and orderly (meaning: centrally established) distribution of goods based on existing technology.

The economic planning system of the Communist nations has not been geared, as the economies of the countries of the West are, either to respond to demand or to cope with the stern necessities of competitive trade and the marketing of products and processes. Nor do such economies seem to have been sharpened to higher efficiency or lower price by the force of "profit motivation." The present Communist price system, retail and wholesale, has been based on considerations and objectives of the economic planning and management operation. In the military and space development sectors where the market purchaser-user can make demands of the research, engineering and manufacturing facilities, and with the aid of other special "drive" factors, the lead time, quality, research and engineering factors are more advanced than those in the regular planned sector of the Soviet economy.

*Far Reaching Economic Changes to Update Technology*

After great loss in years and resources, the Bloc countries are introducing profit motivation, advertising, cost accounting, price adjustment, installment buying, market demand and acceptance, collective ownership with profit sharing, and less centralized planning into their national economic systems. Mounting inventories of certain consumer items have forced the economic planners to adopt price cutting, advertising and installment buying practices. Together with previous changes as varying wage scales for the different professions and disciplines, they have proven the practical irrelevance of theoretical Marxism as a workable doctrine for an operable and competing industrial economy.

Czechoslovakia occupies a special position among the Bloc countries because it possesses a highly developed industrial economy made in rapid gains during the 1930's. At present, it has the greatest foreign trade turnover on a per capita basis—300 rubles compared with 250 in East Germany, 220 in Hungary, 110 in Poland, and 60 in the Soviet Union.

In the early 1960's Czechoslovakian industrial production and national income slowed down. Unusable inventories grew and by 1964 reached approximately one-fourth of the national income. Revisions of the targets of the Third-Five-Year Plan were necessary. Despite the imposition of new controls, the economic downturn worsened, and Czechoslovakian economists became critical of the orthodox Communist system of planning and management.

Encouraged by expressions advanced by Soviet, Polish, Rumanian,



Hungarian and Yugoslav colleagues, greater changes to meet the existing economic realities were sought. Finally, in January 1964, strong measures were approved for strengthening the economy.

The Czechoslovakians realize that their own sources of raw materials are relatively limited and that their market is much too small to sustain an extremely wide range of industrial production. In contrast to the Rumanians they believe that the present high degree of diversification of industry requires a sustaining research effort overtaxing the resources of a country as small as Czechoslovakia. Their economic limitations restrict their research capability to providing a technological level for highly specialized industries that produce a limited variety of high quality goods. These considerations have become their guides in maintaining an expanding economy since they must obtain raw materials and products on optimum terms from foreign sources and in turn have foreign market outlets. They have invested jointly with CEMA members to construct a mine in the Soviet Union for a share of the production output. They have attempted to purchase licenses to inventions and know-how of the highest technological level in the world. They must, however, to achieve their goals and market outlets, be competitive in price and quality.

### *The Reforms*

Czechoslovakian leaders, at Khrushchev's removal, hesitated only long enough to receive the assent of new Kremlin power structure. The Soviet Union, with its 225 million people, apparently realized that it would be simpler for Czechoslovakia, a nation of but 14 million population with a short history as a Communist state and with a well planned economy, to break trail in making drastic changes.

The policy, adopted in January 1965, amounts to a far reaching reform of the entire Marxist system of economic planning and management. It goes farther than anything previously attempted in Eastern Europe and places Czechoslovakia in the forefront of Communist economic changes along with Yugoslavia. This is revisionism of the highest degree when compared with the Chinese.

When contrasted with the present Communist system whereby everything is centrally planned, allocated, managed and distributed, the new policy is revolutionary. To those accustomed to Western economic practices, it is nothing more, however, than an attempt to stimulate Czechoslovakia's ailing economy by common Western management and business practices. Other Bloc countries have sent official delegations to observe and study the fundamental re-evaluation of their system.

*Future Bloc Economic Structure*

It is now an accepted Bloc thesis that the present system of economic management is no longer in line with growing demands and that without basic changes the economic directives cannot be met. The profitability of production based on costs and changing technology plus the use of individual incentive benefit must be considered.

Central planning agencies will eventually deal only with questions of the basic direction of price and wage policy, finance and loan policy, material incentives for obtaining foreign currency, long term projections and production ratios, and international economic and trade agreements. The implementation of the short-term plans are to be left to the respective branch enterprises which are, now, presumed to be in a better position to choose the methods befitting their capabilities, production experience.

Future development must be decided on the basis of costs, saving, comparison to the highest level of similar products in world markets, and the results achieved.

Major developmental investments will come from the state budget and all other necessary investments will be financed by the enterprises themselves from their own resources or by borrowing. Interest for all loans will be paid by the enterprises.

In place of long range unchangeable prices a realistic and flexible price system will be gradually introduced to take into consideration production cost, world prices, and relation of supply to demand. Fixed prices for basic raw materials and some basic necessities will be set by the central planners. Prices will be at first fixed after agreement between suppliers and consignees, but in time the enterprises will set free prices according to supply and demand. Prices and items are to be exposed to competition with foreign goods and with those produced within the different production systems such as cooperatives and state enterprises. Export products, as far as value and standards, must be equal to the best in the world. Sector enterprise in foreign trade activities will be taken over from the foreign trade organization wherever it is possible to experiment, and when it can be carried out better and more economically.

The merits of individual enterprises and plants, in order to make the enterprises more competitive, more cost-conscious, and more responsive to consumer wishes, will be measured by profits resulting from actual sales to customers. Control activities will be directed to correction of abuses, including the abuse of the monopoly status of producers, and to the development of prices and wages.

Each enterprise must earn its own way. After production cost deductions and tax levies (fulfillment of obligations to society) to the state, each enterprise must pay wages, costs for plant modernization, development, and other business obligations. State subsidization will cease for those enterprises unable to earn their way, after a transition period of grace to allow for adaptation.

Wages, according to individual merit and the enterprise's profits, are to be based on the quantity, quality and the importance of the work performed. Successful enterprises may institute profit sharing and investment undertakings.

Labor law regulations are to be amended to allow the enterprise executive to have increased powers to select, transfer, and release subordinate workers.

Wholesale prices are to be reorganized in accordance with firm and free prices. Extensive retail price changes will not occur until 1966 as trade enterprises, before this time period, will not acquire the major part of their supplies through direct contacts with production enterprises.

The prime purposes of the program are to provide a realistic pricing system, material incentives, incentive to introduce new technology into production, high quality and attractively designed products, a greater volume of foreign trade, and an improved balance of payments.

#### TO TRADE OR NOT TO TRADE

##### *Convertible Currencies for Trade*

To trade one must have goods to barter, funds to purchase other people's products, and desirable products of one's own for sale. For purchase funds the Soviet Union uses the gain from tourism, concerts, the sale of armaments, and the manganese, chromium, gold, platinum and other rare metals that it mines; but these meet only a portion of that country's needs. The Bloc countries pay for their purchases through cash payment in convertible currencies, debiting and crediting bilateral agreement clearing accounts, barter—with or without foreign exchange transactions, or credit.

The Bloc countries are struggling to achieve a more diversified industrial economy at home, and do not appear to have many specialized products that are saleable in the United States. Their exports are substantially raw materials, food, fuel and finished natural products, while their imports consist chiefly of highly developed finished products. In many countries of the West, other than the United States, there is some need for such raw materials as are exported by the Bloc

countries, and so an exchange basis for trade exists. For example, in 1963, Great Britain bought 91 million pounds from the Soviets and sold 55.4 million pounds of goods to them. This favorable balance to the Soviets was used to make purchases in other sterling currency countries.

The economic planners of the Communist countries have often asserted that given the opportunity to trade, plus the will and time to explore practical problems, they can plan, create, and develop products specifically for Western markets.

Though this is easily said, it is not as easily done since the quality, design, and efficiency of each product must have market appeal and must be priced competitively in the world market.

In striving to obtain sales and to be competitive foreign market-places such as the United States, the Bloc members assert that the elimination, in the economic sphere, of cold war instruments, i.e., embargo, boycott, quota limitations, and tariff favoritism, would be welcome. In the meantime, long-term Western credit for expanding purchases must be sought. To this end, the Bloc countries are willing to pay what they consider a high interest rate for such credit in order to create an immediate inflow into their industrial economy.

#### *Bloc Countries Trading Mechanism*

Various specialized foreign trading organizations utilized by the Communist Bloc countries are involved in the negotiation of foreign purchases as well as in sales. These foreign trading organizations in most instances are, at present, each particular country's sole agent to purchase and sell specific categories of equipment, processes, and products for all national enterprises. The foreign trade organization conducts export and import operations within the framework of the state foreign plan, a part of the over-all national economic plan. The short-term import plan is based on orders received, after necessary clearance and approval, from enterprises and distributing organizations. The plan takes into account organized and existing bilateral and multilateral agreements, national production, other phases of the over-all planning apparatus, currency available for purchase, and the amount of funds allocated for such use. Export responsibilities are to meet obligations under existing bilateral agreements, barter agreements, and to earn foreign exchange to meet import payments.

The organization may, in some instances, use certain Western business organizations, for a limited area or purpose, as a sales, distribution, purchasing, or patent licensing agent. Remington Rand Ltd., a British subsidiary of Sperry Rand Corporation, is offering British cus-

tomers an electronic invoicing machine made in East Germany and priced below competing machines. Remington Rand Ltd. announced that it doesn't market other Communist manufactured items, but that its competitors sell typewriters, accounting machines, and calculating machines made in East Germany, as well as typewriters made in Czechoslovakia. A fairly sizable amount of exports from the United States and imports from the Soviet Union have in the past been handled by specialized brokers such as M. Golodetz, Intertex, Primary International, and Greg-Gary of New York. Hungary intends to utilize, for trading purposes, the services of Tower International, a firm created by the Eaton interests of Cleveland, Ohio. Novasider SpA of Turin, Italy, maintains a Moscow branch to promote and negotiate sales with Soviet foreign trading organizations, for products and processes of such Italian companies as Edison, Fiat, Ansaldo, Pirelli, European subsidiaries of United States Carborundum, and others, on a commission basis.

### *Trading Difficulties*

In addition to difficulties created by governmental policy, Western business executives have found that negotiations and transactions with the trading organization have their own difficulties. Western companies may not understand the methodology of the foreign trading organization and the operation of a planned economy. So, many United States and Western firms, for example—Kaiser Industries, Union Carbide, Pfizer, National Steel, Dow, Westinghouse, Schering, General Electric, Blaw Knox, Imperial Chemical Industries, Montecatini, Fried. Krupp, Dalmine, Asami, Ataka, and others, have sent top executives to Moscow in order to establish and improve relations with Soviet trading organizations.

However, not only the organization, but also the procedure, is usually slow moving, bureaucratic, and difficult to assess. The equipment or product for sale must come to the attention of the enterprise manager or chief engineer. The Soviet factory manager or chief engineer must demonstrate the need for the sale item as well as prove that the desired equipment or product will improve his productivity over similar domestically produced items. Clearances must be obtained and conformance with the economic plan must be achieved through the regional and national Sovnarkhoz (economic council) and planning commission. The organization and its personnel may not possess extensive trading experience. The organization is geared to the sale and purchase of essentially natured product items, refined natural products, and manufactured items, and the direction and thinking is

along the lines of bulk commodity procurement and sale. In many instances, it may not be knowledgeable as to marketing and purchasing procedures, especially proprietary rights and data, as well as other Western business practices.

The methodology of the trading organization is, wherever possible, through purchase in a package deal to obtain new technology, plant engineering know-how, and data. A negative decision of the trade monopoly organization may foreclose sales to an entire national market. The organization's *modus operandi* may include unlimited negotiation time, worldwide purchase search, use of alternative new technology, and other bargaining practices. The laws and regulations of the Communist state possess peculiarities uncommon to Western commercial practice. In some instances the Western executive had thought he had achieved a contractual meeting of the minds, only to find that a management planner vetoed a practical result. As a result, quite a few Western business executives have spent many fruitless years "visiting and talking" with officials of various Bloc organizations without the benefit of a single successful negotiation. Considerations such as these obviously were taken under study and played a role in bringing about the changes being introduced into the Bloc economic planning and management systems.

Not all of the trade pitfalls and problems have their origin with the East. Many Western businesses have, because of national or self-interest, feared selling to Bloc nations new technology, plants, and equipment. One fear is that the Communist country's over-all economic production and marketing power might be utilized to compete in world markets in a manner to constitute "dumping" or regularly pricing products at a loss, in order to disrupt or to capture markets. Such acts would force either the original seller or his regular customers to lose profit margins, or bread and butter markets, with potentially dangerous results.

Another drawback is the fact that the Soviet Union does not provide foreign firms with copyright or design protection. Consequently many companies are wary of forwarding descriptive material to the Soviet Union. Many Western firms have complained that the Bloc countries pirate new technology and do not respect patent rights.

Also, most individual Western enterprises do not possess the sum total of the new technology and engineering plant desired by Bloc planners and purchasers as a package deal. In some instances essential know-how and technology may have been acquired under license from another Western firm. The license may be limited to use, or even manufacture and use, but may not include sale. The license may be

derived from a United States company which might have limited the licensee's use to either its own country or the countries of the West because particular technology might be listed as a strategic item under the United States export control program. Another deterrent to package deals is that the patent and know-how pooling agreements may constitute a cartel in violation of the antitrust and monopoly laws of the United States. As a result of recent negotiation experiences, Soviet and Bloc trading officials recognize that the capability of Western business enterprises—selling a complete package of new technology, advanced plant, know-how and data—can be affected by existing patent licenses and arrangements with United States enterprises.

#### *Resolution of Difficulties and Trade*

Where the parties desire to trade (and there is a will) as well as to resolve difficulties, it is usually possible to do business. Despite limitations and complaints, competent Western companies have been able to deal successfully with Bloc trade organizations by concentrating on the unique features of selling to a planned economy and attempting to understand the operation of their bargaining methodology. In turn, the Bloc countries, for their part, are also willing to make important concessions, even to the degree of evolving revolutionary changes in their economic and management systems.

Foreign trade organizations have gradually, as a result of the impact of experience and relevant adjustment, made efforts to understand the whys and wherefores of the purchase and sale mechanisms of the West. Negotiations have been completed, in certain instances, with little or no delay when the trading organization had firm orders from their enterprises and purchase clearances from the economic planning agency. Japanese, British and other Western traders have been able to conclude significant contracts with Bloc countries that incorporate an "anti-dumping guarantee" clause, as well as favorable modifications of the standard clauses regarding contract disputes and arbitration procedures. Czechoslovakia, Hungary, and Poland have provided the British Board of Trade with guarantees not to engage in any uneconomic (dumping) and restrictive practices in marketing in Great Britain. Their products now are no longer restricted to the quota limitations of their bilateral agreements in Great Britain, but are only subject to an explicit list of exceptions. The adjustment of other issues appears to be possible and may even have been accomplished, but would most likely be incorporated in the unpublished sections of the negotiated agreements.

Rumanian Premier Ion Maurer asserted that his Communist coun-

try favors removing any kind of artificial barriers limiting or hindering international commercial exchanges. Similar statements have been made by East German Premier Walter Ulbricht, Soviet Chairman of the Council of Ministers Kosygin, as well as by other Bloc spokesmen.

While the Bloc trading organizations have been negotiating intensively for the purchase and installation of entire plants, they have also been purchasing obtainable instruments, machinery, components and parts.

#### *Developments Such as International Conventions*

Except for Albania, the Communist countries of Eastern Europe have signed the International Union for the Protection of Industrial Property which grants the same patent rights to nationals of co-signers to the Convention as it allows its own nationals. The Convention also grants inventors, who file a patent application in their own country, a year to file the same application, with the priority of the original date of filing in other member countries.

East Germany purports to belong to the Convention, though this state is not recognized, in the West, as having sovereign status. The Soviet Union, in turn, since the 1958 Lisbon Conference, has sent observers to the recent meetings held by the Convention members and has given notice of its intent to join. A Vice Chairman of the State Committee of Inventions and Discoveries of the Council of Ministers of the USSR informed the March 16, 1965 meeting of the signatories of the Paris Convention of this intent to ratify the agreement. Convention members considered the Soviet author's certificates as well as patents as a basis for reciprocal priority rights. This is not a problem as the Bloc members of the Convention also issue author's certificates which are granted reciprocal priority rights. The Soviet Union is now officially an accepted co-signer of the Convention.

In 1964, Bulgaria, Czechoslovakia, Hungary, Poland, Rumania, and the USSR ratified and became members of the European Arbitration Convention together with Austria, Belgium, Denmark, Finland, West Germany, Italy, Spain, and Turkey. The Convention applies to contract arbitration clauses and arbitration agreements. There are also other international agreements at the international level relating to commercial arbitration, but they have not been generally ratified. General ratification of these agreements which have proven acceptable to both East and West would be a helpful expedient in furthering trade.

Indicative of significant Soviet development, the State Committee for Inventions and Discoveries recently submitted a draft proposal for a new law covering the protection of designs, models, and drawings,



to the Council of Ministers of the USSR. It is believed that such a law will be ratified and adopted.

*Technological Consortium or Cartel*

Business enterprises of one or more countries of the West have banded together to deal collectively with particular Bloc organizations to overcome the difficulty of providing the sum total of desired new technology, engineering know-how and data, plant and equipment. The British began this innovation in trading method. British industry has, in the recent past, entered into several contracts in this manner; for example, the previously referred to contract signed by Polyspinners Ltd. This practice is no longer unique to the British inasmuch as Dutch, United States, Italian, and Japanese chemical processing equipment manufacturers have come together as national units in the same fashion and for the same end.

The development of this trading method has progressed to the extent that a West German company, Fried. Krupp, has joined with an Austrian company in sale negotiations. Simon-Carves of Britain has contracted to build a \$7.3 million ammonia plant in Hungary using steam reforming and ammonia synthesis processes developed by Haldor Topsoe of Copenhagen, Denmark. French and Belgian companies have combined to provide Bulgaria with ammonia and nitrogen fertilizer plants. A West German firm has contracted to supply Rumania with a liquid ammonia plant to be built in cooperation with and using process technology of a Danish company; and a urea plant will be built under a license from Stamicarbon N. V. of the Netherlands. Simon-Carves Ltd., in conjunction with Danish and Austrian chemical process firms, is negotiating for the sale and construction of plants involving new technology. The British High Polymer and Petro-Chemical Engineering Ltd. will build a \$5.6 million nylon plant in Yugoslavia using Hans J. Zimmer A. G., Frankfurt, West Germany's design and process know-how. Last summer, Occidental Petroleum Company, a United States firm, disclosed that it, along with British Associates, is involved in negotiations with the Soviet Union to build fertilizer plants. Other United States companies are involved with companies of other countries in similar negotiations, but they have not made public announcements.

All Western nations, except the United States, offer the Bloc countries the most favored nation treatment. When Hungary and Canada concluded a three-year trade in 1964, they mutually guaranteed each other the principles of the most favored nation treatment. Thus United States firms find it advantageous to join with a firm in another Western

nation or utilize a subsidiary so situated in order to have the benefit of this trading advantage.

The export consortium, elimination of tariff discrimination, longer-term credits backed by government guarantees, the understanding of the bargaining methodology, common membership in international arbitration and proprietary rights organizations, good will, and the resolution of other difficulties have all resulted in increased East-West trade for the particular countries concerned. In contrast with other countries of the West, the United States, despite the interest of some companies, has been far less interested in pursuing difficult East-West trade negotiations or in attempting to evolve new methods in conducting East-West trade.

#### *Drawbacks to United States East-West Trade*

United States East-West trade is subjected to legislative restrictions such as the Trade Agreements Extension Act, Johnson Act, Mutual Defense Assistance Control Act, Export Control Act, Foreign Aid Related Agencies Act, Trade Expansion Act, Agricultural Trade Development and Assistance Act and other Acts.

A major drawback to United States trade with the Soviet Union is that the lend-lease debt has not been settled. A settlement would be a solution to the prohibitions of the Johnson Act. Past negotiations to settle existing differences became the victim of the cold war. The United States policy is that this outstanding debt must be settled prior to trade negotiations, further United States credit, or even longer term credits.

The Johnson Act of 1934 (18 U. S. C., Sec. 955) prohibits private persons and firms in the United States from granting credit to, making of loans to, selling or purchasing bonds or assuming other obligations of a foreign government or agency in default on their debts to the United States Government. All the Bloc countries except Bulgaria are in default of their World War II obligations to the United States. The Act was originally devised as a blow to France, Britain and other United States World War I allies who stopped paying their World War I debts to the United States. Devices have been created for these nations to avoid the design of the Act, such as membership in the International Monetary Fund and the International Bank for Reconstruction and Development. Yugoslavia is the only Eastern European state that is a member of these financial units.

In 1951 the United States withdrew the "most favored nation" benefits on tariffs from the Bloc nations. The United States now extends the "most favored nation" treatment only to Yugoslavia and Poland.

Thus, the Soviet Union imports as well as other Bloc imports flowing into the highly competitive United States market must pay the full 1930 United States tariff rate. This is a serious competitive disadvantage.

Other drawbacks are the absence of United States guarantees to help the countries of Eastern Europe obtain permissible short and medium term credit or financing and also the export control program. So, in order to trade, some United States companies have used either a foreign trading company or broker who is able to get guarantees or financing from his sources, or the United States company has supplied the purchase order from a foreign contracting and manufacturing subsidiary, situated in a Western country, that does extend either export credit guarantees or credits to Bloc countries.

The Export-Import Bank of Washington is authorized to guarantee, insure, coinsure, and reinsure United States exporters. It conducts an export guaranty program to facilitate United States exports, and participates with the Foreign Credit Insurance Association, an unincorporated association of United States insurance companies, in a program of credit insurance covering United States export transactions. These activities are not considered public assistance to countries that purchase United States exports and are not prohibited by the Mutual Defense Assistance Act. However, the Foreign Aid and Related Agencies Appropriation Acts of recent years have limitations on the authority of the Export-Import Bank to participate in financing United States exports to Communist countries. But the President has made determinations allowable under the Act to insure export sales of United States products to Rumania, Czechoslovakia, Poland, Yugoslavia, Bulgaria, Hungary, and the Soviet Union. Such a waiver was exercised in the Rumanian-Firestone and Universal Oil Products contract.

#### *Export Control Program*

With the Department of Commerce lies the enforcement and the licensing of items and technical data which fall under the export control program. On April 1, 1964 Commerce took over from the Treasury Department the responsibility of licensing exports of technical data.

The Department's licensing pattern in carrying out these responsibilities is hard to comprehend. The administration is difficult, if not impossible, in view of the guidelines and the expanded trade relations of the Bloc countries with other countries of the West, with close economic and technological interrelationships with the United States. The definition of what is strategic may vary with the direction of the wind.

On July 14, 1964 the Department eased its licensing policy toward Rumania by granting it the benefit of the same export control procedures accorded to Poland. Exports to Rumania are now permitted under general license for all commodities except for those on the exception lists.

Although many items and data classed as strategic materials have theoretically been barred from shipment to the Bloc countries by the Coordinating Committee for International Controls of the North Atlantic Treaty Organization countries, the Coordinating Committee's list has been applied differently by its member countries and it is not as extensive as the United States list with the result that the Soviets have received, from our NATO partners, many things that the United States would consider clearly strategic. In many instances, foreign NATO licensees of United States companies may not be able to export certain items to the Bloc countries. Licensees in neutral countries (i.e., Sweden, Switzerland) are not subject to such legal restrictions by their governments. In many instances, where items are restricted for sale to the Bloc, there is no doubt that when, in time, they try to produce the item they may then achieve a greater degree of self-sufficiency and economic strength. But time is of the essence in producing items for strategic purposes and also, in today's industrial production, for capturing markets or fulfilling urgent user needs. In a few instances, the planning apparatus or even the actual economy might be disrupted until either purchase can be made elsewhere or adjustments are made to provide for the development and production of the item.

The use of Swiss subsidiaries or patent licensees to achieve similar unintentional or intentional results has been utilized by companies of other countries to carry on trade exchanges with the East. It is possible for patent technology licensed by United States companies to be sold to Bloc countries even though our export control program does not allow such sales. Further, it may have resulted, in some instances, in the denial to United States firms of the opportunities to sell United States produced items which the Bloc nations can obtain in other countries of the West.

#### *Need for Evaluation*

Based on the past years of operating experience, an evaluation should be made of the export control act and the program regarding both the export of technical data and the licensing of export equipment. Does it serve its intended purpose? In its present format and operation, is it an unnecessary impediment on the United States par-

ticipation in East-West trade? Is it an embargo that is effective in denying the Communist Bloc countries the use of either United States or Western technology and know-how to enhance themselves technologically and in over-all worldwide influence? The study should legitimately be directed to determine what actual effect or impact the export control program does have upon subsidiaries of United States companies manufacturing and doing business as an operating entity in other nations of the West. It should determine what occurs when independent business entities in other countries of the West (NATO or neutral) are provided with new technology, advanced engineering know-how and data under license for royalty payments from United States business entities. Other important queries that should be answered are whether there is a significant loss of capital funds and job opportunities when United States firms are not permitted to sell Bloc nations items produced in the United States and technology developed in the United States which can be produced and purchased from other countries of the West and, in turn, if the sale of plants, know-how and proprietary rights would adversely affect the United States economy. Such a study is needed to aid in formulating legislation and policy affecting East-West trade.



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## FORUM

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Although the primary purpose of *IDEA* is to communicate the research work of the Institute, it also serves as an educational vehicle for the exchange of informed opinion. This section is intended to serve such educational activity. The positions taken by the authors of papers and notes in this section are not necessarily those of the Institute. It is hoped that the material published in this section will stimulate researchers to undertake further study of the issues.

### U. S. Patent Examination System— Why Change A Good Thing? (For the Wrong Reasons)\*

PAUL A. ROSE\*

**A** GREAT DEAL HAS BEEN SAID in the past two years to the effect that because of the technological explosion, the mounting backlog of applications in the Patent Office and the increase in the number of applications being filed, the Patent Examination System as we know it is going to collapse if we don't do something about it. This theme has been stated as fact so many times that even members of the Bar and Committees of Congress are beginning to believe it and repeat it.

The purpose of this discussion is to try and stimulate those concerned with our Patent System to think a little more clearly and deeply about this alleged need for change and to assess it in the light of known facts rather than to blindly accept the conclusions advanced by its proponents.

One of the strange things about the pressure for change is that it has not been initiated by the Patent Bar, by industry or by a chorus of inventors, but seems to be generated from within the Government, which may cause some people to ask why the press for change now when we had none for years with the same general situation existing.

At this point, it should be made clear that what is said here is not an attack on any persons in or out of Government nor is it intended

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\*This paper, with certain changes, was presented by Paul A. Rose at the Georgetown Patent Law Club Luncheon, Washington, D. C., on December 17, 1964. He is Manager of the Washington office of the Patent Branch of Union Carbide Corporation.

to question their motives or integrity. I believe that they have been misled by unfamiliarity with the facts regarding our examination system and by oversimplified extrapolation of recent figures into expected backlog in future years which indicates to them a problem far greater than exists in fact, or which will exist in the foreseeable future. Others appear to have accepted the conclusions advanced as fact and continue to repeat them as such. As an illustration, the statement was recently made that “. . . in 1929, about 1,750,000 patents had been issued. Now it is nearly twice that. That means searches and study of them is twice as great simply on a numerical basis alone.” Nothing could be further from the truth. Some may ask why it is not true that twice as many patents mean twice as much time for an examination and search. The reason is that even with the tardy job of reclassification in a great many arts, the task is in some cases less than it was then because smaller and more definitive subclasses have been created. There are dozens of situations in which this is the case today. The writer is not opposed to change if there is a demonstrated need for it, but strenuously opposes change for the reasons thus far advanced.

Those who predict the dire results of the technological explosion on the present examination system quickly state also that the most obvious way of meeting the projected increase in work load, i.e., an increase in the number of examiners to handle it, is out of the question. Furthermore, although it has been repeatedly stated that the re-classification job in the Patent Office is twenty years behind, no increase in funds to bring it more current can be expected and indeed we are told that none will be requested. Since efficient and current classification of expanding arts is the keystone of prompt and efficient examination, this policy seems somewhat shortsighted.

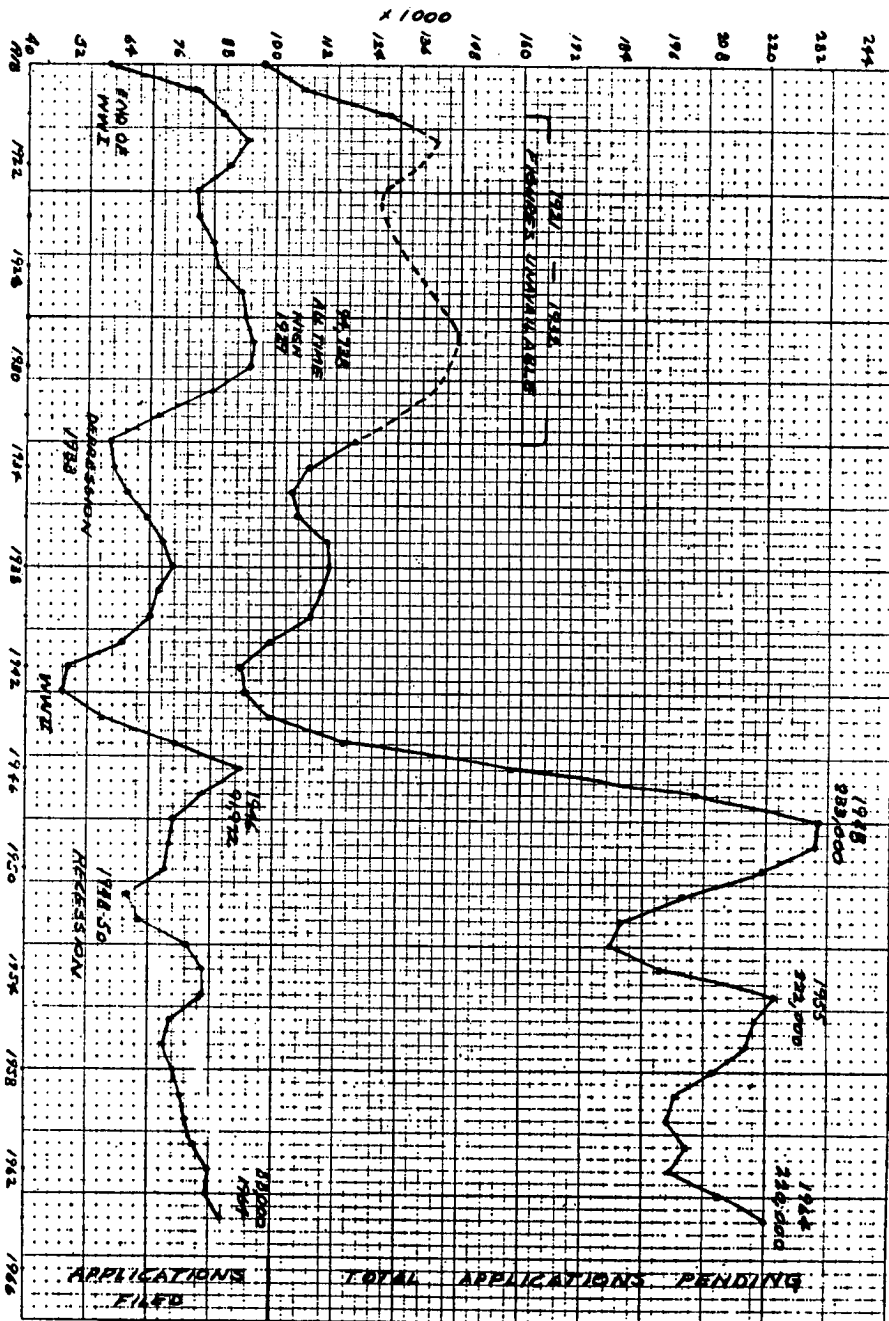
Now let us look a little more closely at the factual basis for the proposals for change advanced by the proponents. We are told that since it takes four or more years to issue a patent in some areas of technology important to the nation and to the spread of our technical products throughout the world, some will ask the basic question whether the patent system is worthwhile. It is difficult to see any real connection between the length of pendency of an application and the worth of the patent system and it is even more difficult to see what dwell time of an application in the Patent Office has to do with export of products.

The backlog in the Patent Office in November, 1964, was about 216,000<sup>1</sup> applications.

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<sup>1</sup> As of January 31, 1965, the backlog was 212,673 and by May 31, 1965 was 207,344.





In a recent speech the Assistant Secretary of Commerce for Technology made these statements:

We handle 75,000 applications a year. . . . The backlog problem is so bad, it has taken on qualitative features. . . . It literally threatens to slow down invention and innovation, an elementary mechanism for economic and technological developments. . . . Therefore, resistance to necessary changes in the patent system to make it more modern and up-to-date will serve to destroy the entire system more than any other factor that I can think of.

(Excerpts from speech by Mr. Hollomon to APLA October 4, 1964.)

There is no factual basis for these quoted excerpts, and the following discussion will demonstrate why. First, let's look at the record of past performance as excerpted from Patent Office reports. The accompanying graph indicates applications filed and the backlog over a number of years past and up to the present.

The technological explosion and backlog which have caused Government executives and others to push the panic button has been with us for a long time and is nothing new. Moreover, backlog has not had any effect on the rate of invention or the continuance of the technological explosion. These vary with peace and war, prosperity and depression.

We had a backlog of 233,000 applications in 1948 and no one pushed the panic button. That is about 15,000 more than reported in October, 1964. The backlog, far above the present level, continued through 1950 and after a considerable drop for a few years again rose to 222,000 in 1955. Again, no one pushed the panic button. From 1955 to 1961 the backlog dropped to around 200,000 and over the past four years it has risen to the present level (November 1964) of around 216,000.<sup>2</sup> Though this figure is still well below historic highs, suddenly it has become so ominous in the view of some as to require revision of the historically successful examination system which has produced the "technological explosion" and the flood of inventions which we are now told will be submerged and extinguished by this very system if it is not changed in some way.

Now, as to applications filed, it may be a surprise to many to find that the all-time high in filing was reached in 1929 when 94,738 applications were filed. This was up from a low of less than 60,000 after World War I. The rate then fell again to about 60,000 in 1933, which some will remember as the period of great depression. The rate began to rise again until 1938 when 75,000 applications were filed. With the

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<sup>2</sup> This was an estimate in November 1964. The actual total of applications pending at the end of 1964 was 215,741 which had fallen to 212,673 at the end of January 1965.

advent of World War II the rate fell again to a new modern low of 48,000 in 1943. At the end of the war the rate again rose to 92,000 in 1946 and fell again in the ensuing period of 1948-51 to 65,000 in 1951. From 1951 to date the rate has been on a generally upward trend, except for a dip in 1956 and 1957 and a very slight dip in 1963, until the estimated total of about 88,000<sup>3</sup> for 1964. However, this is still less by over 6,000 applications than were filed in 1929.

Again, on a historical basis, it is difficult to see any reason for the present pressure for change in the system.

Some cite the increasing complexity of inventions as complicating the problem, but while computers may be more formidable than calculating machines or newspaper printing presses, machine tools and other complicated inventions of the past, it would be safe to say that on average the complexity of inventions today is no greater than those of the past.

Aside from the lack of historical basis for change at this time, we are in the midst of changes in practices within present statutes which should be given a further trial period before taking drastic action. In October 1963, in a comment on compact prosecution, it was stated by a Patent Office official that in the preceding 15 months the pendency time had dropped from approximately 31 months to a little over 29 months. Since that time the present Commissioner has instituted several constructive changes in compact prosecution, such as restoring the encouragement of interviews after final rejection, the practice now of acting on applications in the order of effective filing date, and setting a shortened statutory period of four months for response in most cases. In a preliminary report on these changes, Commissioner Brenner has indicated that results in increased rate of disposal are most encouraging. This indicates that better administration rather than statutory change could be the solution if a significant reduction in backlog is deemed so essential.<sup>4</sup>

The suggestion that our law, after 130 years, is outmoded and must be updated to meet the needs of the new space age technology is even less valid as a reason for change. The law was rewritten only 12 years ago to incorporate changes which had been dictated by various modern decisions of the courts and in other respects, and the law had, from time to time, been revised to take account of current needs such as the change from two years to one as a limit on time for filing applications after use or publication, several fee increases, reduction of the

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<sup>3</sup> This was an estimate in November 1964. The actual total for 1964 was 87,547.

<sup>4</sup> The reduction of the backlog to 207,334 at the end of May, 1965, indicates continuing good results from the present approach.

statutory time of response from one year to six months, and provision for even shorter statutory periods for response, to mention a few.

Furthermore, the insistent emphasis on the need for prompt issue of a patent, to permit exploitation and dissemination of the technology, completely ignores the fact that in many instances worthwhile inventions go into use or are published in technical journals long before the patent issues and in some cases even before an application is filed. Also, the value of "Pat. Pending" seems to be ignored and the fact that under our present system manufacture, sale, or use and licensing others to manufacture, sell or use does not need to wait, and often does not wait, for issuance of a patent, but can and again often does begin even before an application is filed, particularly if foreign rights are not to be protected. Every attorney representing a corporation can recall numerous instances in which it was necessary to sit on the sales or publicity department or to hold an eager-to-publish scientist in check until an application could be prepared and filed, so that the technology would not be published before the United States filing date, in order not to jeopardize foreign rights.<sup>5</sup>

Again, the press for change ignores the long established policy of the Patent Office to make applications "special" so as to expedite issue of a patent when a special situation warranting such action is presented.<sup>6</sup>

Therefore, it appears that the emphasis on the need to get patents issued promptly in order to disseminate the technology to others or to promote use is a poor and over-emphasized reason for considering change in our present system. This is particularly true when it is remembered that larger backlogs and longer delays over a period of thirty years or more have not slowed up the technological explosion nor previously been considered to require any change in the basic system.

Finally, a word about the proposals that we might seriously consider initiating the deferred examination system which was recently adopted by the Dutch. As to this, we should ask the question: Should we adopt the practices of a country where the policy is to restrict rather than to expand its patent system to make it truly an incentive system?

The Dutch don't like patents because 80 percent of their patents issue to foreigners and only tend to restrict the local economy. That is why the Dutch have had the best or most rigid examining system in Europe. It has been suggested that the Dutch probably wouldn't even

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<sup>5</sup> In certain foreign countries publication or use anywhere, prior to the effective filing date is a bar to a valid patent.

<sup>6</sup> A new procedure for obtaining "special" action in applications pending six months has recently gone into effect and may be availed of on a voluntary basis.

have a patent system if it were not for the fact that not having one might cause other nations to think that they are backward. Therefore, the suggested imitation of the Dutch system is based on the wrong motivation. We should be thinking in terms of operating our system to increase its incentive force, rather than in terms of how we can amend it so as to operate it more cheaply and easily.

It seems anomalous that changes to cheapen the system should be sponsored rather than have provision made for adequate plant capacity to meet the demand. The business advisory service people in any Government department would think that a company receiving more orders than it could fill would appear rather inept if, instead of increasing its plant capacity to supply the demand, it either cheapened the product or set up a premium charge system for those who wanted prompt delivery.

If we are to accept the fact which seems acceptable to most, including the proponents of change, namely, that our present Patent Examination System has provided the incentives which have produced the tremendous advances in technology which they say now pose such a problem, then we may ask again, "Why Change A Good Thing?"



# A Modified Deferred Examination System

ELMER J. CORN\*

"WHEREAS the patent system of the United States has developed a continuing backlog of patent applications and the cost of processing such applications increases constantly; . . ."

President Lyndon B. Johnson's  
Executive Order 11215 of April 8, 1965.

**P**RESIDENT JOHNSON'S EXECUTIVE ORDER 11215, which established the President's Commission on the Patent System, places a major emphasis on the backlog of pending applications in the United States Patent Office and on the increasing expenses of the Patent Office. Procedural changes in the Patent Office such as Compact Prosecution and the proposed deferred examination system, modeled on the new Dutch Patent Law of January 1, 1964, appear to be directed primarily toward reducing the backlog without any substantial increase in the cost of the Patent Office. While the problem of the backlog is very important, to attempt to modernize our patent system primarily in terms of the effect on the backlog may very well divert us from our major objective which, in the words of Executive Order 11215, should be ". . . to insure that the patent system will be more effective in serving the public interest in view of the complex and rapidly changing technology of our time. . . ."

The patent system is peculiarly psychological in nature. By its promise of certain economic rewards it is intended to induce inventors, and those who lend economic support to the work inventors do and to the development and marketing of their creative productivity, to do work and carry out projects which, in absence of such promise, they would not be likely to do. Unless the procedures in the Patent Office are matched to the motivations of those who seek to make use of the patent system, the basic purpose of the system is thwarted at the outset and the patent system itself tends to degenerate. Part of the problems which we face today are probably due to the fact that such a matching of procedures and motivations does not exist in our present system. The proposed deferred examination system does, in part, attempt to take some of these motivations into account, but it does not go far enough in that direction.

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At the present time we can identify at least four different types of motivation in the filing of applications in the Patent Office:

I. The desire to obtain the publication of a patent solely to prevent a subsequent inventor from obtaining a patent which could be used against the owner of the first invention. Even though an applicant with this motivation may never intend to use the patent aggressively against anyone (as is probably the case in most Government-owned applications), mere publication of the invention would not give such an applicant the protection he seeks since such publication would not give him the opportunity of getting into an interference with a subsequent inventor and of carrying his effective date back of the publication date to the time at which he made the invention.

II. The desire to obtain a "defensive" patent. Such a patent is one which the applicant expects he will be able to use as a possible counter against another patent owner who may accuse the owner of the defensive patent of infringement. Such an applicant has no intention of attempting to stop anyone from using his patent unless he is compelled to do so to avoid an attack on himself. He, too, is interested in his ability to get into an interference with a rival claimant for a patent on the same invention. Sometimes such a defensive patent seeker may subsequently change his attitude and decide that he would want to initiate aggressive action against an infringer. However, during the application stage such aggressive motivation is usually absent.

III. The desire to obtain a patent if the Patent Office can be convinced to issue one, but to retain the information of the details of the invention as a trade secret if the Patent Office refuses to grant the patent. The suggestion that all applications be published shortly after filing, whether or not a patent is eventually granted, would keep this class of applicants out of the Patent Office.

IV. The desire to obtain a patent in order to exercise the grant of the right of exclusion in an aggressive manner, either to prevent others from using the invention, or to obtain, by royalties or other values, an economic advantage in the marketing of the invention, or to obtain a substantial monetary income from licensing or sale of the patent. Such an applicant desires to obtain a patent with broad, strong claims possessing a high degree of *prima facie* validity. Normally, he would also like to obtain his patent without excessive delay.

Each of the above motivations can be further divided into at least two, one of which involves a desire to seek only United States patent protection, and the other of which involves a desire also to seek



foreign patent protection of the same category or of one of the other categories described above.

If each applicant with any of the above motivations were to find the Patent Office procedures tailored to fit his desires and needs, he would indeed be given the maximum stimulus to which he is adapted to respond in the generation and development of his inventions. Therefore, it would be wise for us to attempt to devise a practical system having the necessary degree of flexibility to accommodate itself to him while preserving the basic principle of encouraging the earliest possible availability to the public of the fruits of his resultant creativity. Such a system might well be a modified form of the Dutch deferred examination system. Such a modified system is suggested below.

The application would be in the form and with the content as presently provided under the Patent Office rules. However, at the time of filing the applicant would have to elect one of the following options.

(1) Have the application published without examination as to patentability as promptly as possible.

(2) Have the application published without examination as to patentability, but delay such publication beyond a year to enable one or more corresponding foreign applications to be filed.

(3) Have the application subjected to one prepublication patentability examination.

Should the applicant elect option (1) or (2), his application would be subjected to examination as to its compliance with the requirements of sections 111 through 120 of Title 35 of the U. S. Code. These are the sections dealing with the form and content of the application. The application would not be examined for division under section 121. However, the applicant would not be entitled to publication with more than ten claims. Provided the applicant promptly complied with the Commissioner's objections as to form and content, the application would be published as soon as possible under option (1), but publication would be delayed until after a year from the application date under option (2).

Any application so published would become a *publication patent*. A publication patent would give its owner no rights of exclusion. However, it would be effective as prior art as of its filing date and would give its owner the right to copy claims for purposes of interferences from any other type of patent which carries with it a right of exclusion. Such copying of claims for this purpose would be subject to the present interference practice rules. As to any claims which

the owner of such a publication patent wins in such an interference, his patent would be converted into a patent of the type from which the claim had been copied.

An application under option (3) would be subjected to one examination under sections 111 through 120 as in the case of an application under options (1) and (2) but in addition that examination would include an examination as to unity and patentability under sections 121 and 131. The Examiner would supply the applicant with the type of office action called for in section 132, notifying the applicant which claims, if any, were considered to be allowable and which were rejected, together with reasons for the rejection, the reasons for any objection or requirement, and also such information and references as may be useful to the applicant in judging which action he should take.

Upon receiving the office action resulting from such examination, the applicant would have these further options:

(4) Request that the application become abandoned, whereupon it would not be published and would be retained in confidence under section 122.

(5) Request that he be granted an "unvalidated patent".

(6) Request that the application be subjected to a validation procedure.

These latter three options would have to be exercised within six months of the office action and, at the time of making his option selection, the applicant would have the right to amend his application and claims in accordance with present patent practice. Upon the selection of either option (5) or (6), the application would be published promptly in the form as amended. However, on request of the applicant, such publication could be postponed until after one year from the application date in order to protect the right of foreign filing.

An application published under option (5) would be designated as an "unvalidated patent". It would have no *prima facie* validity but it would give its owner the right to sue infringers in the various courts and under the conditions which heretofore have applied to patents. However, not only would the unvalidated patent have no presumption of validity, but if the person suing on such a patent in an infringement suit were to lose the suit, the court would be required to assess the defendant's costs, including his attorney's fees, against the losing party and, at the discretion of the court, damages sustained by the defendant because of the suit might also be assessed against the losing party.

An unvalidated patent would be entitled to copy claims for interference purposes from any other unvalidated or validated patent in accordance with present interference practice. Should it win an interference as to a claim copied from a validated patent, it would to that extent also become a validated patent.

Also, the owner of an unvalidated patent, within two years of its publication date, would be entitled to request that it be subjected to a validation procedure.

Obviously, an unvalidated patent would not be a very strong patent, but it probably would have sufficient defensive strength to satisfy many patent owners interested only in defensive patents.

Each application published under option (6) and each unvalidated patent as to which its owner requests a validation procedure with the two-year time limit would be noticed in the *Official Gazette* as having such a procedure in process. It should be noted that, in effect, during the validation procedure, an application published under option (6) has become an unvalidated patent, and during such period could probably be treated as such.

Following the publication of an unvalidated patent or an application published under option (6), but not later than six months after such unvalidated patent or published application has its notice of validation procedure published in the *Official Gazette*, any third party would have the right, without prejudice, to submit to the Patent Office, prior art references or other data, together with such arguments as the third party deems appropriate, to show that the published claims or any of them should not be validated. Copies of such communications would become part of the public record in the case and copies would also be supplied to the patentee or applicant.

At the expiration of the foregoing six-month period, the Examiner would make such additional searches as he would deem required and on the basis of the resultant record in the case would act on the case, whereupon prosecution would proceed as under the present practice, including the right to appeal to the Board of Appeals and to the courts.

A patent granted as a result of such a validation procedure would be designated as a "validated patent". It would have all the rights of exclusion of the present type of patent but would also have a very strong presumption of validity. Therefore, it would entitle its owner to obtain preliminary injunctions to the same extent as is now true in the case of a patent which has been validated as a result of an interpartes suit in a federal court.

A new system of fees would be devised which would require an appropriate separate fee to be paid with respect to each of the options selected by the applicant or patentee.

The term of the patents involved would also be adjusted. The publication patent would be without any specific term. However, an unvalidated patent would have a term of seventeen years from its date of publication, while a validated patent would have a term of seventeen years from its date of grant as a validated patent, or seventeen years from its date of publication, whichever is shorter.

Whether or not a system, such as that proposed here, would actually reduce the size of the backlog cannot be predicted with any assurance. The writer believes that such a reduction would be achieved. However, it is believed that the effect on the backlog would be of secondary importance as compared to the other advantages which some such system would produce.

# Government Patent Policy—Its Impact On Contractor Cooperation With The Government And Widespread Use Of Government Sponsored Technology\*

HELGE HOLST\*\*

## SUMMARY AND CONCLUSION

**A** STUDY HAS BEEN MADE—as factual as possible in a sensitive area—of the impact of Government patent policy on the availability and cooperation of organizations with the Government. Effort has likewise been devoted to learning the effect of applicable Government policies on the use of private, proprietary technology in work for the Government, and reciprocally on the likelihood of wider use of technology developed on work for the Government in civilian applications of benefit to the nation.

The data obtained is striking. It represents responses of contractors, large, small and intermediate, who provide over \$10 billion of procurement to the Government each year. Their percentages of work for the Government to total sales, range from very small to 100 percent. It likewise reveals the attitudes of some organizations who do not serve the Government but are the kind which could contribute helpfully if they did undertake Government work. These firms constitute 2,268,000 employees and supporting plant and equipment. They therefore comprise a significant resource of the nation.

In summary, the responses to the questionnaire indicate that organizations of the type which serve the Department of Defense, the Space Agency, the Atomic Energy Commission and other agencies of the Government which require technical items and services involving con-

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\* Condensed from a report presented to Secretary of Defense, Robert S. McNamara, on December 11, 1963. This report was prepared by the Subcommittee on Research and Development of the National Defense Committee of the Chamber of Commerce of the United States.

\*\*Mr. Holst was Chairman of the Subcommittee referred to in the previous footnote. He is Corporate Counsel of Arthur D. Little, Inc., in Cambridge, Massachusetts.

siderable technology, do hold and do depend for their commercial position upon patent rights and proprietary data. Such organizations for the most part serve the Government in their fields of specialization. In general, it is not the policy of such organizations to license others to compete with themselves, but they are, nevertheless, in general prepared to deal with the Government in ways which permit use of second sources.

*Government patent policy is a significant factor in discouraging responsible, competent organizations with substantial backgrounds of experience and proprietary rights from bidding on work for the Government. It is a fact that many such organizations do actually refrain from bidding on work for Government agencies whose patent policies they disapprove.* This finding should not be overlooked despite the apparent ability of the Government to secure contractors. Indeed, it is to be questioned what background available contractors do bring to their Government work.

Where organizations which disapprove of the patent policy of a Government agency do nevertheless undertake to work for the Government, they quite generally isolate their Government operations as a means of protecting proprietary rights, as well as for other purposes. There are indications that such isolation restricts the input of the organization's technology into work for the Government and likewise impedes flow of new findings from Government work back into the operation of the organization and thus into the general economy. This segregation, and the general attitude of organizations toward work for the Government, results from a fear that the terms sought by the Government threaten the commercial position of contractors to the Government.

There is significant evidence that organizations which undertake work for the Government are able to utilize know-how or other findings for other purposes. It is abundantly evident, however, that in applying such developments for other purposes, very substantial additional effort and cost is required—in relatively few instances can a direct transfer of the same product or service be made from Government purposes to civilian application.

There is, unfortunately, evidence that the devotion of private research and development to Government work has produced a slowdown in the development of products for the general economy. It is also clear that many managements are reluctant to devote to Government work the high calibre personnel required to solve difficult problems because the withdrawal of such superior personnel from their regular operations would delay development of commercial products or expose

the organization's regular business to the risk of falling behind the developments of their competitors. There is also evidence that such work for the Government has tended to increase the cost of private research and development.

Despite fears of Government work, and its consequences to the remainder of their operations, and despite the recognition of the relatively poor financial return from work for the Government, organizations are frequently motivated to undertake such activities in the hope of acquiring know-how and patent rights.

*In any consideration of this subject, it has seemed particularly necessary not to become lost in the relative equities of the Government and the contractor.* Accordingly, this study makes a special effort to focus on the best interests of the nation. This has been done by concentrating on the two major considerations:

- (1) What policy will best enable the Government to secure the most helpful assistance on primary governmental problems?
- (2) How can such work be carried out in ways which will produce maximum useful benefit to the economy at large?

As has been stated by representatives of the Government itself, in seeking the assistance of outside organizations, the Government desires better weapons, space systems, components, or other services directly needed for carrying out governmental functions. The patent policies and technical data provisions under which the Government deals with its contractors must, therefore, *above all else* seek to obtain that objective—first things first—the best possible end items and services at reasonable cost. To do so, governmental policies must attract the most capable organizations in the relevant fields of interest. In enlisting such organizations, it must have their whole-hearted and enthusiastic support. As participants they must be willing to devote their best talents, pertinent background, existing technology (whether proprietary or not), facilities, and all other resources to the work of the Government. There must be no holding back in any regard—no isolation of personnel, facilities, technology or skill which shut off any ability of any type which could contribute helpfully to the direct and vital interests of the Government.

The present study clearly shows that under its present policies as they are understood by contractors, the Government is not securing ready access to all organizations, especially those with pertinent proprietary rights. Moreover, even where such contractors do undertake work for the Government, they do so with a belief that Government patent (and data) policies are inimical to or threaten their basic in-

terests. Despite this attitude, contractors in general remain remarkably willing to give the Government such rights as are truly needed to permit competitive procurement from multiple sources. It is believed, however, that if the Government would recognize the economic worth of the rights required to be surrendered by contractors for this purpose, and would deal with them on an economic and more nearly commercial basis, the cooperation of industrial organizations would be more widely available.

Now that the role of research and development in the creation of new products, new processes, new work opportunities, new tax revenues and general benefits to the public is being more clearly recognized, it is apparent that the widest possible public benefits should be secured from all work undertaken for the Government. It is therefore increasingly necessary to recognize the fundamental requirements of the economic system prerequisite to the utilization of new technology. In securing wider secondary applications, clearly, the difficulties of communication to the private sector will be reduced if the initial work is performed in the private sector. But beyond the problems of communication lie the need for incentives to take the steps needed to achieve further use. These requirements are many and varied. Individual experience and the public statistics indicate the magnitude of hazard and cost involved in launching new products and services. Speculative investment of this type should therefore not be undertaken by public agencies with public funds. It is believed best that such risks be borne by those who may reap the rewards of success but will also experience the losses of failures. This will lead them to operate under the pressures and restraints of investing their own funds and consequently provide maximum motivation to make such ventures succeed.

All factors considered in this complex area, it is believed to be in the Government's best interest to employ patent and data policies which have as their primary objective the assuring of Government access to the most able organizations for direct work on Government problems. The secondary objective of securing widespread use of resulting technology will then be best advanced by providing conditions which afford maximum incentive to organizations to make application of any useful results of their work for the Government. It is considered that both primary and secondary objectives will best be achieved by leaving ownership of inventions and technology with those who originate them. This will provide incentive to capable organizations to serve the Government. It will likewise motivate the further very substantial efforts required to make further use of the developments. Such expanded use will benefit the Government, directly and indirectly.



Even though developments may be initiated under Government sponsorship, in almost every case their utilization cannot be achieved without further large and complex effort and cost on the part of the originators or developers. Thus, any benefits obtained would seldom constitute "windfall" enrichment. To the extent that such benefit is an added reward, it is inducement and compensation to organizations to perform work for the Government. In any event since benefits to the private developer cannot be obtained without conferring a wide circle of benefits to the public, employees, and the Government itself, a policy which achieves these results does accomplish the secondary objective of Government policy regarding patents and technology developed under Government sponsorship.

It is urged that the full data and discussion herein be carefully studied by those responsible for development of Government patent policy, including those charged with implementation of the Presidential Patent Memorandum of October 10, 1963. It is believed that patent policies and their implementation should be developed along lines which recognize the realities and vitality of the private enterprise system, including (a) the advantages to the Government of access to experienced organizations whose background and standards of quality would be useful, and (b) the prerequisites for promotion of new developments.

#### PRESIDENTIAL MEMORANDUM ON GOVERNMENT PATENT POLICY

**O**N OCTOBER 10, 1963, PRESIDENT KENNEDY ISSUED a memorandum to Heads of Executive Departments and Agencies on Government patent policy. This Memorandum gives added urgency to realistic appraisal of the factors with which this report is concerned. The Memorandum outlines policy guidelines with respect to ownership of inventions growing out of work sponsored by Government contract. The statement is largely silent on the importance of securing the cooperation of the most relevant organizations to serve as contractors, but clearly emphasizes the objective of greater utilization of beneficial results growing out of Government-sponsored work. Moreover, the Memorandum specifically provides that a patent advisory panel be established under the Federal Council for Science and Technology to develop recommendations and to prescribe procedures for implementation of the policy.

Basic consideration for the development of patent policy is stated to be the fact that inventions in scientific and technological fields resulting from work performed under Government contracts constitutes

a valuable national resource. The Memorandum likewise indicates that use and practice of their inventions and discoveries should stimulate inventors, meet the needs of the Government, recognize the equities of the contractor, and serve the public interest. It asserts that public interest in a dynamic and efficient economy requires that efforts be made to encourage the expeditious development and civilian use of these inventions. The Memorandum then acknowledges: "Both the need for incentives to draw forth initiatives to this end, and the need to promote healthy competition in industry, must be weighed in the disposition of patent rights under Government contracts. Where exclusive rights are acquired by the contractor, he remains subject to the provisions of the anti-trust laws."

The above summary clearly recognizes some of the basic considerations which should control in the development of sound governmental patent policy. It is necessary to realize, however, that assembly of relevant considerations is not in itself achievement of sound patent policy. Policy is sound only if it achieves the results desired. In general, the *objectives sought* by the Presidential Memorandum are the same as those considered herein to be of paramount importance. However, the Presidential guidelines then proceed to outline a variety of conditions under which ownership of inventions will be taken by the Government. It likewise prescribes circumstances under which inventions acquired by the Government may be dedicated to the public or licensed on a non-exclusive basis. The experience of private enterprise strongly suggests that without private ownership, and in the absence of the right to exploit new developments on an exclusive or more-or-less exclusive basis, there will seldom be the additional investment and effort required to bring about actual widespread use. It is, therefore, questioned whether "dedication" of inventions to the public, or widespread adoption of the policy of non-exclusive licensing will in fact achieve widespread use. Moreover, the Presidential Memorandum fails to give recognition to the need for attracting desirable organizations to serve the Government, an objective of even greater significance than secondary use.

It is in the Government's interest to enlist the most competent contractors with the most pertinent background, and this is likewise best for the nation. It would seem that the importance of such participation by the country's resources of talent and productive skill becomes even greater in matters of national defense and survival. Every reasonable effort and policy should therefore be directed to achieving the primary objective of government contracting—the effective and speedy solution of primary governmental problems, and swift implementation of such solutions into functional systems. To likelihood of success in meeting

primary objectives, can then be added the second but clearly subordinate objective of achieving widespread utilization of possible secondary benefits. Other considerations and objectives should come only after full recognition of the first two and should be subservient to them.

The Presidential Memorandum throws light on this subject, but makes all the more important the proper understanding of fundamentals. Moreover, the Memorandum itself requires periodic evaluation of the actual results of Government patent policy. Accordingly, this report, which was initiated prior to the issuance of the President's Memorandum, deals with what are regarded as basic considerations for evolution of sound Government patent policy.

#### GOVERNMENT PATENT POLICY AND ITS IMPACT ON CONTRACTOR COOPERATION WITH THE GOVERNMENT AND WIDESPREAD USE OF GOVERNMENT SPONSORED TECHNOLOGY

##### INTRODUCTION

Government patent policy vitally concerns Congress, the Executive Departments and contractors. Legislative bills on the subject filed in Congress this year include H.R. 471 (Daddario Bill), S. 1290 (McClellan), S. 1432 (Long), and S. 1623 (Saltonstall). Public and private discussions of the topic are legion. Time consuming and costly studies and investigations of related matters have been conducted for several years. These have been far reaching and involved notable contributors. Included among the major efforts have been the investigations of the Subcommittee on Patents and Scientific Inventions under Congressman Erwin Mitchell, Chairman (House Report 1633, May 19, 1960), the same Subcommittee on Patents and Scientific Inventions under Congressman Emilio Daddario, Chairman (House Report 2185 of August 14, 1962), the Subcommittee on Patents, Trademarks, and Copyrights of the Committee on the Judiciary under Senator McClellan (Hearings, April-May, 1961).

Although these subjects have been studied with care, and the queries and responses have been based upon the experience of those concerned, to date little statistical evidence has been presented as to:

- (a) the availability or non-availability of contractors to the Government as affected by Government patent policy;
- (b) the effect of Government patent policy on the flow of technology to and from work for the Government and into general public benefit; and
- (c) the importance of patents and proprietary rights to the use of such technology by private organizations.

The present study is a conscious effort to gather and to interpret

factual and statistical data in this area rather than merely to express opinions for or against certain policies. It is an attempt to evaluate the impact of Government patent policy on the Government's own interests. While the welfare of contractors is an important consideration, it is here treated as subordinate to the interest of the Nation. Nevertheless, it is essential to recognize the basic economic factors motivating the conduct of contractors, which materially influence their willingness to undertake work for the Government, and their effectiveness in implementing widespread use of new developments. This subject and its ramifications are too important, too intricate, and too difficult of comprehension to be answered with such slogans as "What the Government pays for it should get." Nor is it sufficient to assert that since employers demand the transfer to them of inventions made by employees, it is consistent and equally useful for the Government to demand transfer to it of inventions made by contractors. The role and the needs of a private economic entity and of the Government are not identical.

#### NATURE OF THIS STUDY

In an effort to obtain factual basis for this study, a questionnaire was prepared for widespread distribution. However, it was then advised that the questions dealt with subject matter of such sensitivity that general broadcast of the questionnaire would not result in candid replies. As a consequence, the questions were revised and distributed to organizations known to be contractors to the Government, or to be the types of organizations whose competence was such that their services would be of use to various Government agencies. Personal contact was made with these organizations in forwarding the questionnaire and an explanatory memorandum urged accuracy and frankness in response. It was emphasized that the information was sought in order to provide factual answers from which reliable guidance could be developed for all parties concerned—the Executive Departments of Government, Congress, and contractors. After receipt and analysis of the responses, which frequently included supplementary memoranda and letters, follow-up interviews were held to obtain more complete data on the subjects of the questionnaire and related aspects of the investigation.

The questionnaire used and—in summary—the responses obtained were as follows:

#### GOVERNMENT PATENT POLICY QUESTIONNAIRE

- (a) Size of company; number of employees: *varied from 80 to 145,000*
- (b) Sales to Government: *from zero to \$2,600,000,000*
- (c) Percentage of Government sales to total sales: *from zero to 100%*

1. Do you hold or depend on patent rights for your commercial position in one or more of your fields of operation? "Yes" 92%; "No" 7%; "Other" 1%
2. Do you work for the Government in one or more of your fields of specialization? "Yes" 77%; "No" 23%
3. Is it your policy to license others under your patents in your fields of operation? "Yes" 72%; "No" 9%; "Other" 19%
4. Are you willing to license or to give the Government background patent rights?
  - (a) for Governmental Purposes: "Yes" 76%; "No" 19%; "Other" 5%
  - (b) for commercial purposes? "Yes" 16%; "No" 19%; "Other" 2%
5. Has its patent policy been a factor in discouraging you from bidding on work for any Government agency? "Yes" 80%; "No" 18%; "Other" 2%
6. Have you actually refrained from bidding on Government work for any agency because of its patent policies? "Yes" 56%; "No" 36%; "Other" 8%
7. Does the policy of certain Government agencies in taking title to patents resulting from Government-sponsored R&D lead you to keep Government work segregated, or confined to certain divisions? "Yes" 48%; "No" 29%; "Other" 23%
8. Has your work for, or terms sought by, the Government appeared to threaten or affect your commercial position? "Yes" 51%; "No" 22%; "Other" 27%
9. Can you cite the utilization in commercial products of any know-how or patented rights developed or growing out of work for the Government? "Yes" 30%; "No" 46%; "Other" 24%
10. Can you indicate how much additional effort or expense was required to adapt or further develop the concept or know-how derived from the Government work to a generally useful product or service?  
*Where there has been experience, the added cost has been substantial.*
11. Has the devotion of your research and development or other talent and facilities to Government work slowed down or otherwise affected your production of commercial products? "Yes" 30%; "No" 43%; "Other" 27%
  - (a) Has it affected your cost of operation? "Yes" 30%; "No" 48%; "Other" 22%
12. Does the opportunity to develop know-how or patent rights provide incentive to you to undertake work for the Government?
  - (a) know-how "Yes" 83%; "No" 13%; "Other" 4%;
  - (b) patent rights "Yes" 63%; "No" 28%; "Other" 9%

*Size of Respondents, Volume of Government Contracting Represented, and Percentage of Government Work*

In soliciting responses, a careful effort was made to avoid predetermining the replies which would be obtained. Instead, an effort was made to cover representative organizations, both small and large. Some of those invited perform only small proportions of their work for the Government while others were almost wholly dependent upon Government sales. In fact, responses were obtained from small, intermediate, and large entities. The respondent with the smallest number of employees operates with a staff of 80; the largest with 140,000. Similarly the proportion of Government work performed ran from zero to 100%. The total number of employees in these organizations is more than 2,268,000 and the total procurement provided by these organizations in 1962 was well above \$10 billion. It is believed, therefore, that the organization by size, proportion of sales to the Government, and quantity of procurement, properly sample the attitudes of organizations dealing with the Government.

Because of the personal relationships used in soliciting these responses, and the knowledge of the organizations by the interrogators, it is believed that the responses

given reflect an unusual degree of candor in disclosing matters not normally made public. Moreover, the questions were designed to contain elements of self-verification. For example, Question #5 inquired: "Has the Government's patent policy been a factor in discouraging you from bidding on work for any Government agency?" and might well have resulted in a nearly unanimous "yes" response—the significant factor being to reflect discouragement or dislike of the patent policy. In contrast, Question #6 asked: "Have you actually refrained from bidding on Government work for any agency because of its patent policies?" It was expected that responses would not be anywhere nearly as affirmative. Evidence of frankness in answers, together with the more extended comments and disclosures obtained, commend these findings for serious consideration.

### *Result of Survey*

#### *Question #1. The Significance of Patents to Commercial Organizations*

At the outset, it was thought desirable to learn what importance private organizations attach to their patents. This answer was sought to supply insight into the utility of patents and related data to the organizations interrogated and, therefore, provide a basis for evaluation of reactions to Government patent policy.

Question #1 accordingly asked: "*Do you hold or depend on patent rights for your commercial position in one or more of your fields of operation?*" The answers were: "Yes" 92%; "No" 7%; "Other" 1%.

Clearly, this shows a high degree of reliance upon patents for economic position. The degree of affirmative response came as a surprise since it is generally recognized that patents alone, without a high degree of competence in production, sales and administration, will not assure success. The dependence on patent rights, shown by this vastly preponderant reply, explains to a considerable degree the strong desire of private organizations to protect the results of their research and development and to convert them into proprietary assets of the organizations. This conclusion is reinforced by the response to Question #12.

#### *Question #2. Contractors' Fields to Work for the Government*

Since it is recognized that contractors can make a particularly helpful contribution to the Government if, in fact, they work for it in fields in which they have substantial background, the second question of the survey was aimed at determining whether or not contractors do in fact serve the Government in their fields of specialization. This inquiry seemed particularly desirable to determine the possibility of enlisting contractor background competence, and also because the more relevant such background, the more realistic would seem to be the fear expressed by many organizations that work for the Government jeopardizes their proprietary position.

Question #2 of the survey, therefore, inquired: "*Do you work for the Government in one or more of your fields of specialization?*" The answers were: 77% "Yes"; 23% "No." This response should not be misunderstood. It does not say all affirmative respondents will undertake Government-sponsored R&D. It merely replies as to the nature of work performed for the Government. Nevertheless, this reply, for all of the reasons stated before, is clearly of interest to the Government. But it inevitably raises the question whether in undertaking work for the Government in their fields of commercial interest, contractors do, in fact, endanger their commercial status. If so, it is only natural for them to be reluctant to part with information which they feel threatens their proprietary position. In view of the replies to Question #8 discussed below, it is not surprising that there is great reluctance on the part of contractors to surrender foreground rights just as they

are reluctant to convey away background inventions on which they depend for their economic position.

To retain perspective on this situation, it is well to emphasize the importance of "first things first." What is it that the Government sought from the contract which gave rise to the invention? If it is, in fact, the solution to difficult problems, the enlistment of the most competent contractors and the application of their existing background for this purpose, Governmental policies should clearly be such as to encourage rather than repel participation and cooperation by organizations of this type. Government ownership of patent rights is quite secondary to this primary issue. The objective of Government policy should be, above all else, to attract and enlist competent organizations to serve the Government. That such organizations will seek to retain developments related to their fields of operation is natural. The opportunity to do so can serve as means of attracting such organizations to serve the Government. The need for wisdom in this decision is particularly emphasized in view of the fact that such organizations working in their regular areas of operation provide the greatest likelihood of the application of useful data and technology resulting from the Government-sponsored work for public benefit as described below under Question #9 and in Sections V and VIII.

#### *Questions #3 and #4. Willingness of Contractors to License Others*

Questions #3 and #4 were intended to determine whether, despite the fact that patents comprise an essential means by which contractors maintain their commercial position, they are, nevertheless, willing, under appropriate circumstances, to license others in their fields of operation.

Question #3, therefore, asked: "Is it your policy to license others under your patents in your fields of operation?" The answer: "Yes" 72%; "No" 9%; "Other" 19%, was surprising. It was anticipated that organizations dependent for their commercial position upon patents would not be willing to license others under those patents since to do so might well comprise the creation of competition which would threaten the organization's position. It is possible that this acquiescence to licensing has come about through the sustained practice of the Government in insisting upon the right to create second sources.

It may be added that the fuller responses to this question provided by many organizations clearly indicate that when commercial organizations are prepared to license or otherwise negotiate for the use of their patents; in doing so they expect to operate on a commercial or economic basis and receive value for value given. With respect to patents and technical data, the normal basis for exchange is a royalty or other compensation. Transfers of rights usually also involve affirmative assistance in transmitting know-how, drawings and related data. This is the normal method of operation. It would seem a reasonable basis for operation between commercial organizations and should provide an acceptable method for securing the assistance and support of capable, private economic entities.

Question #4 inquired: "Are you willing to license or to give the Government background patent rights? (a) for governmental purposes? (b) for commercial purposes?"

The answers to this question amplify, but confirm the conclusions from the preceding question. The responses were:

(a) For Government purposes—"Yes" 76%; "No" 19%; "Other" 5%

(b) For commercial purposes—"Yes" 16%; "No" 82%; "Other" 2%

In other words, organizations are willing to license the Government for governmental purposes. They are quite unwilling to license the Government for commercial purposes. Hence, almost universal objection to the taking of title to inventions by the Government.

*Questions #5 and #6. Effect of Government Patent Policy on Willingness of Contractors to Work for the Government*

It is considered vital to the Government's primary interests to be able to enlist contractors with relevant work experience for the Government in areas of difficulty and uncertainty. It is known that many organizations disapprove of Government patent and data policies. It was accordingly thought desirable to learn (a) the extent of such disapproval; and (b) whether disapproval went so far as to result in organizations actually refusing to work for agencies of the Government with whose policies they disagreed. Frankly, it was expected that dislike of Government patent policies would be universal, but that actual refusal to enter into contracts would be rare.

Question #5 inquired: *"Has its patent policy been a factor in discouraging you from bidding on work for any Government agency?"*

The answers were: "Yes" 80%; "No" 18%; "Other" 2%.

Question #6 asked: *"Have you actually refrained from bidding on Government work for any agency because of its patent policies?"*

Answers: "Yes" 56%; "No" 36%; "Other" 8%.

Many, but not all, organizations dislike Government patent policy (and, it may be added, based on interviews, Government data policy). At least a portion of the acquiescence in the policy comes from organizations created expressly—and usually exclusively—to serve the Government. Contrary to expectation, this dislike to the patent policy is carried into positive refusal to work for agencies whose policies are disapproved. This reply—56% actually not taking work—came as a surprise. It refutes the easy assumption by those who maintain that no matter what the policy, bidders will take Government contracts.

*Under these circumstances, it would seem that objectionable policies eliminate more than half of potential desirable contractors. This is of enormous significance to the Government, both from the aspect of cost of work and even more with respect to the competence and efficiency with which it will be performed. If we assume that early and effective implementation of defense capability, at reasonable cost, is the prime objective of defense contracts, especially those involving difficult R&D, the answers given to Question #6 (and also Question #7 to be discussed) are cause for concern. They are sufficient cause for alarm so that they should lead responsible Government personnel to ask whether policies which produce their result should not be revised. How can it possibly be in the interest of the Nation to have its defense, space and other programs refused by competent organizations, or if undertaken, handled with obvious reluctance and isolation from the best know-how and talents of the organizations?*

*Question #7. Integration or Isolation of Government Work Within Contractor Organizations*

Because it is known that some organizations, which disapprove of the patent policies of certain agencies, nevertheless do undertake work for them, Question #7 sought to explore how such organizations reconciled themselves to the objectionable policies or performed work for the Government in ways which would not be injurious to them.

Question #7 therefore asked: *"Does the policy of certain Government agencies, in taking title to patents resulting from Government-sponsored R&D, lead you to keep Government work segregated, or confined to certain divisions?"*

The answers were: "Yes" 48%; "No" 29%; "Other" 23%.

A further objective of this question was directed to determine whether the way in which contractors administer work for the Government within their organizations contributes to or is likely to impede the flow of technology from (a) the



contractor to the Government work and (b) from Government work back into the general operations of the contractor. It was thought significant to inquire into these aspects both to provide a check on the accuracy of the answers given to the preceding question, and also because of the direct relevance of the manner of operation to the likelihood of widespread utilization of findings made in work for the Government.

As might be expected, whether or not work for the Government is segregated, receives different consideration and varying treatment within different organizations. Particularly in the case of contractors which are essentially purely Government service organizations, the motives for segregation are not nearly as strong as in organizations which are basically commercial in orientation. Where the organization is created to serve the Government, isolation is seldom practiced. Likewise, other considerations, such as the degree of classification, or volume of work, will influence whether or not work for the Government is carried out as part of the organization's general operations or is treated as a separate and segregated operation.

From discussion with various organizations, it is evident that isolation of Government work is practiced for a variety of reasons. These range from the protection of proprietary rights to an endeavor to segregate costs associated with work for the Government. For whatever reason, *the fact that 48% of contractors practice segregation of Government work because of Government patent policy and only 30%, or roughly one-third do not practice such isolation, is of considerable significance.* Where there is segregation of Government work, it is clear that such work does not readily receive the benefits of know-how and skill in the contractor organization. Nor can Government work performed in isolation readily feed back contributions into the general operations of the contractor, unless a positive effort is made to transmit technology derived from Government work into the remainder of the organization—as by rotating personnel, arranging liaison with other members of the organization, or further and more or less unusual and additional steps than mere continuance of the regular operations of the organization. In other words, where there is isolation of Government work, there will not, in fact, be effective transfer of technology to and from Government work and the organization's regular operations. This is contrary to everyone's interests—the Government, the contractor and the public.

Impediments to the flow of technology into the regular operations of contractors is particularly regrettable. *It would appear that in the usual case it is the organization which makes discoveries or developments in the course of Government work which is in the best position to utilize such technology. As noted before, the new developments are likely to be in the field of the organization's regular operations. For this reason and because the development took place within the same organization, problems of communication should be at a minimum. It would therefore seem particularly undesirable that Government policies would reduce the likelihood of utilization by isolating Government work from the remainder of the organization.* In contrast, if personnel are the same, whether the work be for the Government or for commercial purposes, there is no real problem of transfer of technology. Similarly, if personnel are rotated from Government work to the remainder of the organization, know-how requires change of organization, or further steps at transfer than would be required if there is close integration of work for the Government with all other operations of the organizations, clearly, isolation should be minimized where at all possible.

It is believed that a proper policy on the part of the Government, coupled with efforts to explain the virtues of integrated operation, would be a significant contribution to the transfer of technology and the widespread utilization of new knowledge developed in work for the Government. Moreover, it must be recognized that isolation or segregation is harmful in both directions—it impedes flow of the

contractor's technology to the work for the Government as well as from it to the other operations of the organization. Therefore, appropriate steps to reduce isolation of Government work are clearly necessary in the interest of the Government for achieving both primary and secondary objectives.

*Question #8. Government Work Considered a Threat to Commercial Position*

Question #8 was intended to explore reasons which make many organizations reluctant to undertake work for the Government.

Question #8 asked: *"Has your work for, or the terms sought by the Government, appeared to threaten or affect your commercial position?"*

Answers: "Yes" 51%; "No" 22%; "Other" 27%.

The responses received were a surprise. It was not thought that such a preponderantly large percentage, 50% to 70% (the higher figure is observed when "other" is interpreted) of respondents would consider that their service to the Government was a threat to their commercial position. Under these conditions, it is not surprising that many organizations entirely refuse to undertake work for the Government, especially work of a research and development nature in which proprietary rights become endangered. *The significance of this attitude on the part of contractors should not be overlooked by the Government. It is hardly to be expected that contractors will devote themselves enthusiastically to assignments they consider to threaten their commercial position.* It is relatively immaterial whether Government policies do, in fact, threaten the organizations. The ill effects will follow from the mere belief that Government terms are adverse to the organization.

It is believed that this general subject and the extent of unwillingness of contractors to undertake work for the Government is not understood in many quarters of the Government. For example, some officials frequently take comfort from the fact that they are able to secure respondents to their invitations for bid. But is this really sufficient? The question with which those responsible for good work should be concerned is—"Are we enlisting the most capable organizations, most likely to succeed in solving our problems, and to do so with minimum loss of time and at reasonable cost?" It is far from sufficient that some organizations of unproven skill will respond because they seek to enter fields new to them. Or that those organizations which do respond, arrange to operate in ways which do not enlist their best talent or secure access to their best know-how. Data in this area is difficult to obtain. It is not believed that anyone, including the Government agencies themselves, are aware of the extent to which capable organizations are withholding cooperation or do not undertake to participate in work for the Government. Moreover, it is believed that appearances may be deceptive in that organizations will only undertake subsequent stages of effort for the Government, or will do so only at fixed-price terms which do not include obligations to transmit technology, but will refuse to do so on the conditions normal to research and development. *It is believed that this is an area well worthy of further study and careful evaluation.*

*Question #9. Utilization of Government-Sponsored Technology.*

Question #9 was directed to explore the utilization in commercial products of any developments growing out of work sponsored by the Government. Accordingly, Question #9 inquired: *Can you cite the utilization in commercial products of any know-how or patented rights developed or growing out of work for the Government?"*

Responses are interesting and revealing—"Yes" 30%; "No" 46%; "Other" 24%. This should be reassuring to Government administrators interested in the transfer

of technology. *The fact that 30% and a substantial proportion of the "Others," or at least one-third of the organizations had experienced transfer, is likewise evidence that contractor organizations, under appropriate circumstances, are in a position to make use of technology developed in the course of their programs for the Government and to pursue this effort more actively under proper circumstances.*

Indeed, in view of the greatly simplified problems of transfer of information, it is believed that the contractors who develop the new data (which responds to Question #2 indicate will usually be in the fields of normal operation of the organizations) will probably be the most frequent if not actually the best organizations to make wider use of the new developments.

*Question #10. Added Effort and Cost of Adapting Developments from Government Work to General Use.*

Since it was realized that relatively seldom would it be possible to offer the commercial market the identical product developed in the course of service to the Government, it was considered desirable to explore the extent of further effort and cost involved in making such transfers for general use. It was realized, of course, that efforts to trace specific items, while they would provide specific answers, would have to be evaluated with care since the exact difficulties or costs of transfer with respect to one invention might be quite different from those involved in applying others.

As might be expected, the answers indicate a wide range of additional effort and costs. *In almost every case, it is evident that the cost of further development and utilization greatly exceeds the initial cost of conception or invention.* The extent to which costs subsequent to the inventive act are required is illustrated in a number of instances. These costs frequently run from 50 to 100 times the cost of initial development. Examples of such developments are cited in the notes.

It is of interest to note that the expanded comments obtained clearly reveal that the benefits from undertaking Government work are usually of a generalized character. Ordinarily they comprise technology or skill which can be given other applications, rather than the immediate transfer of identical items or services from military to civilian purposes. This is not surprising since it would hardly be expected that there would be exact counterparts to weapons, space vehicles and the like. It is evident that "transfer" or "fall-out" is not easy or automatic, but will require ingenuity, perseverance, and almost certainly substantial cost. Moreover, as military, space and other Government requirements become more specialized, not only will the opportunity for direct fall-out be reduced, but the necessity for and cost of adaptation will be increased.

*Question #11. Impact of Work for the Government on Other Work of the Contractor.*

Question #11 was intended to learn the extent to which work for the Government displaces or impedes the regular work of the organization. This was considered important in the light of the general belief that the use of scarce talent on Government assignments has now risen to such a level that it undermines and postpones the prosecution of work of more general application to the public.

Question #11 therefore inquired: *"Has the devotion of your research and development or other talent and facilities to Government work slowed down or otherwise affected your production of commercial products? Has it affected your cost of operation?"*

Answers: (a) "Yes" 30%; "No" 43%; "Other" 27%

(b) "Yes" 30%; "No" 48%; "Other" 22%

It would seem to be of serious consequence that the number of organizations

which consider that their work for the Government has *not* adversely affected their other activities is a relatively small minority. *In contrast, a substantial proportion of respondents consider that their general activities have been adversely affected.* The replies, which are neither "yes" or "no", discuss in more detail the impact of Government work on their general activities. The "no" answers likewise reflect the experience of organizations which perform no work for the Government or sell only regular commercial products to the Government. Since a number of organizations have been created expressly to serve the Government, it is not surprising that some of these organizations can declare with accuracy that their Government work has not imposed any sacrifice on their operations. This does not, however, overcome any effect of withdrawing their staff from civilian operations where contributions to the general welfare would be direct.

If, in fact, the volume of work now being undertaken by the Government, directly or through contractors, is undermining the general progress of the economy through diversion of a disproportionate part of the nation's scientific and engineering talent, this is a factor which should be understood. Then perhaps it could be taken into account in the policies under which work for the Government is performed in such a way as to minimize adverse effects. Clearly, there would be less feeling on the part of organizations that their work for the Government was proving harmful, if they felt that they were able to derive substantial benefits by retaining and applying know-how developed by them in the course of work for the Government for the advancement of their commercial operations. Indeed, to the extent that they were given incentive to do so, work for the Government instead of being a detriment to their regular activities, might be regarded as augmenting and supplementing them.

The second portion of the question concerned the extent to which work for the Government has affected the cost of the contractors' operations and their regular work. This inquiry was included because of the frequently heard assertion that work on Government assignments, especially work performed on cost reimbursement terms, has led to such competition for technical and engineering personnel that the cost, not only of individuals recruited for Government work but of others also, has been substantially raised. Likewise, it is the experience of contractors that the performance of Government work frequently requires the use of added measures of security, accounting, and other procedures which increase cost of operation.

It is significant that so large a proportion of those questioned answered that the performance of work for the Government had increased their cost of operation.

*Question #12. Opportunity to Develop Know-How as Incentive to Undertake Work for Government.*

Question #12, the last of the survey, inquired: "*Does the opportunity to develop know-how or patent rights provide incentive to you to undertake work for the Government?*"

- Answers: (a) Know-how—"Yes" 83%; "No" 13%; "Other" 4%  
 (b) Patent rights—"Yes" 63%; "No" 28%; "Other" 9%

This question was included in order to explore the motivation of organizations undertaking work for the Government. It seemed particularly worthwhile to make this inquiry to determine the impact of the varied patent policies of different Government agencies. It is quite clear from the responses that work is undertaken for the Government in the hope of acquiring know-how and patent rights. If this objective on the part of contractors is to be exploited or maximized in the interest of the Government, it is clear that regulations or contract terms which deprive the organization of know-how or patent rights will certainly adversely affect this motivation.

It is particularly pertinent that the more able the contractor, and the more relevant the organization's proprietary rights, the more directly will contract terms requiring surrender of know-how or patent rights act against the interest of the contractor. Accordingly, it would be the most appropriate potential organizations which would be most repelled from undertaking work for agencies of the Government which employ terms that are regarded as undesirable. This clearly does not serve the Government's primary interest in securing experienced assistance in prompt development of concepts and speedy and efficient implementation into operating systems. Moreover, experience has clearly shown that in the absence of proprietary or exclusive rights, the likelihood of new developments being brought to widespread commercialization is greatly reduced. Thus even the secondary interest of securing further application of technology developed on such contracts would be defeated by a policy which deprived organizations of incentive to make such utilization.

#### CONSEQUENCES TO CONTRACTOR OF UNDERTAKING R&D FOR THE GOVERNMENT

##### (a) *The Function of R&D to the Contractor*

The United States and the free world believe in the virtues of free and fair intellectual and trade competition to keep their societies and organizations efficient and productive in the interest of their people. Under this philosophy each nation and each institution seeks progress not by force, tariff, quota exclusion, or other form of protection, but by offering better goods and services. To reach the widest market, it seeks to improve its production and distribution processes so that its costs, as well as its quality, will be competitive. Thus, competition in concept and design, as well as quality and cost, is the life principle of the free economic system. Since constant improvement is an essential to success under this system, it is the function of organized R&D to provide the required flow of new products, services and methods to each competing entity. This is the purpose and contribution of R&D to each contractor in the free competitive enterprise system.

Although in recent years it is becoming more usual for organizations to engage in research as a form of operation and an end in itself, in the majority of entities the R&D department is not really intended to perform in this way. Indeed, if it does so to the neglect of the needs of its own parent institution, it jeopardizes the survival of both the R&D function and the organization. Rather, it is the normal function of an R&D department to provide a continuing stream of improvements in existing products and processes, or to develop wholly new items or services, for the organization to offer its customers. This is the true utility of research in a competitive organization and it is desirable and necessary that it should be so. By this means, likewise, the public is offered increased value through improved products and services at

costs which make them widely available. This is the true foundation of a "rising standard of living" and continued and secure employment for the staff of an economic entity. This too is the acceptable basis on which American enterprise must meet foreign competition.

Because of this service function of the R&D department, it is relatively undesirable for most contractors to engage in R&D activities which will not result in products and services to be produced by the other departments of the organization. As a consequence, it is entirely natural for contractors undertaking R&D for the Government to do so in the hope and expectation that the Government-sponsored R&D will provide opportunity for follow-on production. For this purpose, it is to be expected that the contractor will seek to retain inventions and technology resulting from its work and seek to apply them in all its operations. This is the normal functioning of the enterprise system. It can serve the Government's and the Nation's interest if the organization's work for the Government is performed under conditions which encourage the contractor to incorporate its best proprietary technology and know-how, and subsequently to utilize any generally useful developments in all its products and services.

In the light of realization that the general economy may be suffering from too great a diversion of R&D talent from civilian purposes, *or may be operating in ways which are impeding the flow of the results of the Government's huge R&D programs into the economy*, it is desirable to determine whether present Government policies may be contributing to the slowdown in the creation of new civilian technology and resulting employment opportunities. This is especially necessary with respect to the policies which affect the creative R&D functions of contractors and their motivation with respect to contribution of their technology to Government programs, and utilization of technology derivable from Government programs in products and services for the civilian economy.

#### *(b) Effect of Use of Scarce Manpower*

It is well known that the supply of scientists and engineers and other specialists required for truly effective R&D is limited. The extent of this limitation can be judged from the fact that in 1962 only approximately 400,000 professional scientists and engineers out of a population of 180 million were devoted to all types of R&D, private and public. Even more telling is the assertion that, of all persons engaged in R&D, really major new developments spring from only 200 or 300 significantly creative individuals. All others are concerned with problems of application and working out the details of the conceptions

originated by the small group. These statistics are provided by the National Science Foundation in the first instance and by the President of the Logistics Management Institute of the Department of Defense and have not been challenged.

According to analyses of Government agencies, Federal Government projects engaged 70 percent of all scientists and engineers employed in R&D in 1962. This means that of the 400,000 total professionals engaged in R&D in that year, 280,000 were devoted to Government projects and only 30 percent or 120,000 were available for private sector problems. It is now widely questioned whether this use or diversion of R&D personnel and effort from programs of general application to the economy is not responsible in part for the slowdown in the economy and the continuing high level of unemployment. It is significant that, as shown in the answers to Question #11 of the Questionnaire, a sizeable preponderance of organizations state that work for the Government has slowed down the introduction and promotion of commercial products. For further related aspects, see below.

*(c) Effect on Contractor's Commercial Business*

The effect of Government projects in drawing scarce R&D manpower away from commercial projects has been indicated by the statistics cited above. However, in the experience of a number of contractors, the impact of Government R&D on their private operations is magnified in other ways as well. This is said to come about through the scientific and engineering appeal of many Government projects, and particularly the extent to which such programs are operated with finer, more ample, or more recent laboratories and equipment. Likewise, it is asserted that the approximately one-half of private industrial research which is devoted to improvement of existing products and processes is aimed at cost reduction and only modest improvement in civilian goods and services. Even though cost reduction is necessary and desirable, it is alleged that this type of work holds less professional appeal than the challenges of nuclear energy, space conquest and the achievement of major advances in defense systems. For whatever reasons, many responsible private organizations assert that they find it difficult, if not impossible, to staff adequately for their commercial R&D. Likewise, they find the costs of such staffing, and the demands for facilities and equipment comparable to those used by the professionals engaged in Government-sponsored R&D, to be so costly as to make it increasingly difficult to use R&D for private purposes.

There are private directors of research who deny any inadequacies of their commercial work or environment. Nevertheless, the results

of the questionnaire, specifically the answers to Question #11, but even more clearly the results of interviews, definitely indicate that in the experience of many contractors, the devotion of R&D and other talent and facilities to Government work has in fact slowed down or otherwise adversely affected their production of commercial products. It has likewise raised their costs of operation. These effects certainly have their impact on the economy. Actions which could be taken by the Government to minimize adverse effects of this type are discussed below.

One further effect of Government patent policy which cannot be overlooked is its effect on the willingness of personnel to be assigned to work for the Government. This situation is not always clear because frequently the Government assignment is quite challenging from a scientific, engineering or other professional viewpoint. On the other hand, if relatively low rates of profit and return on net worth are earned by working for the Government (as is borne out in other studies), a policy which denies to the contractor title to inventions or opportunity for exclusive rights to commercialize such rights, further lessens the attractiveness of Government work. Likewise, because most organizations reward their employees in proportion to their economic contribution to the organization, it is a fact that in a number of desirable organizations, those responsible for administering Government work find difficulty in staffing Government projects with desired personnel. Resistance is met both at the administrative level and on the part of professional employees themselves, who see bonuses and promotions threatened by removal from the commercial effort of their organization and assignment to Government projects.

*(d) The Significance of Patents and Technology to Contractors*

Responses to Question #1 of the questionnaire indicate that many contractors depend on patent rights for their commercial position, which for many is their very existence. The answers reveal that this is of vital concern. Individuals familiar with such entities can readily understand this situation. Many organizations have sprung from an inventive concept or a newly developed technology. To the public this provides new or improved products or services, and is the source of jobs, income and tax revenues.

Outstanding examples of the importance of patents to commercial organizations are many, but can perhaps be illustrated by citing the example of the Land or Polaroid cameras. In this instance, patents permitted a new and small organization to become a major factor in the photographic industry in the face of the well-established market



positions and economic strengths of such giant competitors as the Kodak Company and General Aniline and Film Company. Similarly, new technology making possible the production of glass fibers was responsible for the Fiber Glass Corporation and several new members of the industry with attendant introduction and availability of fireproof drapery, insulation, plastic-glass laminates and a host of new products. The development of nylon by the DuPont Company is another striking example of new and patented material created only after substantial investment—in this case, stated to be many millions of dollars—which has made a definite and continuing contribution to the welfare of the public. The fact that the new products have been profitable for their developers and sponsors in no way denies their wide public benefits. Rather, it is the plow-back reinvestment of the profit above immediate costs which has made possible the improvements and large scale availability and usefulness of the products.

The report describes eight companies derived from newly developed technology. In the interest of brevity, this portion of the original is eliminated.

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EDITOR'S NOTE: *This report on "Government Patent Policy—Its Impact on Contractor Cooperation with the Government and Widespread Use of Government Sponsored Technology" will be concluded in Volume 9, Number 1. For the convenience of our readers we set forth below a list of contents of the concluding part of this report.*

#### OBJECTIVES OF GOVERNMENT CONTRACTING FOR R&D

- (a) First Things First—Wanted: Weapons, Space Systems and Tangible End Results
- (b) Maximizing Secondary Benefits
- (c) Assurance of Competitive Supply and Multiple Sources of Procurement
- (d) Government's Dependence on Private Proprietary Rights and Technology
- (e) Patents and Technology as Incentives to Seek Government Contracts
- (f) Requirements for Widespread Public Use
- (g) Likelihood of Use as Affected by Ownership

#### THE RESPECTIVE CONTRIBUTIONS OF THE INVENTOR AND THE ENTREPRENEUR

- (a) The Separate Roles of Inventor and Entrepreneur
- (b) The Requirements and Comparative Investments and Risks of Each
- (c) Function of the Patent in Attracting and Protecting the Entrepreneur

#### EXPERIENCE IN GETTING INVENTIONS AND TECHNOLOGY USED

- (a) Government Experience
- (b) Experience Under Private Ownership and Exploitation

**SOME BASIC PROBLEMS IN SECURING USE OF GOVERNMENT PATENTS AND TECHNOLOGY**

- (a) Inherent Difficulty of Subject Matter and Communication
- (b) Required Further Know-How, Effort and Cost
- (c) High Mortality of New Concepts and Products
- (d) Necessity for Favorable Terms and High Rates on Successful Few
- (e) Problems in Selecting Concepts to Promote and License
- (f) Difficulties of a Centralized Every-Subject Promotion Agency

**SOME UNOBVIOUS BENEFITS TO THE GOVERNMENT AND THE PUBLIC FROM WIDESPREAD  
USE**

- (a) Lower Costs, Availability of Parts and Service, and Continued Development
- (b) General Contribution to the Economy

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## STUDENT PAPERS

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By making available student papers, students will receive an incentive and our readers will appreciate the evidence of scholarly development in the fields of interest. These papers are carefully reviewed by the Editorial Committee and other specialists, and helpful suggestions are made to the students as part of the educational function of *IDEA*. The Research Institute invites educational and research institutions to submit informative student manuscripts on the patent, trademark, copyright, and related systems.

### Product Simulation—Before and After The Stiffel Case

DAVID S. UREY\*

#### INTRODUCTION

**T**HIS PAPER DEALS WITH THE ORIGINATOR of a new design for a product and the protection against competitors available to him. In some cases, the originator secures a design patent;<sup>1</sup> in others, he relies on his common law rights based on unfair competition. Large sums of money are often spent on advertising the product in order to promote customer identification and recognition of the product. Where the design is distinctive and original, the public begins to recognize the product by that design. If the public is pleased with the product itself, the design will begin to acquire value in the sense of goodwill and customer satisfaction. When anything commences to have value, it is human nature that others will seek ways to usurp that value. The usual case is that competitors will simulate the design of the successful product in an attempt to acquire some of the customers of the successful originator. When the design copying becomes too gross, a lawsuit is instituted to test the validity and infringement of the design patent, if any, or to

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\*Mr. Urey, while a senior in The George Washington University Law School, submitted this paper in partial fulfillment of the requirements for the Seminar and Lecture Series given by The PTC Research Institute in conjunction with The George Washington University Law School.

determine whether any legally cognizable unfair competition is present.<sup>2</sup>

This paper will attempt to analyze the rights of the parties where there is no valid design patent, with particular emphasis on the doctrine of "secondary meaning."<sup>3</sup> The meaning and effect of the Supreme Court cases of *Sears & Roebuck Co. v. Stiffel Co.*<sup>4</sup> and *Compco Corp. v. Day-Brite Lighting, Inc.*<sup>5</sup> will be considered first.

### THE *Stiffel* AND *Day-Brite* CASES

The Supreme Court has engrafted a change on the law of unfair competition. The *Stiffel* case involved a "pole lamp" the design of which was originated and patented<sup>6</sup> by the plaintiff, Stiffel. The defendant, Sears, had admittedly copied Stiffel's design of pole lamps down to the last detail and was competing with Stiffel. Also, there was some evidence of customer confusion<sup>7</sup> as to the source of the lamps. Stiffel in alleging unfair competition placed great emphasis on the "sensation" which the lamp created when first introduced and the extensive advertising which Stiffel conducted.<sup>8</sup> Such arguments tended to support Stiffel's claim of a "very successful and very well-known appearance,"<sup>9</sup> but fell short of proving that the product had acquired the requisite secondary meaning in the trade.<sup>10</sup> In arguing that a showing of palm-ing off, or secondary meaning, was no longer necessary in Illinois, Stiffel

<sup>1</sup>35 U.S.C. § 171 (1958).

<sup>2</sup>See generally Oppenheim, *Unfair Trade Practices* 500 (1950).

<sup>3</sup>It is to be understood that the doctrine of "secondary meaning" has application in cases where there has been no patent granted; however, the problem is more acute where the originator spends money advertising the design, believing that he has patent protection, and then finds that the patent is invalid.

<sup>4</sup>376 U.S. 225, 140 U.S.P.Q. 524 (1964).

<sup>5</sup>376 U.S. 234, 140 U.S.P.Q. 528 (1964).

<sup>6</sup>U.S. Patent 2,793,286, Stiffel, May 21, 1957; U.S. Design Patent 180,251, Stiffel, May 7, 1957.

<sup>7</sup>Buyers of Marshall Field & Co. and John M. Smyth Furniture Co. testified concerning conversations with customers about the Stiffel lamp and the Sears lamp. Plaintiff (Stiffel) argued that the testimony indicated the customers were confused as to whether or not the Stiffel lamps which they purchased were not the same as those sold by Sears at a lower price. Plaintiff's Reply Brief, p. 15. Defendant (Sears) contended the testimony was merely a complaint about the price and was not an indication of distinctiveness. Brief for Defendant-Appellee, p. 40.

<sup>8</sup>Plaintiff's Reply Brief, pp. 13-14.

<sup>9</sup>*Id.* at 15.

<sup>10</sup>See *Sinko v. Snow-Craggs Corp.*, 105 F.2d 450, 452-53, 42 U.S.P.Q. 298, 301 (7th Cir. 1939); cf., *Norwich Pharmacal Co. v. Sterling Drug, Inc.*, 271 F.2d 569, 572-73, 123 U.S.P.Q. 372, 376 (2d Cir. 1959), cert. denied, 362 U.S. 919, 124 U.S.P.Q. 535 (1960).

cited only one Illinois case<sup>11</sup> where the Court had found no unfair competition. Sears argued that Illinois law required a showing of either palming off or secondary meaning coupled with likelihood of confusion.<sup>12</sup> The Circuit Court chose not to follow the precedent cited by the plaintiff or that of the defendant, but instead relied on a line of Illinois trademark and trade name cases which held in effect that it was unnecessary to prove more than the likelihood of confusion as to the source of the products in order to make out a case of unfair competition.<sup>13</sup>

The *Day-Brite*<sup>14</sup> case involved patented<sup>15</sup> reflectors for fluorescent ceiling lights, but otherwise the facts were very similar to the *Stiffel* case. After holding the design patent invalid, the Circuit Court<sup>16</sup> found the defendant, Compco, guilty of unfair competition by copying both the nonfunctional and functional design features of Day-Brite's lamp.<sup>17</sup> The trial court, while not specifically finding that the goods had acquired a secondary meaning, did find that "the appearance of the . . . [product had] the capacity to identify the plaintiff in the trade and . . . [did] in fact, so identify the plaintiff to the trade. . . ."<sup>18</sup> Defendant argued that its product was clearly labeled and that the purchasers were experienced, but the Court found some evidence of actual confusion among the public as to the source. The Court reasoned that, since the design of the product had the capacity to identify its source as do trademarks, the design was protectable.<sup>19</sup> The Court concluded that several other choices of design were available to defendant to satisfy the functional needs of the product, and that the use of precisely the same

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<sup>11</sup>*Maytag Co. v. Meadows Mfg. Co.*, 35 F.2d 403, 404 (1929). The court stated broadly that an originator has no complaint "unless in copying . . . [the copier] has reproduced, not only the essential, but also the non-essential, features of the machine to the extent that the ordinary purchaser is confused and deceived by the result to the extent that he mistakes" the copier's machines for the originator's.

<sup>12</sup>313 F.2d 115, 118, 136 U.S.P.Q. 292, 294 (7th Cir. 1963).

<sup>13</sup>*Independent Nail & Packing Co. v. Stronghold Screw Prods., Inc.*, 205 F.2d 921, 926, 98 U.S.P.Q. 172, 176 (7th Cir. 1953), citing, *Investors Syndicate of America, Inc. v. Hughes*, 378 Ill. 413, 38 N.E. 2d 754 (1941), and *Lady Esther, Ltd. vs. Lady Esther Corset Shoppe*, 311 Ill. App. 451, 46 N.E. 2d 165 (1943).

<sup>14</sup>*Supra*, note 5.

<sup>15</sup>U. S. Design Patent 176, 367, Dec. 13, 1955.

<sup>16</sup>Two of the circuit court judges in the *Day-Brite* case also heard the *Stiffel* case.

<sup>17</sup>311 F.2d 26, 136 U.S.P.Q. 17 (7th Cir. 1962).

<sup>18</sup>*Id.* at 29, 136 U.S.P.Q. at 19. See also *Restatement, Torts* § 741 (1938).

<sup>19</sup>*Id.* at 30, 136 U.S.P.Q. at 19. It can be argued that the court in effect made a finding of secondary meaning when it found the design had the "capacity to identify."

design as that used by plaintiff was likely to cause confusion and was not in accordance with principles of "old fashioned honesty."<sup>20</sup>

Thus, in both cases the Seventh Circuit upheld the lower court findings of unfair competition based on product simulation, while holding, and not insignificantly, that plaintiffs' patents were invalid. Pursuant to those findings, the Court enjoined the defendants from making lamps of a design similar to those of the plaintiffs. In both cases the Supreme Court overruled the Circuit Court's finding of unfair competition on the basis that the Federal Government, by its extensive legislature in the area, had pre-empted the rights of the states to grant monopolies in articles of trade. The Court went so far as to say:

That an article copied from an unpatented article could be made in some other way, [commercial necessity doctrine] that the design is "nonfunctional" and not essential to the use of either article, that the configuration of the article copied may have a "secondary meaning" which identifies the maker to the trade, or that there may be "confusion" among purchasers as to . . . who is the maker, may be relevant evidence in applying a State's law requiring such precautions as labeling; however, neither these facts nor any others can furnish a basis for imposing liability for or prohibiting the actual acts of copying and selling, regardless of the copier's motives. Cf. *Kellogg Co. v. National Biscuit Co.*, 305 U. S. 111, 120 (1938).<sup>21</sup> [Emphasis added.]

The Court stated that the Federal patent and copyright laws, like other laws of the United States enacted pursuant to constitutional authority, are the supreme law of the land, and when a state law touches on an area of those Federal statutes, Federal policy may not be set at naught and its benefits may not be denied by state law, even if state law is enacted in the exercise of an otherwise undoubted state power, citing the United States Constitution.<sup>22</sup> With this setting, the status of the law before these two decisions will be considered.

#### BACKGROUND LAW

In the absence of statutory protection, it has been held that a party may copy the design of the goods of another down to the last detail, so long as the goods have not acquired a secondary meaning and the copier does not represent his goods to be those of the originator, i.e., there is

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<sup>20</sup>See *Radio Shack Corp. v. Radio Shack, Inc.* 180 F.2d 200, 206, 84 U.S.P.Q. 410, 415 (7th Cir. 1950). The court in a trade name case provided a new test for unfair competition, i.e., "in all cases of unfair competition, it is principles of old-fashioned honesty which are controlling."

<sup>21</sup>*Supra*, note 5 at 238, 140 U.S.P.Q. at 531.

<sup>22</sup>*Supra*, note 4 at 229, 140 U.S.P.Q. at 527. See generally Arnold, "A Philosophy . . . : The Sources and Nature of Product Simulation Law," 54 *Trademark Rep.* 413 (1964); 42 *Cornell L. Q.* 398, 406 (1957); Note, "Protection for the Artistic Aspects of Articles of Utility," 72 *Harv. L. Rev.* 1520, 1531 (1959).

no "palming off".<sup>23</sup> A party will not be permitted fraudulently to palm off his goods as those of another, whether his misrepresentations are made by word of mouth or by simulating the collocation of details of appearance by which the consuming public has come to recognize the product of his competitor.<sup>24</sup> In a now famous case, Judge L. Hand applied the doctrine of secondary meaning to design copying<sup>25</sup> when he stated in *Crescent Tool Co. v. Kilborn and Bishop Co.*<sup>26</sup> that there is an actionable secondary meaning when the originator's design

has become associated in the public mind with the first comer as manufacturer or source, and, if a second comer imitates the article exactly, so that the public will believe his goods have come from the first, and will buy, in part, at least, because of the deception.<sup>27</sup>

Judge Hand further stated, "the defendant . . . may copy the plaintiff's goods slavishly down to the minutest detail . . . but he may not represent himself as the plaintiff. . . ."<sup>28</sup> It has been argued that the earlier cases of product and label copying furnished little basis for the Hand pronouncement, and that the concept of privileged copying in the absence of secondary meaning was not discernable in the cases prior to 1911.<sup>29</sup> Prior to that time the test of permissive copying was quite simple: Could the copying be justified on the basis of actual *commercial necessity*?<sup>30</sup>

In any event the doctrine of secondary meaning since the Hand pronouncement has been widely followed as the test. In other words, if the originator's goods have acquired such distinctiveness that the public is moved to buy the product at least in part because of its source, others will be enjoined from copying the product if there is

<sup>23</sup>See *Zangerle and Peterson Co. v. Venice Furniture Novelty Mfg. Co.*, 133 F.2d 266, 270, 56 U.S.P.Q. 351, 354 (7th Cir. 1943); *Sinko v. Snow-Craggs Corp.*, 105 F.2d 450, 452-53, 42 U.S.P.Q. 298, 301 (7th Cir. 1939); *Cheney Bros. v. Doris Silk Corp.*, 35 F.2d 279, 3 U.S.P.Q. 162 (2d Cir. 1929), cert. denied, 281 U.S. 728 (1930). See generally 87 C.J.S. Trademarks, § 118 (1954).

<sup>24</sup>*Sinko v. Snow-Craggs Corp.*, *supra*, note 23, at 452, 42 U.S.P.Q. at 300; *Enterprise Mfg. Co. v. Landers*, 131 F. 240, 241 (2d Cir. 1904). See generally 1 Nims, *Unfair Competition and Trademarks*, 380-85 (4th ed. 1947); Note, "Developments in The Law of Trade-Marks and Unfair Competition," 68 *Harv. L. Rev.* 814, 852-56 (1955).

<sup>25</sup>For a discussion of the very early English cases on the subject, see Treece, "Protectability of Product Differentiation: *Is or Ought Compared*," 18 *Rutgers L. Rev.* 1019, 1030 at n. 27 (1964).

<sup>26</sup>247 F. 299 (2d Cir. 1917).

<sup>27</sup>*Id.* at 300.

<sup>28</sup>*Ibid.*

<sup>29</sup>"Unfair Trade in the Simulation of Rival Goods," 48 *Trademark Rep.* 1173, 1176 (1958).

<sup>30</sup>*Id.* at 1176.

likelihood of confusion.<sup>81</sup> A party may not adopt the dress, nonfunctional design, and individual marks with which the public has become familiar throughout the years in identifying a product as one manufactured by a competitor.<sup>82</sup>

This was the law and has been the law in most state and Federal Courts until the recent *Stiffel* and *Day-Brite* cases. The essence of what the Supreme Court has changed is that a recovery cannot be based on a finding of a secondary meaning in the design of an article of commerce even though there is a likelihood of confusion as to the source. The states may require labeling, but they may not grant an injunction or damages on the mere act of copying a distinctive article design which is unpatented and uncopyrighted.

The *Stiffel* and *Day-Brite* cases run contrary to the Tentative Draft of the Restatement of the law of unfair competition submitted to the American Law Institute at its meeting in May 1963,<sup>83</sup> wherein the following statement was made:

In cases involving unfair trade practices, including trademark infringement, the courts are focusing their attention increasingly upon the probable results of an actor's conduct, thereby shifting emphasis from protection of a "property right" to relief from unfairness which is likely adversely to affect another, thus fostering competition but within the framework of a constantly developing code of commercial morals. The concept of property rights in trademarks is not completely disregarded, but, generally speaking, it is subordinated to the primary question of the probable results of an actor's conduct.<sup>84</sup>

Whatever was the justification for that observation (the Seventh Circuit had not yet decided the *Stiffel* and *Day-Brite* cases) with respect to other aspects of unfair competition, it is difficult to find much evidence of a higher commercial code of morals in the state and circuit courts in product simulation cases. The tendency has been toward allowance of "slavish imitation" or "Chinese copying" of the products and packages of a competitor's product in the absence of a patent, trademark, or copyright on the item.<sup>85</sup> This is exemplified by the following circuit and

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<sup>81</sup>See *Sinko v. Snow-Craggs Corp.*, *supra*, note 23, at 453, 42 U.S.P.Q. at 300-01; *Hygienic Specialties Co. v. H. G. Salzman, Inc.*, 302 F.2d 614, 133 U.S.P.Q. 96 (2d Cir. 1962); *General Time Instruments Corp. v. United States Time Corp.*, 165 F.2d 853, 854, 76 U.S.P.Q. 211, 212 (2d Cir. 1948), cert. denied, 334 U.S. 846, 77 U.S.P.Q. 676 (1948). See generally Restatement, Torts § 741 (1938); 1 Nims, *supra*, note 5, at 378-80.

<sup>82</sup>*Elastic Stop Nut Corp. of America v. Greer*, 62 F. Supp. 363, 67 U.S.P.Q. 257 (N.D.Ill. 1945).

<sup>83</sup>The American Law Institute, Restatement of the Law, Second, Torts, Tentative Draft No. 8.

<sup>84</sup>*Id.* at p. 11.

<sup>85</sup>See Derenberg, *The Sixteenth Year of Administration of the Lanham Trade-mark Act of 1946*, 29 (1963).



state court cases which were all decided prior to the Supreme Court's decisions in *Stiffel* and *Day-Brite*. Although the courts have generally been strict, it should be observed that most courts recognized an originator's property right in a product design if that design had acquired a secondary meaning.

#### FIRST CIRCUIT

The Circuit Court in *O'Day Corp. v. Talman Corp.*<sup>36</sup> affirmed the Rhode Island District Court's decision,<sup>37</sup> wherein plaintiff was denied all relief against a former employee although admittedly the plaintiff was "severely damaged" by defendant's copying of its design of boats. The Court said: "Unpleasant as it may be for O'Day, we see no legal merit in its charge of outright copying," since there were differences in the design and the selling literature. The Court said that the "reputation poaching" of which plaintiff complained was not actionable since defendant's products were plainly marked as originating with him.<sup>38</sup> Before recovery could be had there must be a finding of reputation or secondary meaning and a finding that customers might be deceived as to the source of defendant's boats in spite of the markings. Thus, the First Circuit recognized a right to recover for the copying of an originator's product design where there is a finding of secondary meaning coupled with a likelihood of confusion. Insofar as it did recognize such a right, it is now inconsistent with the *Stiffel* and *Day-Brite* cases.

#### SECOND CIRCUIT

This Circuit in interpreting New York law has decided the greatest number of product copying cases. Even so, it seems that a certain amount of uncertainty has crept into the law. A recent statement of the law was spoken in a per curiam decision<sup>39</sup> wherein it was stated that the mere copying of an unpatented device was not actionable in the absence of proof of confusion of source under the rule of the *Hygienic Specialties Co. v. H. G. Salzman, Inc.* case.<sup>40</sup> In the often cited case of *American Safety Table Co. v. Schreiber*,<sup>41</sup> the Court found that defendant's

<sup>36</sup>310 F.2d 623, 136 U.S.P.Q. 1 (1st Cir. 1962).

<sup>37</sup>206 F. Supp. 297, 135 U.S.P.Q. 19 (1962).

<sup>38</sup>*Supra*, note 36 at 625, 136 U.S.P.Q. at 2. See Derenberg, *supra*, note 35 at 29.

<sup>39</sup>*Robins Indus. Corp. v. David Riemer Co.* 312 F.2d 889, 136 U.S.P.Q. 235 (2d Cir. 1963).

<sup>40</sup>302 F.2d 614, 133 U.S.P.Q. 96 (2d Cir. 1962). The court stated that to acquire a secondary meaning in a design the plaintiff must prove that the design is a mark of distinction identifying its source, and that purchasers are moved to buy the product because of the source.

<sup>41</sup>269 F.2d 255, 122 U.S.P.Q. 29 (2d Cir.), cert. denied, 361 U.S. 915, 123 U.S.P.Q. 590 (1959).

"improper and deceitful marketing methods [and] the making of the Chinese copies" of plaintiff's garment pressing machine were actionable.<sup>42</sup> In granting an injunction and damages, the Court apparently applied a test of commercial necessity when it stated: "It was permissible for the purchasers to be confused between products; but any *unnecessary* confusion as to source would not be condoned."<sup>43</sup> (Emphasis added.) The Court, while acknowledging the doctrine of secondary meaning did not consider it determinative in view of defendant's "fraudulent scheme as a whole."<sup>44</sup> There have been several cases in the Second Circuit which have held that a showing of secondary meaning is no longer necessary.<sup>45</sup> However, the weight of authority, especially in the recent cases, has indicated clearly that either a showing of palming off or secondary meaning coupled with a likelihood of confusion is necessary.<sup>46</sup> It should be noted that there still remains the requirement of labeling as evidenced by the case of *Feathercombs Inc., v. Solo Prods. Corp.*<sup>47</sup> wherein the circuit court stated, "the . . . patent being invalid, . . . [defendant] had every right to market a comb similar or identical to that marketed by its competitor," but continued that the "second comer has a duty to . . . dress his product as to avoid all likelihood of consumers confusing it with the product of the first comer."<sup>48</sup> As discussed with respect to the First Circuit, all references to a recovery based on secondary meaning in a product design would conflict with the Supreme Court's decisions.

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<sup>42</sup>*Id.* at 276, 122 U.S.P.Q. at 47.

<sup>43</sup>*Id.* at 273, 122 U.S.P.Q. at 44.

<sup>44</sup>*Id.* at 276, 122 U.S.P.Q. at 47; Chief Judge Clark in his dissent foresaw the Supreme Court's view on this subject when he stated: "Thus is the constitutional purpose of securing exclusive rights to inventors in their discoveries for *limited times* . . . frustrated." *Id.* at 282, 122 U.S.P.Q. at 51.

<sup>45</sup>*Norwich Pharmacal Co. v. Sterling Drug, Inc.* *supra*, note 10 at 572-73, 123 U.S.P.Q. at 376; *Joshua Meir Co. v. Albany Novelty Mfg. Co.* 236 F.2d 144, 148, 111 U.S.P.Q. 197, 200 (2d Cir. 1956); *Noma Lites v. Lawn Spray*, 222 F.2d 716, 105 U.S.P.Q. 388 (2d Cir. 1955); *Upjohn Co. v. Schwartz*, 246 F.2d 254 261-62, 114 U.S.P.Q. 53, 59 (2d Cir. 1954); *Flint v. Oleet Jewelry Mfg. Co.*, 133 F. Supp. 459, 106 U.S.P.Q. 69 (S.D.N.Y. 1955).

<sup>46</sup>*Hygienic Specialties Co. v. H. G. Salzman, Inc.* *supra*, note 40; *American Safety Table Co. v. Schreiber*, *supra*, note 41; *Zippo Mfg. Co. v. Rogers Imports, Inc.*, 216 F. Supp. 670, 137 U.S.P.Q. 413 (S.D.N.Y. 1963); *American Merri-Lei Corp. v. Jet Party Favors*, 123 N.Y.S.2d 136, 97 U.S.P.Q. 484 (N.Y.Sup.Ct. 1953); *Herzman Scarfs v. Baar & Beards, Inc.*, 118 N.Y.S. 2d 380, 95 U.S.P.Q. 348 (N.Y.Sup.Ct. 1952); *Mavco, Inc. v. Hampden Sales Assoc.*, 77 N.Y.S.2d 510, 77 U.S.P.Q. 62 (N.Y.Sup.Ct. 1948).

<sup>47</sup>306 F.2d 251, 257-58, 134 U.S.P.Q. 209, 214-15 (2d Cir.), cert. denied, 371 U.S. 910, 135 U.S.P.Q. 503 (1962).

<sup>48</sup>*Id.* at 258, 134 U.S.P.Q. at 215, citing *Harold F. Ritchie, Inc. v. Chesebrough-Pond's Inc.*, 281 F.2d 755, 758, 126 U.S.P.Q. 310, 312 (2d Cir. 1960).

## THIRD CIRCUIT

The law of this circuit appeared to be in accord with the majority rule of the Second Circuit in the case of *Sylvania Elec. Prods., Inc. v. Dura Elec. Lamp Co.*<sup>49</sup> There the Court held, with reference to the "blue dot" on flashbulbs, that the charge of unfair competition must fail where the feature of the article copied by the defendant had not acquired a secondary meaning identifying the product with the plaintiff. Where the patent protection that the blue dot might have had had expired, where it was not registerable as a trademark, and where the manufacturing method or process of the dot was in the public domain, the defendant may imitate the functional features in every characteristic. However, there was the condition that the defendant take reasonable steps to inform prospective purchasers that the bulbs it sells are not those of the plaintiff.<sup>50</sup> Here again, it appeared that under some circumstances recovery could be based on a finding of secondary meaning in the product design of the plaintiff.

In a more recent case,<sup>51</sup> the Circuit Court followed precedent and found no unfair competition where two competitors manufactured similarly designed autotransformers. The court was influenced by the functionality of the similar features and the clear labeling of the product. However, the Court acknowledged that if the design were distinctive enough to identify the source (secondary meaning), and if purchasers cared about the source, and if the design were distinct when the late-comer copied it, then there could be a recovery.<sup>52</sup> Maybe there could have been a recovery in 1963, but there could no longer be one in view of *Stiffel* and *Day-Brite*.

## FIFTH CIRCUIT

Although this Circuit does not appear to have decided any recent cases involving product simulation, the District Court of Louisiana held that secondary meaning coupled with a likelihood of confusion is necessary to protect the unpatented and uncopyrighted design of the

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<sup>49</sup>247 F.2d 730, 733, 114 U.S.P.Q. 434, 436-37 (3rd Cir. 1957). See Also *Cat's Paw Rubber Co. v. Jenco*, 87 F. Supp. 662, 83 U.S.P.Q. 519 (D.N.J. 1949), *aff'd per curiam*, 184 F.2d 438, 87 U.S.P.Q. 115 (3rd Cir. 1950); *Gum v. Gumakers of America*, 136 F.2d 957, 959, 58 U.S.P.Q. 453, 455 (3rd Cir. 1943).

<sup>50</sup>*Id.* at 734, 114 U.S.P.Q. at 437; See *Vaughan Novelty Mfg. Co. v. G. G. Greene Mfg. Corp.*, 202 F.2d 172, 96 U.S.P.Q. 277 (3rd Cir.), *cert. denied*, 346 U.S. 820, 99 U.S.P.Q. 491 (1953); *Ainsworth v. Gill Glass & Fixture Co.*, 26 F. Supp. 183, 39 U.S.P.Q. 541 (E.D.Pa. 1938), *aff'd*, 106 F.2d 491, 42 U.S.P.Q. 486 (3rd Cir. 1939).

<sup>51</sup>*General Radio Co v. The Superior Elec. Co.*, 321 F.2d 857, 138 U.S.P.Q. 595 (3rd Cir. 1963).

<sup>52</sup>*Id.* at 863, 138 U.S.P.Q. at 600.

"Zippo" lighter.<sup>53</sup> The Court found "enough [evidence] . . . to establish secondary meaning in Zippo," but in view of the clear labeling of the defendant's lighter "it can hardly be said that the public, acting reasonably, . . . are likely to be confused or misled by [the defendant's] . . . lighters."<sup>54</sup> Thus, it can be seen again that while the Court recognized a cause of action based on secondary meaning, a strict application of the rule resulted in no recovery where the defendant's product was labeled. A finding of secondary meaning alone was not sufficient because the basis of recovery for unfair competition is confusion among the public as to source and not any sort of monopoly based on secondary meaning.

#### SIXTH CIRCUIT

The leading case in this Circuit and in Michigan appears to be *West Point Mfg. Co. v. Detroit Stamping Co.*<sup>55</sup> involving the copying of the design of a toggle clamp on which plaintiff's utility patent had expired. The Court, after thoroughly analyzing the previous decisions and particularly the Supreme Court's, found that the defendant could "copy exactly [plaintiff's] . . . clamp in all particulars . . . [if defendant avoided] confusing and misleading the public . . . as to the source of the article sold."<sup>56</sup> The Court alluded to a recovery based on secondary meaning in nonfunctional features, but in view of defendant's adequate labeling found it irrelevant to the instant case. "The doctrine of 'nonfunctional' features [and secondary meaning] only applies where the imitation . . . imputes to the copy the same authorship as the original."<sup>57</sup>

The *West Point* case was followed in a recent District Court case<sup>58</sup> where defendant copied plaintiff's unpatented design of a travel trailer. Absent any confusion as to the source, the Court readily allowed copying of the physical design of the trailers.

The *West Point* case was distinguished in a 1957 case<sup>59</sup> where plaintiff succeeded in enjoining the copying of the distinctive dress of a nut

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<sup>53</sup>*Zippo Mfg. Co. v. Manners Jewelers, Inc.*, 180 F. Supp. 845, 124 U.S.P.Q. 329 (E.D.La. 1960). See also, *Zippo Mfg. Co. v. Rogers Imports, Inc.*, 216 F. Supp. 670, 137 U.S.P.Q. 413 (S.D.N.Y. 1963).

<sup>54</sup>*Id.* at 847, 124 U.S.P.Q. at 331.

<sup>55</sup>222 F.2d 581, 105 U.S.P.Q. 200 (6th Cir. 1955), cert. denied, 350 U.S. 840, 107 U.S.P.Q. 362 (1955).

<sup>56</sup>*Id.* at 595, 105 U.S.P.Q. at 212.

<sup>57</sup>*Id.* at 597, 105 U.S.P.Q. at 213.

<sup>58</sup>*Airstream Trailers, Inc. v. Cayo*, 221 F. Supp. 557, 139 U.S.P.Q. 237 (W.D. Mich. 1963).

<sup>59</sup>*Tas-T-Nut Co. v. Variety Nut & Date Co.*, 245 F.2d 3, 113 U.S.P.Q. 493 (6th Cir. 1957).

package after the patent on the container had been found invalid.<sup>60</sup> The Court stated that the plaintiff cannot prevent another from marketing an exact copy of the article so long as there is no passing off. Thus another can copy the physical construction, size, and shape of packages covered by an expired patent so long as he clearly affixes his own name. However, the Court distinguished the trade dress, i.e., arrangement, design, and collocation of printing and ornamentation which the late-comer may not copy if such dress has acquired a secondary meaning.<sup>61</sup> This does not appear contrary to the Supreme Court cases so long as the rule is applied to containers for products and not the products themselves.<sup>62</sup>

#### SEVENTH CIRCUIT

Until the recent *Stiffel* and *Day-Brite* cases, the law in this Circuit and Illinois was relatively well settled.<sup>63</sup> Initially, it was thought in Illinois that there had to be a showing of fraud or palming off in order to sustain a finding of unfair competition and this was upheld in a line of unfair competition cases dealing with trademarks.<sup>64</sup> However, in *Elastic Stop Nut Corp. v. Greer*<sup>65</sup> the Court held that actual palming off even in cases of competitors was no longer required by Illinois law to establish unfair competition. The Court went on to say that the law has evolved through the application of principles of fraud, meaning there will be no relief where the defendant has acted in good faith toward both the plaintiff and the public, to a realization that the true basis of equity's interference in such cases is not fraud but the protection of goodwill.<sup>66</sup> It should be noted that such language was applied only in cases of trademarks and trade names and was not applied to the protection of designs. It was still the law in 1961 that the mere copying of the design of an invalid patent did not constitute unfair competition absent a showing of palming off or secondary mean-

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<sup>60</sup>*Weeks v. Variety Nut & Date Co.*, 103 F. Supp. 528, 92 U.S.P.Q. 311 (E.D. Mich. 1952); aff'd, 208 F.2d 414, 100 U.S.P.Q. 10 (6th Cir. 1953).

<sup>61</sup>*Supra*, note 59 at 6, 113 U.S.P.Q. at 495-96.

<sup>62</sup>*Infra*, note 106.

<sup>63</sup>See *Zangerle and Peterson Co. v. Venice Furniture Novelty Mfg. Co.*, 133 F.2d 266, 270, 56 U.S.P.Q. 351, 354 (7th Cir. 1943); *Sinko v. Snow-Craggs Corp.*, 105 F.2d 450, 452-53, 42 U.S.P.Q. 298, 301 (7th Cir. 1939).

<sup>64</sup>*Nestor Johnson Mfg. Co. v. Alfred Johnson Skate Co.*, 313 Ill. 106 (1936); *DeLong Hook & Eye Co. v. Hump Hairpin Mfg. Co.*, 297 Ill. 359 (1932); *Stevens-Davis Co. v. Mather & Co.*, 230 Ill. App. 45 (1940); *Ambassador Hotel Corp. v. Hotel Sherman Co.*, 226 Ill. App. 247 (1938).

<sup>65</sup>62 F. Supp. 363, 67 U.S.P.Q. 257 (N.D.Ill. 1945).

<sup>66</sup>*Ibid.*

ing coupled with likelihood of confusion as to source.<sup>67</sup> When in the *Stiffel* case the circuit court applied a line of trademark cases<sup>68</sup> to justify its finding of unfair competition for design copying, the Court was taking a giant step away from the past law.<sup>69</sup> The application of "old fashioned honesty" is quite a departure from a finding of fraud or secondary meaning.

#### NINTH CIRCUIT

The law of California has been somewhat confused in the past and thus the Ninth Circuit decisions have been somewhat in conflict. The confusion seems to arise because of questions as to what is the applicable law. For example, in a 1952 case<sup>70</sup> the Circuit Court, although not allowing recovery, stated that an action for unfair competition involving secondary meaning of a nonfunctional feature could be based on section 44 (h) of the Lanham Act. The Act "created substantive rights and remedies . . . and neither diversity of citizenship nor jurisdictional amount need be present."<sup>71</sup> The Court also found it necessary to cite a New York case<sup>72</sup> on recovery based on secondary meaning, but cited no California cases.

In a 1954 case<sup>73</sup> relating to the copying of ash trays, the Court applied section 3369 of the Civil Code of California which provides for an injunction against "an act of unfair competition."<sup>74</sup> The Court found that where "'likelihood of deception' and hence a secondary meaning is shown" the plaintiff is entitled to injunctive relief. Apparently, if there is a likelihood of customer confusion, this fact is indicative that the design has acquired a secondary meaning.<sup>75</sup> Similarly, in a later case, the Circuit Court affirmed the District Court's decision wherein it was stated in reference to a copyrighted Santa Claus figure that

unfair competition may result from the unauthorized . . . imitation of plaintiff's product. . . . The test of whether such practices constitute

<sup>67</sup>Day-Brite Lighting Co. v. Sandee Mfg. Co., 286 F.2d 596, 126 U.S.P.Q. 416 (7th Cir. 1961).

<sup>68</sup>See authorities cited note 13 *supra*.

<sup>69</sup>For a critical discussion of the cases cited in note 68, *supra*, as a basis for the holding in the *Stiffel* case, see 32 *Geo. Wash. L. Rev.* 149 (1963).

<sup>70</sup>Pagliero v. Wallace China Co., 198 F.2d 339, 95 U.S.P.Q. 45 (9th Cir. 1952).

<sup>71</sup>*Id.* at 341, 95 U.S.P.Q. at 47.

<sup>72</sup>Charles D. Briddell, Inc. v. Alglobe Trading Corp., 194 F.2d 416, 421, 92 U.S.P.Q. 100, 104 (1952).

<sup>73</sup>Haeger Potteries, Inc. v. Gilner Potteries, 123 F. Supp. 261, 102 U.S.P.Q. 106 (S.D.Calif. 1954).

<sup>74</sup>*Id.* at 267, 102 U.S.P.Q. at 110.

<sup>75</sup>*Id.* at 269, 102 U.S.P.Q. at 111.

unfair competition is the likelihood of confusion in the mind of the public as to the source of the product.<sup>76</sup>

That doctrine was not followed in the more recent case of *Intricate Metal Prod. v. Schneider*,<sup>77</sup> dealing with a bed frame, wherein the plaintiff was required to show that prospective customers would attach special significance or secondary meaning to the appearance of the design in question coupled with a likelihood of confusion, citing the famous Second Circuit *Hygienic Specialties Co.* case.<sup>78</sup>

Thus, depending on whether the Court applies the Lanham Act, the Civil Code of California, the common law of California, or leading cases on the law in other states, the outcome may be different. Several earlier cases<sup>79</sup> indicated a very liberal approach while a more recent case<sup>80</sup> has taken a harder line which is more consistent with the Second Circuit cases. In either event, insofar as the state common law or state statutes conflict with the *Stiffel* and *Day-Brite* cases (and it seems to an appreciable extent), they must yield. But, if the Court based its decisions on the Lanham Act, as in the earlier cases, it would appear that the effect of the Supreme Court's decisions in the *Stiffel* and *Day-Brite* cases could be nullified somewhat in that those decisions were based on the supremacy of the federal law.

#### TENTH CIRCUIT

This Circuit appears to have followed the majority rule in New York in deciding a Kansas case dealing with red polyethylene caps or closures.<sup>81</sup> The Court refused to grant recovery based on the distinctiveness (secondary meaning) of the red caps primarily because of the functionality of the design and the widespread reluctance of courts to grant monopolies on colors. However, because of the defendant's "deliberate scheme to palm off their [unlabeled and unmarked] goods

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<sup>76</sup>*Doran v. Sunset House Distributors Corp.*, 197 F. Supp. 940, 949, 131 U.S.P.Q. 94, 101 (S.D. Calif. 1961), aff'd, 304 F.2d 251, 134 U.S.P.Q. 4 (9th Cir. 1962), citing, *Grant v. California Bench Co.*, 76 Cal. App. 2d 706, 173 P.2d 817 (1946), and *I. Rokeach v Kubetz*, 10 Cal. App. 2d 537, 52 P.2d 56 (1935). See also *Ramirez & Feraud Chili Co. v. Las Palmas Food Co.*, 146 F. Supp. 594, 606 Ill. U.S.P.Q. 296, 304 (S.D. Calif. 1956), aff'd per curiam, 245 F.2d 874, 114 U.S.P.Q. 473 (9th Cir. 1957), cert. denied, 355 U.S. 927, 116 U.S.P.Q. 602 (1958).

<sup>77</sup>324 F.2d 555, 139 U.S.P.Q. 230 (9th Cir. 1963). This case appears consistent with an earlier case dealing with the copying of gas pressure regulators, *Nat'l Welding Equip. Co. v. Hammon Precision Equip. Co.*, 165 F. Supp. 788, 119 U.S.P.Q. 13 (N.D. Calif. 1958).

<sup>78</sup>*Supra*, note 40.

<sup>79</sup>*Supra*, notes 70 and 76.

<sup>80</sup>*Supra*, note 77.

<sup>81</sup>*Midwest Plastics Corp. v. Protective Closures Co.*, 285 F.2d 747, 128 U.S.P.Q. 68 (10th Cir. 1960).

as those of the plaintiff" and because the defendant had copied much material from plaintiff's catalogs, the Court granted restitution for unjust enrichment.<sup>82</sup> As the Court made it clear that defendant could copy the caps in the future, if there were proper labeling, the case appears consistent with the *Stiffel* case where the Court expressly recognized a state's right to "require that the goods, whether patented or unpatented, be labeled. . . ."<sup>83</sup> This is further enforced by the *Day-Brite* case where the Court said a state "has power to impose liability upon those who . . . deceive the public by palming off their copies as the original."<sup>84</sup>

#### WHY THE SUPREME COURT?

It was in this setting that the Supreme Court granted certiorari for the first time since 1938 in an unfair competition case treating product imitation. In that case, *Kellogg Co. v. National Biscuit Co.*,<sup>85</sup> the Court found that the Kellogg Company was free to copy both the name "shredded wheat" and the distinctive pillow-shape of the product since all statutory protection had ended. Why then after twenty-six years of absence from the field, did the Supreme Court grant certiorari? It seems that the Seventh Circuit opinions were particularly susceptible to attack for several reasons. First, the plaintiffs had utilized the Federal patent system, but it was then found by the Courts that the Federal requirements for a patent had not been met and the patents were invalidated. Therefore, by employing doctrines of unfair competition to enjoin the defendants from copying plaintiff's products, the Circuit Court was granting to the plaintiffs the very right it had said plaintiffs were not entitled to under the Federal statute. Worse yet, the grant was to be perpetual and was not limited to the normal fourteen and seventeen years for design and utility patents.

Secondly, while there might have been a finding of secondary meaning in the *Day-Brite* case, it was a functional feature which historically has been protectable only by a utility patent. In fact, the design patent of Day-Brite was invalidated for that very reason, namely, functionality.<sup>86</sup>

Thirdly, the findings by the Court on confusion among the public as to the source of the lamps were extremely weak in both cases; and after all, it is really confusion as to the source which is the prime basis for this whole area of unfair competition.

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<sup>82</sup>*Id.* at 750, 128 U.S.P.Q. at 70.

<sup>83</sup>376 U. S. 225, 232, 140 U.S.P.Q. 524, 528 (1964).

<sup>84</sup>376 U. S. 234, 238, 140 U.S.P.Q. 528, 531 (1964).

<sup>85</sup>305 U.S. 111, 39 U.S.P.Q. 296 (1938).

<sup>86</sup>311 F.2d 26, 28, 136 U.S.P.Q. 17, 18 (7th Cir. 1962).



However, the Supreme Court did not decide the *Stiffel* and *Day-Brite* cases on the basis of the law of Illinois. Instead, the Court used those two very weak cases of unfair competition as a springboard for exercising the pre-emption by the Federal Government of the right to grant monopolies in articles of trade. The Court went into the Constitutional provision, namely, Article 1, Section 8, Clause 8, which empowers Congress to "promote the progress of science and useful arts . . ." and also the extensive Federal legislation pursuant to that grant of power.

#### PROTECTION V. COMPETITION

In many cases it appears that the Supreme Court, in determining what was meant by the drafters of the Constitution, is more influenced by what it feels the law should be today than by what was intended nearly 200 years ago. This probably is necessary if the Constitution is to remain a viable instrument.

Therefore, rather than go into an analysis of whether the drafters of the Constitution intended the states to be free to grant monopolies or whether this power was pre-empted as soon as Congress legislated in the area, a more fruitful area of discussion is that of the public policy involved.

It has been suggested<sup>87</sup> that there is a variety of judicial attitudes toward the predatory and unethical business practices for which the law of unfair competition seeks to provide a remedy. As one author put it:

[T]he courts have variously sought (1) to protect the honest businessman in the trade to which he is fairly entitled, (2) to punish the dishonest trader who attempts to take away his competitor's business by unfair means, and (3) to protect the public from deception and unfair business practices.

To this list should be added, (4) the courts' desire to protect free competition, even at the expense of some honest originators of products, so that the purchasing public may choose from the greatest variety of products having the highest quality at the lowest cost. Perhaps this item (4) should be regarded as the most important.

In protecting businessmen who originate products, the courts have found the existing laws inadequate in several areas.<sup>88</sup> Thus, even in the absence of secondary meaning or palming off, the courts have expanded the common law concept of unfair competition by such concepts as

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<sup>87</sup>Pollack, *Unfair Trading by Product Simulation: Rule or Rankle?* 23 *Ohio St. L.J.* 74 (1962).

<sup>88</sup>See *International News Service v. Associated Press*, 248 U.S. 215 (1918); *Christian Dior v. Milton*, 155 N.Y.S.2d 443, 110 U.S.P.Q. 563 (Sup.Ct.), *aff'd mem.*, 156 N.Y.S.2d 996 (App. Div. 1st Dep't 1956). See generally 42 *Cornell L.Q.* 398, 405-06 (1957); 70 *Harv. L. Rev.* 1117 (1957); 17 *Mich. L. Rev.* 490 (1919).

"misappropriation" and "commercial immorality"<sup>89</sup> in order to punish the "dishonest trader." However, the plaintiffs in these cases have been unable, generally, to find protection under the existing law because of the large number of products involved, or because of the short life of the products.<sup>90</sup> Since the laws were found to be inadequate, the courts adopted new remedies for the protection of honest businessmen. It is not clear whether these types of recoveries have been abolished by the *Stiffel* and *Day-Brite* cases, but it is believed not. For example, the *International News Service* case<sup>91</sup> was not cited in the recent decisions of the Supreme Court. The biggest distinction is that in the *Stiffel* and *Day-Brite* cases the plaintiffs had attempted to utilize the Federal patent statutes<sup>92</sup> for protection. In both cases the patents were subsequently held invalid. Thus when the plaintiffs were found to be undeserving of a *limited* monopoly granted by the Federal Government, the state courts granted a *perpetual* monopoly on the very same articles. It is suggested that this element, more than any other, is what made the Court step into an area which it had previously left to the state and circuit courts. However, in the "misappropriation" cases of which *International News Service*<sup>93</sup> is the leading case, it is usually impossible as a practical matter for the plaintiffs to utilize either the patent or copyright statutes. Thus, the courts have been more sympathetic with the originator and harsher on the appropriator.

In protecting the public against deception, the courts have been practically unanimous in requiring adequate labeling, and this has not been changed by the *Stiffel* and *Day-Brite* cases. The only condition which the Supreme Court placed on the courts is that "a State cannot hold a copier accountable in damages for failure to label . . . his goods unless his failure is in violation of valid state statutory or decisional law requiring the copier to label . . . to prevent confusion as to the source of the goods".<sup>94</sup> This would appear to be no more than due process of law, i.e., a court may not punish a copier for unlabeled goods without giving him a warning that there is state law prohibiting such conduct.

As to the courts' desire to foster competition, the basic premise is

<sup>89</sup>*Ibid.*

<sup>90</sup>See authorities cited note 45, *supra*; *Cheney Bros. v. Doris Silk Corp.*, *supra*, note 23.

<sup>91</sup>*Supra* note 88.

<sup>92</sup>35 U.S.C. §§ 101, 171 (1958). See generally 1 Callmann, *Unfair Competition and Trade-Marks* § 16.3 (2 ed. 1950).

<sup>93</sup>*Supra*, note 88.

<sup>94</sup>*Supra*, note 84 at 238-39, 140 U.S.P.Q. at 531.

that free competition helps the purchasing public. In the communist countries, where competition is at a minimum, the quality of the products has been notoriously bad. However, competition can become too fierce. For example, the "gasoline wars" are examples of fierce competition, but they are widely known for putting the weaker companies out of business and thus reducing competition. So it may be if product simulation is unchecked.

The argument for allowing free copying is that it is necessary in order to prevent an originator from charging a "premium price" for a new product design which the public desires but which does not meet the requirements for statutory protection. Instead, the burden is placed on the originator to prove to the public, by advertising, for example, that his product is better than his competitor's copy. The public has a wider choice of suppliers, and is better informed as a result of the advertising.

On the other hand, those persons who advocate protecting originators also desire to foster competition, and they argue that nonfunctional product designs are entitled to legal protection on the grounds that *product differentiation is essential* to competition. The gist of their argument is that there can be no competition among sellers unless purchasers can distinguish among competing goods, and since the product design is the prime feature which makes choice possible, differentiation is vital to competition.<sup>95</sup> The reply to this argument is that product differentiation can be accomplished by adequate labeling, and it is not necessary to protect the nonfunctional design itself. This argument overlooks the question of confusion as to source after the label or wrapper is removed from the article by the purchaser, for example. However, as had been decided many times, it is only the buyer at the time of the sale that the courts have sought to protect against confusion.<sup>96</sup> In the *Stiffel* case, however, it was shown that, while the cartons in which the pole lamps were shipped were clearly labeled, at the time of the sale the lamps were not in the carton and were unlabeled.<sup>97</sup> Thus, it would seem that the State of Illinois, by decisional or statutory law, could require that Sears label the lamps at the time of the sale and still be consistent with the Court's decisions.

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<sup>95</sup>See Treece, "Copying Methods of Product Differentiation: Fair or Unfair Competition?" 38 *Notre Dame Law.* 244, 247 (1963).

<sup>96</sup>*Contra*, *Mastercrafters Clock and Radio Co. v. Vacheron Watches, Inc.*, 221 F.2d 464, 466, 105 U.S.P.Q. 160, 162 (2d Cir.), cert. denied, 350 U.S. 832, 107 U.S.P.Q. 362 (1955), where the court emphasized the confusion among the guests of the purchaser as to the source of defendant's copy of plaintiff's clocks.

<sup>97</sup>376 U.S. 225, 226, 140 U.S.P.Q. 524, 526 (1964).

Another compelling reason for not allowing each state to enact its own design laws is the need for uniformity among the states. Sears, for example, has stores in nearly fifty of the states. In which of the states may the company sell each of its products without violating the rights of any individual in any state? The convenience and efficiency of answering that question by searching only the active design and utility patents is obvious. Any other requirements might place an undue burden on the merchant who did business in numerous states.

It is true that many companies readily admit that their success is due to their copying of designs of others which have proved successful, and that the public might occasionally be confused as to whose product they are buying. Although it may seem intolerable that one may "reap the fruits sown by another,"<sup>98</sup> a significant benefit of a free market is that the purchasing public is offered the most for its money.<sup>99</sup> For example, in the *Stiffel* case by plaintiff's own statement,<sup>100</sup> the Sears product was "indistinguishable . . . both in appearance and in functional details," and Sears' product's "retail price with shipping charges added . . . [was] about equal to [Stiffel's] wholesale price." This provided a striking example of the direct economic benefit the public derived from a free competitive market.

On the other hand there is the negative effect of the Supreme Court's decisions, that of reducing the incentive for the creation of new designs and shapes. Why should a company spend time and money creating a new design which, if it is successful, will be copied by all its competitors? This problem has long plagued the dress industry, but women still find new exotic fashions to choose from as each new season approaches.

The Supreme Court apparently feels that the advocates of free copying have the weightier arguments.

#### COMMON LAW COPYRIGHTS ABOLISHED?

In the past an originator of a copyrightable work has had an exclusive right in that work until he published it. Until then, he has had a common law copyright and could prevent others from reproducing

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<sup>98</sup>*American Safety Table Co. v. Schreiber*, 269 F.2d 255, 271, 122 U.S.P.Q. 29, 43 (2d Cir.), cert. denied, 361 U.S. 915, 123 U.S.P.Q. 590 (1959).

<sup>99</sup>See generally *In re Deister Concentrator Co.*, 289 F.2d 496, 501, 129 U.S.P.Q. 314, 319 (C.C.P.A. 1961); Galbally, "Unfair Trade in The Simulation of Rival Goods-The Test of Commercial Necessity," 48 *Trademark Rep.* 1173, 1174-75 (1958); "The Vestal Bill for The Copyright Registration of Designs," 31 *Colum. L. Rev.* 477, 490-91 (1931).

<sup>100</sup>Plaintiff's Reply Brief, pp. 14-15.

his work.<sup>101</sup> It was recently argued in a Massachusetts Supreme Judicial Court case<sup>102</sup> that the *Stiffel* and *Day-Brite* cases had struck down the right to a common law copyright in unpublished material. It was argued that this was so because the material was neither protected by copyright nor patent as required in those cases. However, the copyright statute expressly recognizes the right to common law copyright<sup>103</sup> and the *Stiffel* case<sup>104</sup> implied acknowledgment in this area of protection. Therefore, the Massachusetts Court rejected the proposition as did a recent New York Supreme Court case.<sup>105</sup>

#### OTHER DEVELOPMENTS

Three days after the *Stiffel* and *Day-Brite* cases were decided, the Court of Customs and Patent Appeals held<sup>106</sup> that a product container (the Mogen David wine bottle) could be registered on the principal register, if all the requirements of the statute were met, even though a design patent on the bottle was about to expire. Thus, when the design patent expires, the monopoly on the design may be continued at least for the particular class of goods for which it is registered. Therefore, aside from patent and copyright protection, to which it was thought design protection had been limited by the Supreme Court, it appears that a container for a product (but probably not the product itself) may be given the protection afforded by the Lanham Trademark Act.

This seems consistent with the *Stiffel* and *Day-Brite* cases since they were directed primarily at state laws which conflicted with Federal policy in an area which the Federal Government had pre-empted. As the Lanham Trademark Act was enacted by Congress pursuant to the commerce clause of the Constitution, no such state-Federal conflict exists. However, the Supreme Court is likely to interpret the various Federal acts as being consistent with one another; and since the Court has already found that "when the patent expires the monopoly created by it expires, too, and the right to make the article passes to the public,"<sup>107</sup> it is unlikely the Court would interpret the Lanham Trade-

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<sup>101</sup>17 U.S.C. § 2 (1958).

<sup>102</sup>*Edgar H. Wood Assoc., Inc. v. Skene*, 197 N.E.2d 886, 141 U.S.P.Q. 454 (Mass. Sup. Jud. Ct. 1964).

<sup>103</sup>*Supra*, note 101.

<sup>104</sup>*Supra*, note 97 at 231, 140 U.S.P.Q. at 527-28, n. 7.

<sup>105</sup>*Columbia Broadcasting System, Inc. v. Documentaries Unlimited, Inc.*, 248 N.Y.S.2d 809, 141 U.S.P.Q. 310 (N.Y. Sup. Ct. N.Y. Cty. 1964).

<sup>106</sup>*In re Mogen David Wine Corp.*, 328 F.2d 925, 140 U.S.P.Q. 575 (C.C.P.A. 1964), rehearing denied. See Derenberg, *The Seventeenth Year of Administration of the Lanham Trademark Act of 1946*, 24 (1964).

<sup>107</sup>*Supra*, note 97 at 230, 140 U.S.P.Q. at 527.

mark Act in a conflicting manner in the absence of a clear expression of such intent by Congress. Therefore, it would seem that the Trademark Act could not be used to extend the monopoly on articles of trade. However, the Court recognized the states' rights to "protect businesses in the use of trademarks, labels, or *distinctive dress in the packaging of goods*,"<sup>108</sup> (emphasis added) so there would appear to be no conflict among the Federal acts if the Lanham Trademark Act were similarly interpreted. This is so even though a trademark were effective to extend an expired design patent on a *package* since presumably the states may do so in view of *Stiffel* without conflicting with the Federal patent and copyright acts.<sup>109</sup>

It is believed that the *Stiffel* and *Day-Brite* cases also will give impetus to legislation which might allow the Federal courts to fashion a body of Federal common law in the field of unfair competition. Such a bill<sup>110</sup> was introduced in the last session of Congress by Senator Javits and Congressman Lindsay, but was not passed. Another design bill has already been introduced in the Senate by Senators Hart and Talmadge which is now before the Subcommittee on Patents, Trademarks, and Copyrights.<sup>111</sup>

#### CONCLUSION

If there is a solution to this problem, it must balance the interests of the originators of products, their competitors and the public. It must take into account the need for uniformity among the states so as not to burden commerce with a multiplicity of laws. The easy solution would be the revision of the design patent statute to allow for speedy patenting of designs having a lesser degree of originality and novelty than is now required. Another solution is "legislation in the form of a jurisdictional statute which has been held sufficient to permit the growth of a body of federal common law."<sup>112</sup>

Another type of legislation<sup>113</sup> would grant copyright protection for industrial designs where there was an unauthorized copying.<sup>114</sup> Another

<sup>108</sup>*Id.* at 232, 140 U.S.P.Q. at 528.

<sup>109</sup>This discussion does not answer the question of whether Congress intended the trademark act to provide such protection, but it is intended to dispel thoughts that such protection conflicts with the Supreme Court pronouncements. See Smith, "In Vino (Mogen David Brand) Veritas?" 54 *Trademark Rep.* 581 (1964).

<sup>110</sup>H.R. 4651, 88th Cong., 1st Sess. (1963); S. 1038, 88th Cong., 1st Sess. (1963). See Kunin, "The Lindsay Bill Before and After the *Stiffel* Case," 54 *Trademark Rep.* 731 (1964).

<sup>111</sup>S. 1237, 89th Cong., 1st Sess. (1965).

<sup>112</sup>Kunin, *supra*, note 110, at 732.

<sup>113</sup>S. 1884, 87th Cong., 1st Sess. (1961).

<sup>114</sup>Jackson, "Unfair Competition by Product Simulation v. Copyright Protection for Designs," 45 *J.P.O.S.* 422 (1963).

approach would be for the courts to expand the doctrine of "misappropriation" expounded in the *International News Service* case<sup>115</sup> and which was not overruled in *Stiffel* or *Day-Brite*. As a last resort, the courts, as the Ninth Circuit did a decade ago, might turn to the Lanham Trademark Act to find that there is already a Federal unfair competition law.<sup>116</sup> Whichever approach is taken, it is urged that it should be done by Congress after full hearings of all the interests involved rather than by a patchwork of court decisions seeking to find ways around the *Stiffel* and *Day-Brite* cases.

In the meantime, originators of designs appear to have less protection of their property now than at any time in this century. To quote an article which appeared in a Washington newspaper shortly after the *Stiffel* and *Day-Brite* decisions, "The knife used in America's cut-throat competition has now been honed to an even sharper edge by the Supreme Court."<sup>117</sup> While this quote may not mean much in a legal sense, it may be descriptive of the effect the decisions will have on the unscrupulous copier. However, it may be that the public will benefit in the end from these decisions in that the copier may be able to provide a better product at a lower cost for the consuming public without impeding the flow of new products and designs from originators.

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<sup>115</sup>*Supra*, note 89.

<sup>116</sup>*Supra*, note 70. But see, *Sani-Top, Inc. v. Rheem Mfg. Co.*, —, F. Supp. —, 144 U.S.P.Q. 523 (S.D.Calif. 1964).

<sup>117</sup>The Washington Daily News, March 11, 1964, p. 24, col. 1.





# The Uniform Commercial Code and Warranties Against Liability for Infringement

ROY LUCAS\*

## INTRODUCTION

**E**NACTMENT OF THE UNIFORM COMMERCIAL CODE in thirty jurisdictions<sup>1</sup> justifies an investigation by patent attorneys into the ramifications of this legislation as it effects an alteration in the fabric of many state laws relative to the sale of patented goods. As the policies and substance of the Code spread, patent attorneys will increasingly be called upon to advise clients concerning, *inter alia*, the right to use patented goods, the buyer's possible right of indemnity from the seller, the control of litigation instigated by a patentee against an infringing buyer or seller, and the operability of contract provisions disclaiming liability on the part of the seller for infringing use by the buyer of such patented goods. Moreover, the possibility that Congress itself might enact the Code or embody certain provisions in the patent laws suggests the need for familiarity with its content.

## BACKGROUND LAW

Within the Federal courts lies exclusive jurisdiction over *cases*<sup>2</sup> arising under the patent laws, but *questions*<sup>3</sup> of Federal patent law

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<sup>1</sup>States are listed in the order of enactment of the Code and followed by the date on which the Code becomes effective. Pa., July 1, 1954; Mass., Oct. 1, 1958; Ky., July 1, 1960; Conn., Oct. 1, 1961; N. H., July 1, 1961; R. I., Jan. 2, 1962; Wyo., Jan. 2, 1962; Ark., Jan. 2, 1962; N. M., Jan. 1, 1962; Ohio, July 1, 1962; Ore., Sept. 1, 1963; Okla., Jan. 1, 1963; Ill., Jan. 2, 1962; N. J., Jan. 1, 1963; Ga., Jan. 1, 1964; Alaska, Jan. 1, 1963; N. Y., Sept. 27, 1964; Mich., Jan. 1, 1964; Tenn., July 1, 1964; Mont., Jan. 2, 1965; Ind., July 1, 1964; W. Va., July 1, 1964; Md., Feb. 1, 1964; Calif., Jan. 1, 1965; Maine, Dec. 31, 1964; Wis., July 1, 1965; [D. C., Jan. 1, 1965]; Va., Jan. 1, 1966 Enactments to July, 1964.

All references, *infra*, are to the New York text of the *Uniform Commercial Code*.

<sup>2</sup>28 U.S.C. § 1338 (1958). See generally, Note, 72 *Harv. L. Rev.* 328 (1958).

<sup>3</sup>*Pratt v. Paris Gaslight & Coke Co.*, 168 U.S. 255, 259 (1897) [leading case]; Note 31 *Colum L. Rev.* 461 (1931). See generally, 3 Walker, *Patents* §§412-14 (Deller ed. 1937); Note, 36 *Conn. B.J.* 281 (1962).

may be decided in state court proceedings whenever their determination is collateral to a full adjudication of interests not founded on patent laws. Furthermore, in the absence of diversity jurisdiction,<sup>4</sup> the Federal courts are closed to claims brought to enforce contracts,<sup>5</sup> determine title,<sup>6</sup> access royalties,<sup>7</sup> or construe licenses.<sup>8</sup> Even diversity cases are governed by local law,<sup>9</sup> although essential Federal interests still displace those of the state court.<sup>10</sup>

Whenever a buyer of goods finds that his use of those goods is challenged by a third party patentee, the buyer's contractual remedies against the seller fall within the exclusive competence of state law [unless antitrust considerations come into play], and, in thirty states, within the governing provisions of the Uniform Commercial Code.

#### CODE WARRANTY OF TITLE AND AGAINST INFRINGEMENT

The purchaser of goods who subsequently finds himself being sued for infringement because of his use or sale of those goods<sup>11</sup> may have warranty rights against the seller which are governed in a Code state by the following provision:<sup>12</sup>

*Warranty of Title and Against Infringement; Buyer's Obligation Against Infringement.*

- (1) Subject to subsection (2) there is in a contract for sale a warranty by the seller that
  - (a) the title conveyed shall be good, and its transfer rightful; and
  - (b) the goods shall be delivered free from any security interest or other lien or *encumbrance* of which the buyer at the time of contracting has no knowledge.
- (2) A warranty under subsection (1) will be excluded or modified only by specific language or by circumstances which give the buyer reason to know that the person selling does not claim

<sup>4</sup>*E.g.*, Pratt v. Paris Gaslight & Coke Co., *supra*.

<sup>5</sup>*E.g.*, New Marshall Engine Co. v. Marshall Engine Co., 223 U.S. 473 (1912).

<sup>6</sup>See Lockett v. Delpark, 270 U.S. 496 (1926).

<sup>7</sup>*E.g.*, Wilson v. Sandford, 51 U.S. (10 How.) 99 (1850).

<sup>8</sup>28 U.S.C. §§1331-32 (1958).

<sup>9</sup>Erie R. Co. v. Tompkins, 304 U.S. 64 (1938); Clark, "State Law in the Federal courts: The Brooding Omnipresence of Erie v. Tompkins," 55 *Yale L.J.* 267 (1946).

<sup>10</sup>Byrd v. Blue Ridge Rural Elec. Cooperative, 356 U.S. 525 (1958); Sibbach v. Wilson & Co., 312 U.S. 1 (1941); Friendly, In Praise of *Erie*—And of the New Federal Common Law, 39 *N.Y.U. L. Rev.* 383 (1964). But see, *e.g.*, Ragan v. Merchant's Transfer & Warehouse Co., 337 U.S. 530 (1949); Cohen v. Beneficial Indust'l Loan Corp., 337 U.S. 541 (1949).

<sup>11</sup>35 U.S.C. §271 (1958); *id.* §287 [limiting damages].

<sup>12</sup>Uniform Commercial Code §2-312 [Emphasis added.]. See, generally, Poole, "Patent Protection Clause in Printed Purchase Orders & Acknowledgment Forms," 39 *J. Pat. Off. Soc'y* 83 (1957) [express warranty situations]; Robertson, Implied Warranties of Non-infringement, 44 *Mich. L. Rev.* 933 (1946).

title in himself or that he is purporting to sell only such right or title as he or a third person may have.

- (3) *Unless otherwise agreed* a seller who is a merchant regularly dealing in goods of the kind warrants that the goods shall be delivered free of the rightful claim of any third person by way of infringement or the like *but* a buyer who furnishes specifications to the seller must hold the seller harmless against any such claim which arises out of compliance with the specifications.

Further, a later provision<sup>18</sup> requires that the infringing party notify the party who will be ultimately liable, and allows the latter party to take over ensuing litigation.

*Effect of Acceptance: Notice of Breach: Burden of Establishing Breach After Acceptance; Notice of Claim or Litigation to Person Answerable Over.*

- (1) The buyer must pay at the contract rate for any goods accepted.
- (2) Acceptance of the goods by the buyer precludes rejection of the goods accepted and if made with knowledge of a nonconformity cannot be revoked because of it unless the acceptance was on the reasonable assumption that the nonconformity would be seasonably cured but acceptance does not of itself impair any other remedy provided by this Article for nonconformity.
- (3) Where a tender has been accepted
  - (a) the buyer must within a reasonable time after he discovers or should have discovered any breach notify the seller of breach or be barred from any remedy;  
and
  - (b) If the claim is one for *infringement* or the like (subsection (3) of Section 2-312) and the buyer is used as a result of such a breach he must so notify the seller within a reasonable time after he receives notice of the litigations or be barred from any remedy over for liability established by the litigation.
- (4) The burden is on the buyer to establish any breach with respect to the goods accepted.
- (5) Where the buyer is sued for the breach of a warranty or other obligation for which his seller is answerable over
  - (a) he may give his seller written notice of the litigation. If the notice states that the seller may come in and defend and that if the seller does not do so he will be bound in any action against him by his buyer by any determination of fact common to the two litigations, then unless the seller after seasonable receipt of the notice does come in and defend he is so bound.
  - (b) if the claim is one for *infringement* or the like (subsection (3) of Section 2-312) the original seller *may demand* in writing that his buyer turn over to him control of the litigation including settlement or else be barred from any remedy over and if he also agrees to bear all expenses and to satisfy any adverse judgment, then unless the buyer after seasonable

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<sup>18</sup>*Id.* §2-607 [Emphasis added.]. Compare, *Bros., Inc. v. Grace Mfg. Co.*, 261 F.2d 428 (5th Cir. 1958).

receipt of the demand does turn over control the buyer is so barred.

- (6) The provisions of subsections (3), (4) and (5) apply to any obligation of a buyer to hold the seller harmless against infringement or the like (subsection (3) of Section 2-312) [*E.g.* Such a warranty is normally a part of transactions with *merchants*; however, should such a warranty be undertaken by an ordinary seller, the provisions governing notice of litigation and control thereof likewise apply to that seller.]

Thus the Code secures fundamental rights to a buyer dealing with a merchant that his purchase of goods<sup>14</sup> not include the defense of an expensive lawsuit brought by a stranger to the contract.

#### SUPPLEMENTARY ASPECTS OF THE CODE

Inherent in all provisions of the Uniform Commercial Code is the statutory command that obligations of good faith, diligence, reasonableness, and care are a part of every bargain and cannot be disclaimed by agreement of the parties.<sup>15</sup> Further, basic principles of law and equity are applicable where not displaced by particular Code sections.<sup>16</sup> This would seem to indicate that the doctrines of laches and misuse would still be available to defeat an action for breach, the former for unjust and unreasonable delay<sup>17</sup> and the latter, analogous to "unclean hands", for illegal extension of patent rights.<sup>18</sup> Moreover, the Code must be read as a whole, and numerous sections on general sales principles have direct bearing on issues raised by those sections set out in the text, *supra*.<sup>19</sup>

In the formation of a contract a seller might attempt to accept an offer in terms not corresponding to those of the offer. Typical accept-

<sup>14</sup>*Id.* §2-501 (1) [Goods are defined on the basis of movability.].

<sup>15</sup>*Id.* §1-102 (3).

<sup>16</sup>*Id.* §1-103.

<sup>17</sup>*Boris v. Hamilton Mfg. Co.*, 253 F.2d 526 (7th Cir. 1958); *Whitman v. Walt Disney Prod., Inc.*, 263 F.2d 229 (9th Cir. 1958); *McClintock*, *Equity* §28 (2d ed. 1948); Note, *Developments in the Law—Statutes of Limitation*, 63 *Harv. L. Rev.* 1177, 1183 (1950).

<sup>18</sup>*E.g.*, Rich, 'Misuse, A New Frontier?' 34 *J. Pat. Off. Soc'y* 391 (1952).

<sup>19</sup>See, *e.g.*, Uniform Commercial Code §§1-105 (choice of law); 2-104 (1) (defines "merchant"); 2-302 (specific unconscionability provision); 2-303 (allocation of risk); 2-313 (warranty of merchantability); 2-316 (disclaimer of warranty); 2-318 (beneficiaries of warranty); 2-508 (cure of defective tender); 2-510 (effect of breach on risk of loss); 2-712 ("Cover," buyer's procuring substitute goods); 2-714 (buyer's damages for breach regarding accepted goods); 2-719 (contractual modification or limitation of remedy); 2-721 (remedies for fraud).

Compare note 17, *supra*, with Uniform Commercial Code §2-725 (possible applicability of doctrine of laches to relieve any hardship caused by running of statute without regard to buyer's knowledge of breach).

ance "forms" purport to disclaim all warranties.<sup>20</sup> The Code limits *caveat emptor* by protecting offerees against such inconspicuous disclaimers.<sup>21</sup>

Abolition of the traditional "warranty of quiet possession"<sup>22</sup> constitutes no significant handicap to a buyer under the Code because disturbances of possession by a third party patentee breach the title warranty. Indeed, the four year limitation gives a buyer adequate protection since the patentee cannot unduly delay litigation without raising in the buyer a defense of laches.<sup>23</sup> Moreover, the infringing buyer acquires rights against the seller for breach of warranty *before* the patentee disturbs his possession and can seek a remedy upon discovering the patent without waiting for an "eviction."<sup>24</sup> Furthermore, it is arguable that finality of commercial transactions justifies a strict four year limitation, although occasional instances of hardship are not unforeseeable.

If the controlling patent issues *after* the sale of goods, a different problem arises which is not specifically covered by the Code, although some case law exists on the subject.<sup>25</sup> Parties to a sale can avoid the problem by express agreement, but such is often not the case, and under those circumstances, the breach, if any, occurs after acceptance unless the seller knew of the pending application. Normally, such bad faith would not be present because of the secrecy requirement imposed on pending applications. Also, it would seem wise for a seller to properly disclaim liability for infringement of patents issued subsequent to the sale, but where he has been unable to do so he might "cover"<sup>26</sup> with non-infringing goods where possible or obtain a license for the buyer from the patentee, subject to the contingency of non-liability. Notably, the absence of a spelled-out solution to the problem might cause hardship on *either* party: however, warranty liability has generally been based on factors other than fault,<sup>27</sup> as in the case of a

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<sup>20</sup>*E.g.*, Uniform Commercial Code §§2-207 [disclaimer as varying offer], 2-316 [fine print].

<sup>21</sup>*Id.* §§2-207, 2-316. But see, *Roto-Lith Ltd. v. Bartlett & Co.*, 297 F.2d 497 (1st Cir. 1962).

<sup>22</sup>*Id.* §2-312, Comment 1. But see, Note, 27 *Geo. Wash. L. Rev.* 673 (1959). Cf., Dudine, "Warranties Against Infringement Under the UCC," *N.Y. State B.J.* 214 (June, 1964).

<sup>23</sup>See note 17, *supra*.

<sup>24</sup>Uniform Commercial Code §2-312, Comment 4.

<sup>25</sup>New York Law Rev'n Comm. Rep., Study of the UCC 386-91 (1955). See also, Comm. Rep.: Amer. Bar Assoc. Sec. on *Pat., T.M., & Copyright Law* 29-30 (1953).

<sup>26</sup>Uniform Commercial Code §§2-508, 2-712.

<sup>27</sup>Prosser, *Torts*, 523 (2d ed. 1956).

pre-existing patent. This policy tends to favor the good-faith buyer. Moreover, recent judicial trends indicate that such a result as limited compulsory licensing to prior users could be a solution, reasonable or otherwise, depending on the point of view. This would, of course, require statutory authorization. Indeed, the validity of a patent issued after an innocent public sale is subject to doubt in the minds of the bench.<sup>28</sup>

Under Section 2-607 a buyer must notify his seller of any suit filed against the buyer for infringement by goods acquired under the sale. To preserve his remedy over against the seller, buyer must notify within a reasonable time. When a sub-purchaser or a patentee sues the original buyer, the original seller may demand control of the litigation or settlement. Refusal by the buyer to yield to such a demand absolves the seller of warranty liability under that claim. Although Section 2-312 has general application only to sellers who deal with such articles in their ordinary course of business or who hold themselves out as such, a seller who incurs similar obligations by way of contract or otherwise also has the benefit of Section 2-607.

#### CONCLUSION

The rapidly changing world of commercial law has had no small impact on the adjustment of competing claims to the use of patented goods. Applications, interference proceedings, licenses, antitrust suits, and direct and contributory infringement litigation all provide different approaches and a different forum to resolve patent problems. Within the confines of a sales contract a purchaser may find himself saddled with a vast inventory of goods which a stranger tells him he cannot use.

It has been the purpose of this Note to indicate a few of the issues which will arise and the factors which may govern their resolution. In the ensuing years courts will be called upon to determine these and many other related questions under the Code. It is the responsibility of patent lawyers to themselves, their clients, and the integrity of justice to assist in illuminating the new commercial law.

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<sup>28</sup>Cf. *An Analysis of Patent Litigation Statistics*, Staff of Senate Patents Subcomm., Senate Comm. on the Judiciary, 86th Cong., 2d Sess. (Comm. Print 1963); Evans, "Disposition of Patent Cases by the Courts," 24 *J. Pat. Off. Soc'y* 19 (1942); Note, 8 *Pat. T.M., & Copyright J.* 255 (1964).

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## RETROSPECTIONS

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This section will include biographies and other reviews of careers, discussion and documentation of events important to the history of inventions and discoveries, and anecdotal or historical material pertaining to judicial opinion and legislation.

### Judge Learned Hand And The Concept of Invention

EDMUND A. GODULA\*

#### SUMMARY

**T**HE LATE JUDGE LEARNED HAND decided numerous patent cases with various issues. A principal issue was whether the innovation amounted to an "invention". The article considers this feature of his patent decisions, together with the various factors which the Judge weighed in deciding whether or not a particular contribution was an "invention". Such an activity by the Judge is considered over his long period on the bench along with some of the conditions and events which affected his deliberations.

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#### INTRODUCTION

**L**EARNED HAND WAS BORN IN 1872. He began his judicial career as a District Judge in 1909 in the Southern District of New York, was elevated to the Circuit Court in 1924 and became Chief Judge in 1939. He retired in 1951 and then sat as a retired Judge until his death in 1961. His judicial career spanned more than 50 years and in that time he decided about 240 cases which involved patents in one way or another. Hand displayed the master's skill with language in most of these cases and it has been truly said that "the opinions of Judge Hand are a pleasure to read."<sup>1</sup>

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<sup>1</sup> *Harvard Law Review*, Vol. 60, 394, 403.

This article will attempt to set forth the Judge's thinking and attitudes towards the subject of invention over these 50 or more judicial years. When talking about invention in this way, one really talks about patentable invention, that is, how different must the new article of manufacture, process, machine, or composition of matter be from what was previously known in order to support a patent? This is a tortured concept which has been supported or attacked by lawyers, and which has been analysed and weighed by judges.

The period discussed herein was characterized by both economic depression and prosperity. This period also covered the rise of a depressive philosophy of invention in the Supreme Court of the United States which took form during the economic depression, and may still be present.

The post war period of increasing prosperity saw the passage of a new patent statute which "defined" the concept of invention by setting forth a standard: "A patent may not be obtained . . . if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which such subject matter pertains . . ." (35 USC 103).<sup>1a</sup>

These foregoing events participated in the evolution of the Judge's concept of invention.

#### HISTORY OF THE ART AND OBJECTIVE TESTS

The history of the art and various objective tests are recurring themes in Hand's decisions. The history of the art involved factors like the long felt need, the number of persons independently working on the invention and the lack of economic or commercial impediments to the development of the invention. As shown by his decisions, he was, however, suspicious of tests which were urged as absolutes. At best, he thought such tests were useful guides, and he leaned towards those tests which reflected the history and condition of the related art. Objective tests alone, independent of the relevant art, were recognized as treacherous. He said, "In all inventions the safest test is the condition of the art before and after putative invention appears. At least that is an immeasurably safer test when available, than any *a priori* conclu-

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<sup>1a</sup> The only other standard set by Congress appeared in the 1793 Act: "And it is hereby enacted and declared, that simply changing the form or the proportions of any machine, or composition of matter, in any degree, shall not be deemed a discovery." (1 Stat. 318).



sion as to what is or is not an obvious step. To the last we should not resort except in cases of absolute necessity."<sup>2</sup>

In the *First Victor Talking Machine* case,<sup>3</sup> Hand held the claims infringed after noting that the question of invention cannot be determined as an *a priori* right, and that the best test is whether the need is old and the success is real. Thus, in 1913 the Judge considered "objective tests" in the field to which the invention belonged.

Reference to the so-called objective tests was repeatedly made in his decisions, and while he may have used them, he would not allow them to be the determinant. Hand was wary of the objective tests and recognized the danger of strict reliance upon them. He criticized one such negative objective test which says it is not invention to make in one part what formerly was made in two. ". . . we think that such tests are delusive, if used as more than rough rules for guidance. The question is one of evidence in each case, and the issue necessarily depends upon a shifting standard, just as in cases of due care. Objective tests may be of value vaguely to give us a sense of direction, but the final destination can be only loosely indicated."

Hand further said that the courts must determine what is the day-to-day capacity of the artisan so that they may know if the advance is an invention. "This they attempt by looking at the history of the art, the occasion for the invention, its success, its independent repetition at about the same time, and the state of the underlying art, which was a condition upon its appearance at all." He knew that occasionally such an examination of the art would not give a clear answer, and he then cautioned as follows: "Yet when all is said, there will remain cases where we can only fall back on such good sense as we may have, and in these we cannot help exposing the inventor to the hazard inherent in hypostatizing such modifications in the existing art as are within the limited imagination of the journeyman . . . we must try to correct our standard by such objective references as we can, but in the end the judgment will appear, and no doubt be, to a large extent personal, and in that sense arbitrary."<sup>4</sup>

Such a cautionary spirit which favored an examination of the history

<sup>2</sup> *Dubilier Condenser Corp. v. New York Coil Co.*, 20 F. 2d 723, 1927.

<sup>3</sup> *Victor Talking Machine Co. v. Carl Lindstrom Co.*, 279 F. 570, 1913.

<sup>4</sup> *Kirsch Mfg. Co. v. Gould Mersereau Co.*, 6 F. 2d 793, 1925.

The above case has been cited for the proposition that the objective tests are difficult and that the judge must fall back on a subjective opinion. 1st. Cir. 122 F. 2d 910, 909; Ct. of App. (Dist. of Col.) 181 F. 2d 280, 284; CCPA 285 F. 2d 823, 825. It is believed that Hand, in fact, put far less reliance on the subjective opinion of the judge than on the history of the art and the objective tests. The CCPA

of the art was again expressed in the *Van Heusen* reinforced soft collar case. By using reinforced fabrics, soft collars became a great success. Hand dismissed in this case the negative objective test which says substitution of one material for another does not equal invention. He noted that the law has not made such an absolute rule or any other absolutes for that matter.

The prospect of getting objective test for invention is tempting, but it is a mirage. How is it possible to say *a priori* what combination of elements needs an original twist of the mind, and what is within the compass of the ordinary clod? Is it not clear that the quality of a man's inventiveness must be tested by reconstituting the situation as it was in the light of the preceding history of the art? . . . Our unknown ancestor, who first substituted iron for bronze in the head of an ax, was the bright exemplar of all inventors to come. Yet it is not an invention if one is bound by this objective test. . . . The defect of such a standard is indeed its uncertainty but certainty is only one of the ends of law.<sup>5</sup>

When it came to making an actual preference of a more reliable standard, Hand turned to the objective tests concerned with the history and condition of the art in issue, and he did so more certainly as his tenure on the bench continued.

. . . for invention is always a function of the particular situations, of the conditions which preceded and followed the appearance of the composition or the machine. That this is a treacherous standard is true enough, but at least it is less treacherous than easy absolutes which fit the immediate occasion, but lie athwart any realistic treatment in the next case.<sup>6</sup>

Hand was impressed by the positive results of such tests in the *United Chromium* case which involved a method of chromium plating. The invention was in the composition of the electrolytic bath, in particular, the presence of a radical (part of a compound) catalyst rather than the compound as such. The process of discovery in view of objective tests was recounted as follows:

It was only after repeated experiments that it occurred to Fink that the radical alone was the catalyst, whether in chromic sulfate, in sulfuric acid, or not a sulfate radical at all. The optimum ratio then followed from trial and error. Unless, therefore, the art had already learned as much empirically, his idea, when verified, had every mark of an invention. The need had long existed; competent investigators had tried to fill it, they had hit the target but not the bull's eye; . . .<sup>7</sup>

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has also cited this case in saying that the history of the art should be examined, 201 F. 2d 930, 933.

<sup>5</sup> *Van Heusen Products Inc. v. Earl & Wilson*, 300 F. 922, 1924.

<sup>6</sup> *E. I. DuPont de Nemours & Co. v. Glidden Co.*, 67 F. 2d 392, 1933.

<sup>7</sup> *United Chromium v. International Silver Co.*, 60 F. 2d 913, 1932.

In the middle 1930's Hand's decisions show a greater consideration of the different factors present in the history of the art to which the invention pertains. The Judge is unequivocal in his preference of such factors but still continues to display a scientific temper which prevents him from uncritically embracing such a test.

No doubt it is true that when history speaks, it is the best guide upon the issue of invention; but it is too often an equivocator, like other oracles, and this is an instance.<sup>8</sup>

In 1935 the Judge, however, expressed exasperation at a possibility which might compel him to evaluate an invention in view of objective tests other than those concerned with the history and the condition of the art. It is an apt statement of the Judge's belief that certain factors, pertaining to the art in question, can be weighed to see if an invention is unobvious. Also, other standards and factors "are illusion" if set by an evaluator in other ways. It would appear that such illusionary factors would include whether the invention was a gimmick (*Great A and P* case,<sup>9</sup> and whether a flash of creative genius was necessary to make it (*Cuno Engineering* case).<sup>10</sup>

It is the act of selection which is the invention; and it must be beyond the capacity of common-place imagination. Often we can truly treat the inquiry as one of fact by observing what went before and what followed. If the combination had practical value long before it appeared, if no impediment, technical or commercial, stood in the way, if during that time others had been at work upon the same subject and if the invention was at once accepted as an answer to the need, there is usually just basis for the inference. When such evidence is not at hand we are forced to fabricate a standard as best we can from our naive ignorance; but that is so unsatisfactory an expedient that recourse to it should be as sparing as possible. Those putative objective principles by which it is so often supposed that invention can be detected are illusion, and the product of unconscious equivocation; the inexorable syllogism which appears to compel the conclusion is a sham.<sup>11</sup>

A decade later, in 1946, Judge Hand reverted to his criticism of a personal pronouncement by the judge of invention or no invention. He also most explicitly postulated his preferred tests in the same case of *Safety Car Heating and Lighting Company v. G. E.*

. . . the most reliable test is to look at the situation before and after it [invention] appears. Substantially all inventions are for the combination of old elements; what counts is the selection of all their

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<sup>8</sup> *National Elec. Products Co. v. Circle Flexible Conduit Co.*, 86 F. 2d, 84, 1936.

<sup>9</sup> *Great A. & P. Tea Co. v. Supermarket Equipment Corp.*, 340 U. S. 147, 1950.

<sup>10</sup> *Automatic Devices v. Cuno Engineering Corp.*, 314 U. S. 84.

<sup>11</sup> *B. G. Corp. v. Walter Kidde & Co.*, 79 F. 2d 20, 1935.

possible permutations, of that new combination which will be serviceable . . . each member ordinarily performs the same mechanical function which it does in any other machine; it is their cooperation which produces the result, and the value of that cooperation depends on the sagacity which divined the end and fabricated the means. Courts made up of laymen, as they must be, are likely to either under-rate or to over-rate the difficulties in making new and profitable discoveries in fields in which they cannot be familiar; and so far as it is available, they had best appraise the originality involved by the circumstances which preceded, attended and succeeded the appearance of the invention.<sup>12</sup>

The foregoing shows that the Judge refused to unconditionally embrace the use of objective tests despite their advantages. The apparent reason was that they could not exclusively operate in determining the question of invention. This feeling represents the Judge's scepticism towards any inflexible rule in this branch of law. Hand knew that there were close situations where the judge must finally assert whether he believes the invention is or is not patentable. Still, in Hand's decisions there is a marked and favorite use of those objective tests which are intimately related to the particular art in question. The tests most often discredited are generally those which operate more remotely from the art, and those which attempt to set down strict rules. These may include commercial success out of its setting, or strict negative rules of invention such as merely changing materials in an article of manufacture. An examination of the art and the particular facts might show that invention is or is not present, despite the contrary indication of a particular objective test.

#### EARLIER DEFINITIONS AND REFLECTIONS UPON INVENTION

Aside from the attention directed to the history of the art and the objective tests, Judge Hand spoke generally about the concept of invention. These decisions occurred relatively early in his judicial career and give us a view of the philosophic formative years behind his concept of invention.

In the first half of the decade which started in 1930, the Judge decided six cases which show us two sides of his idea of invention, but especially his hard side.

The Judge recognized certain factual situations where invention was not present because ordinary competence answered the problem when it arose. He reversed a District Court decision and held that a method of making blue razor blades was invalid.

So far as appears, nobody had ever wanted to color a razor blade blue; the need came into existence at that moment, and there is

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<sup>12</sup> *Safety Car Heating & Lighting Co. v. General Elec. Co.*, 155 F. 2d 937, 1946.

not . . . a syllable that its satisfaction had called forth any earlier efforts from steel makers . . . as soon as it became desired to color a razor blade blue, the knowledge and the method lay immediately at hand; all one needed was to inject into Salman's furnace an atmosphere (gaseous) which had been used again and again. It is of no consequence that the product of that atmosphere had in the past been either bright or black; that was all the art had wanted; when it wanted blue, it had the means to get it. Nothing was needed but the competence of a duly certified Ph.D.<sup>13</sup>

The expected skill in the art was involved in an invention for a fireproof coated electrical cable which he held to be invalid since, "It appears to us, therefore, that the case is one where the obstacles yielded to the first experimenter shown to have really worked for the specific end, and that the end itself was quite within the compass of commonplace powers."<sup>14</sup>

The discoveries of only competent investigators were additionally considered in *Hazeltine Corp. v. Abrams*.

We put this patent down as one of those step by step advances, not beyond the compass of capable investigators who run down every lead and cull out those which appear advantageous. It might be desirable to promote such activities by limited monopolies, but that is not the law; patents do not go to patient and exhaustive experiments; they are the reward of exceptional talent.<sup>15</sup>

The Judge considered a situation where ordinary skill led to a number of solutions when the art became aware of a problem. In this invention glycerine was used as a carrier in a dry electrolyte. Because this was a crowded art, he limited the claims to save their validity but thereby held them non-infringed. He described the development of such an invention as follows:

The setting here is a familiar one; at about the same time, several inventors began to supply the same needs; they naturally varied in their answers and one may be better than the others; but there is little antecedent reason for saying that any of such spontaneous outcroppings required unusual abilities or that a successful device was not sure to be found. That is quite a different picture from that of a need long existing, with inconclusive answers spread through its duration, finally capped by success.<sup>16</sup>

From the factual situations which gainsay the existence of invention to the definition of what is an invention may be a difficult transition. In a 1915 case, the Judge expressed the difficulty involved in attempting to define the concept of invention, and the unreliability of personal attitudes in the resolution of the problem.

<sup>13</sup> Gillette Safety Razor Co. v. Triangle Mech. Lab Corp., 87 F. 2d 699.

<sup>14</sup> *Supra*, note 8.

<sup>15</sup> Hazeltine Corp. v. Abrams, 79 F. 2d 329, 1935.

<sup>16</sup> Ruben Condenser Co. v. Copeland Refrigeration Corp., 85 F. 2d 537, 1936.

Everyone having any familiarity with the patent law knows that the test of invention, however it may be formally couched in general propositions, is in its application of the most plastic and uncertain character. At just what step of novelty the ingenuity of the skilled artisan becomes transmuted into the genius of an inventor, men will always differ, and their differences will be very largely dependent upon personal beliefs too remote for successful statement.<sup>17</sup>

Also in 1915, Hand stated a combined definition and opinion, as it were, of an invention: ". . . invention necessarily involves a conscious element. It is the imaginative projection as an integral ideal of certain selected natural objects. The fortuitous juxtaposition of the elements without any conscious recognition of some pragmatic relation is sterile and valueless."<sup>18</sup>

In 1911, Hand decided the famous Adrenalin patent case. The prior art had made an impure extraction of adrenalin from animal tissue and the patentee in the suit had purified it. Adrenalin was held patentable as a product because it was a highly purified form which made it generally useful for the first time. "This purification of the principle," said Hand, "became for every practical purpose a new thing commercially and therapeutically. The line between different substances and degrees of the same substance is to be drawn rather from the common usages of men than from nice considerations of dialectic. . . . At best the former experimenter had only wise surmises, excellent lanterns approach by which science alone can advance, but quite different from the full light of discoveries."<sup>19</sup>

#### THE INVENTOR

Invention, of course, is indissolubly joined to an inventor or inventors. To develop a concept of invention, one must view the acts and consider the thoughts of inventors. This is another way of traveling to the same goal, and the Judge often traveled this path. Learned Hand viewed the inventor as one certainly having more than ordinary ingenuity but still one who was not required to reach the level of genius. His decisions speak of the non-inventive act which is a solution at the end of a step by step experiment by a competent investigator, an effort by ordinary trial and error to discover a device, or performing conven-

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<sup>17</sup> Consolidated Rubber Tire Co. v. Diamond Rubber Co., 226 F. 455, 1915.

<sup>18</sup> De Laski & Thropp Circular Woven Tire Co. v. U. S. Tire Co., 232 F. 884, 1915.

<sup>19</sup> Parke-Davis Co. v. H. K. Mulford, 189 F. 95, 1911.

The Circuit Court modified this decree only in that some of the claims were not passed upon regarding validity because they did not include the limitations that the purified product was "free from associated gland tissue." 196 F. 496. This case was cited by the 4th Circuit many years later in upholding the patentability of purified vitamin B<sub>12</sub> as a product. 253 F. 2d 156, 162.

tional permutations of known compositions. Such activities define the man of ordinary skill and not the inventor. Yet, the ordinary man in his subtle way becomes an inventor when he sees what others do not see, the others being workers who are skilled men.

He had an opportunity to discuss this aspect of an inventor one year after he ascended the bench (1910). The invention involved shock absorbers for automobiles, and Hand had the following to say about its obviousness in view of a prior door spring which showed such a device.

The reason why the ordinary man does not discover them . . . is that habit has limited his power to see what he has been accustomed to see, and that selective attention is fast bound by his past experience . . . it took an unconventionally minded man to see the remoter analogies between the device and the patent in suit.<sup>20</sup>

He made a distinction between the stimulated innovator and the inventor in a case in which he held an invention not patentable in view of the state of the art.

As things stand, [prior art and objective tests] it is one of those trifling variants which an art throws out spontaneously under the stimulus of trial and error at the hands of commonplace ingenuity in which, happily for us, our people abound.<sup>21</sup>

To have a completed invention the inventor must first conceive it and then reduce it to practice either actually by making it, or constructively by filing a patent application. Judge Hand placed the emphasis on conception as the hallmark of the inventor.

Nor is it all relevant that, after one had once thought of applying Copeland's arrangement to the plug type, structural changes would have been simple. That is never the test; it is the conception that counts the most; the act of imagination which assembles the elements into the new and fruitful combinations; not the working out of details. . . . Complicated machines which are in the day's work for skilled mechanics, will appear magic to a tyro who may find nothing but the obvious in the combination that has failed of discovery for a decade after the need arose. . . . Just such trifles often help sales; in the severe competition of the motor car industry, the perfecting of even a trifling furnishing like this may be the object of study and experiment. . . .<sup>22</sup>

Prior to the stringent tests for inventions set down by the United States Supreme Court in the 1930's, Hand expostulated that whatever an inventor need be, he need not be a genius.

<sup>20</sup> Hartford v. Moore, 181 F. 132, 1910.

<sup>21</sup> McCurrach v. Cheney Bros., 152 F. 2d 365, 1945.

<sup>22</sup> Automatic Devices Corp. v. Cuno Engineering Corp., 117 F. 2d 361, 1941.

The foregoing decision was reversed by the Supreme Court at 314 US 84. Mr. Justice Douglas totally disagreed with Hand as to whether the combination for an automobile cigar lighter was an invention because an invention must "reveal the flash of creative genius, not merely the skill of the calling." The patentee had combined thermostats, used with appliances such as toasters, with the lighter component so it would "pop" when heated.

We must not suppose that only he is an inventor who has the insight of genius. A person who by a persistent series of experiments eliminates one after another of all possible combinations may be an inventor, though each combination is obvious enough as a possible permutation. Indeed, it is such a patient work by trial and error that the inducement of patent would be most likely to call out, for genius often works without any incentive but its own expression. Therefore, we are so familiar with the dictum that a good invention may seem obvious once it has proved successful.<sup>23</sup>

He again expressed this attitude in a case which concerned a lacquer composition of low viscosity. The invention resided in determining the concentration range of some of the ingredients. This was attacked as ordinary routine.

True, all that Flaherty did was to carry out what was already known, and by trial and error fixed the limit which should be observed. If genius is demanded, surely he was not inventor, rather he was one of those who, taking the knowledge at hand, worked out its implications in the laboratory. There are indeed expressions in the books which taken literally, would exclude such work from the protection of the patent law; there are others which would not. But we depreciate such a prior rule for determining invention. . . .<sup>24</sup>

In 1923, Hand considered a case which involved a patent for a process to make checks forge-proof by inking and scarifying the figures simultaneously. In this case he held the claims to be infringed, and considered the inventor in comparison with trained and skilled workers already in this field.

It is idle to speculate *a priori* upon what new steps are within the imagination of an ordinary journeyman. At times, no doubt we must do it, but the history of the art is a safer test, when we have it, and if after numerous efforts a need of long standing is successfully met, it is a mistake to suppose that the answer was all along apparent. One should not so discredit past inventors. On this particular matter a good many minds have been busy; presumably they were at least of average capacity. No one thought of this answer to the difficulty, and after Todd did, everyone followed suit. He and his plagiarists were extremely successful.<sup>25</sup>

A person's singular success in the midst of his skilled associates was therefore a persuasive feature. Such a person was likely to be established as an inventor in Hand's mind if he made his contribution in a field where other skilled men failed. Another invention involving the extraction of vitamins from oils resided in the use of a special solvent, ethyl dichloride. Hand affirmed the claims as valid and infringed against arguments that the discovery of the solvent was ordinary ingenuity. He said, "In chemistry, especially when the art is striking at the mark, the first to hit does not usually do so by chance. All those engaged in such experiments are highly trained men, not ordinary

<sup>23</sup> Corrugated Paper Patents Co. v. Paper Working Mach. Co., 237 F. 380, 1916.

<sup>24</sup> *Supra*, note 6.

<sup>25</sup> Todd Protectograph Co. v. Safe-Guard Check Writer Co., 291 F. 613, 1923.



routineers. A new and successful discovery is most unlikely to be the result of no more than everyday ingenuity."<sup>26</sup>

Learned Hand was ready to point out that an inventor does not have to solve something complex or dramatic, but does have to do something different. He held claims valid for an egg crate in which the cells were formed by flats in the shape of truncated cones so that the eggs could be wedged at the rim. "The situation seems to us one in which more was required than the talents of the ordinary skilled man; not because there were technical difficulties, but because ingenuity lagged."<sup>27</sup>

### THE SLIGHT CHANGE DOCTRINE

The second circuit, through Learned Hand, developed the doctrine that a small structural or physical change may be sufficient to support an invention if a new use therefor is uncovered. The small structure itself may not be enough to attain invention, but the new use embodied in this small structure imparts originality. One of Hand's most quoted cases in this area is his early *Traitel Marble Company* case of 1928 wherein Hand reversed the District Court and found the claims infringed. The invention was for guide strips in laying terrazzo mosaics. Hand said that, "Very slight structural changes may be enough to support a patent, when they presuppose a use not discoverable without inventive imagination. We are to judge such devices, not by the mere innovation in their former material, but by the purpose which dictated them and discovered their function." Hand also said that certain objective tests had been met because the invention was a success, it had driven out earlier more cumbersome methods, and had enabled the art to do with ease what before it could only do slowly and imperfectly. "The result seems to us genuine invention."<sup>28</sup>

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<sup>26</sup> *International Vitamin Corp. v. E. R. Squibb & Sons*, 64 F. 2d 20, 1933.

<sup>27</sup> *Patent Royalties Corp. v. Land O' Lakes Creameries*, 89 F. 2d 624, 1937.

<sup>28</sup> *Traitel Marble Co. v. U. T. Hungerford Brass & Copper*, 18 F. 2d 66, 1927.

The slight change doctrine was expressed most fully in the *Traitel Marble* case and this doctrine has been noted in other jurisdictions. It has not received wide support which is not surprising since the doctrine, in a sense, squeezes an invention from out of closely crowded prior art. The 2nd Circuit has cited the *Traitel* case in upholding patents. 99 F 2d 806, 809; 153 F 2d 428, 432. Judge Hand's statement was reproduced in the CCPA case of *In re Thuau*, 135 F 2d 344, 346 in support of the proposition that an unmodified old composition is unpatentable and that the preamble cannot impart structural change to an otherwise old composition. More recently, Judge Smith of the CCPA, in a pair of dissenting opinions, quoted Hand in support of the patentability of the claims under consideration. 297 F 2d 251, 255; 300 F 2d 929, 937. The Dist. Ct. for the Dist. of Columbia has approvingly cited *Traitel*, 148 FS 373, 376; 156 FS 182, 184; 184 FS 344, 348. A Kentucky Dist. Ct. cited *Traitel* in support of its decision D. C. WD Ky. 24 FS 709, 711; and most recently the doctrine was approved by the 9th Circuit, 301 F 2d 170, 713.

This proposition was further announced in *White v. Morton*, a case involving a child's tricycle made with a broad, horizontal seat. The prior art showed bicycles and children's two, three and four-wheeled carts.

Children have not changed and would have liked as well to push about astride a little tricycle two hundred years ago as today. The means have been always at hand. . . . The inventor merely thought to unite them [means and end] by a fortunate insight which had theretofore escaped the imagination of others. . . . The fact that the changes are so slight is irrelevant so long as they were essential to the purpose, as they were. . . . Invention is not to be gauged by the necessary physical changes, so long as there are some, but by the directing concept which alone can beget them. That was certainly absent before it came to White's mind.<sup>29</sup>

Learned Hand, in 1941, again stated his belief that the mere fact of slight physical change is unimportant to the question of invention when that change begets a new use. He considered a road sign to reflect headlights in which the improvement resided in reducing the size of glass spheres embedded in enamel to get a short focal length. This made the beams reflect straight out. He held the claims valid because "Nothing is easier in patent litigation than to confuse a trifling physical change with the ingenuity demanded for its discovery. . . . Road signs to be useful have to be cheap; Gomeze's cost too much for general use, even if they worked at all angles to approach, which they do not." He cited his prior *Traitel Marble Company* case along with the observation that:

True, the difference between it and the patent [prior art] was structurally slight, but such differences count when a new conception is necessary to bridge them: nobody would be led to do so by O'Dell.<sup>30</sup>

In 1952, Judge Hand again expostulated the slight change doctrine in the *Old Town Ribbon and Carbon Co. v. Columbia Ribbon and Carbon Manufacturing Co.* case. The invention concerned two sheets bound together with hectographic ink on the inner face of one sheet. The article was a great success in the hectographic art, but structurally the article had been used before, in a different manner in this art. Judge Hand reversed the District Court and held the claims to be invalid, but went on to say:

There is no antecedent reason for saying that Congress might not, if it chooses, issue a patent for a new use of an old physical object, which is in fact closely akin to, if not identical with an 'art,' like a process. . . . Nevertheless since 1793, it has not been a valid patent. . . . This does not mean that very slight physical changes in a 'machine' a 'manufacture' or a 'composition of matter' may not be enough

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<sup>29</sup> H. C. White Co. v. Morton E. Converse & Son Co., 20 F. 2d 311, 1927.

<sup>30</sup> *Supra*, note 27.

to sustain a patent; the act of selection out of which the new structure arises, is the determinant, and small departures may signify and embody revolutionary changes and discoveries, but the law does not protect the act of selection per se, however meritorious, . . . when not incorporated into some new physical object.<sup>31</sup>

Congress did indeed provide that new use of an old article of manufacture, machine or composition of matter could be claimed as a process in the Act of 1952, 35 USC 100 (b).<sup>31a</sup>

It is worthwhile noting that Hand maintained his position regarding the slight change doctrine throughout his judicial career. At the beginning of this judicial career, Judge Hand may have become predisposed towards this doctrine by his decision in the *Adrenalin* case, previously cited. The prior art product was purified so that it could be used for the first time. "This purification of the principle became for every practical purpose a new thing commercially and therapeutically."<sup>32</sup>

#### EFFECT OF THE UNITED STATES SUPREME COURT ON HAND'S PATENT DECISIONS

In a case decided as early as 1935,<sup>33</sup> Hand expressed doubt as to the propriety of his holding that the claims in the case were valid because he was aware of the high standard of invention demanded by recent decisions of the United States Supreme Court.

In 1942, in the case of *Picard v. United Aircraft Corp.*, Judge Hand referred to the "doctrinal trend" toward a higher standard of invention set by the United States Supreme Court. The invention was for a lubricating and cooling system for radial air-cooled airplane engines, particularly, in the lubrication drainage from the rocker arm boxes. In Hand's view, "Unless we are to mistake for invention the slow but inevitable progress of an industry through trial and error, and confer a monopoly merely upon the exercise of persistent and intelligent search for improvement, there was no invention in this. . . ."<sup>34</sup> It would seem that such a trend in the United States Supreme Court did not coincide with his own predilection toward forming a concept of invention, but nonetheless he was influenced by these cases for he further said:

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<sup>31</sup> *Oldtown Ribbon & Carbon, Inc. v. Columbia Ribbon & Carbon Mfg. Co.*, 159 F. 2d 379, 1947.

<sup>31a</sup> The Court of Customs and Patent Appeals quoted *Old Town Ribbon* with the preface, "in an opinion authorized by Judge Learned Hand, justly esteemed as a high authority on patent law," 174 F. 2d 938, 943. This Court went on to say that they agreed with Hand, but still rejected the invention in issue over the authority of *In re Thuau* 135 F. 2d 344. It is ironic that *Old Town Ribbon* is cited most often for the proposition that a new use of an old thing is not patentable.

<sup>32</sup> *Supra*, note 19.

<sup>33</sup> *Buono v. Yankee Maid Dress Corp.*, 77 F. 2d 274, 1935.

<sup>34</sup> *Picard v. United Aircraft Corp.*, 128 F. 2d 632, 1942.

We cannot, moreover, ignore the fact that the Supreme Court, whose word is final, has for a decade or more shown an increasing disposition to raise the standard of originality necessary for a patent. In this we recognize 'a pronounced new doctrinal trend' which it is our 'duty, cautiously, to be sure, to follow not to resist.'<sup>34a</sup>

Hand conceded that the severity of the Supreme Court standard precluded a holding of invention in close cases where formerly a judge's personal conviction may have turned the case in favor of the patentee.

... what is meant by 'invention.' In the end probably it is doubtful whether more can ever be said than the Court thinks ... it does, or does not deserve a patent, though we are sure that the standard has become more exacting in recent years. ... In any event it is clear to us that the Supreme Court would not today hold such a combination patentable.<sup>35</sup>

Judge Hand's observance of the harsher standard for invention set up by the United States Supreme Court was echoed in a dissent in the 1948 Supreme Court decision of *Jungersen v. Ostby*. The Supreme Court affirmed the invalidity of a patent which came up from Hand's second circuit. The Supreme Court case was actually a consolidation of two cases, the other from the Third Circuit. The Court of Appeals for the Second Circuit held the patent invalid for lacking invention, but there was a dissent by Judge Hand. The Supreme Court case is particularly interesting for the dissent of Justice Jackson who said he agreed with the opinion of Judge Learned Hand below and further said:

... but I doubt if the remedy for such Patent Office passion for granting patents is an equally strong passion in this Court for striking them down so that the only patent that is valid is one which this Court has not been able to get its hands on.<sup>36</sup>

In Judge Hand's dissent, the belief is stated that the patent system and the patent laws provide that this type of invention deserves a patent.

... it remains true that Jungersen's process in its entirety has never been assembled before; ... my point is that there is a new combination, however trifling the physical changes may be, nothing more is

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<sup>34a</sup> *Ibid.*

This case is well known for Judge Frank's concurring opinion which, however, was filled with reservations and questions. Frank felt that patent protection was at least necessary to attract investment capital. He had particular reservations about Hand's "negative test" regarding the slow and inevitable progress through trial and error. Hand's discussion of invention prompted Judge Frank to observe that "Anatole France once said that literary criticism is the adventure of the critic's soul among masterpieces. To the casual observer, judicial patent decisions are the adventures of judges' souls among inventions."

<sup>35</sup> *Wrightway Engineering Co. v. Melard Mfg. Corp.*, 219 F. 2d 392, 1955.

<sup>36</sup> *Jungersen v. Ostby and Barton Co., et al: Jungersen v. Baden et al*, 335 U. S. 560, 1948.

required than that, to take the step or steps added 'invention' is needed and 'invention' whatever else it may be, is within the category of mental activities and of those alone . . . the answer must therefore depend upon how we shall appraise the departure from what had gone before in terms of creative imagination; indeed, I do not understand what other tests could be relevant. What better test of invention can one ask than the detection of that which others had all along had a strong incentive to discover but had failed to see, all the while it lay beneath their eyes. The whole approach to the subject has suffered a shift within the last decade or so which I recognize we should accept as authoritative. . . .<sup>37</sup>

#### THE REACTION OF THE JUDGE TO THE 1952 STATUTE

The 1952 Act of course set up a standard of invention which provided that the invention is patentable if the subject matter as a whole would not have been obvious to the man of ordinary skill in the art. The Judge, in effect, had previously applied such a standard, but only by weighing conditions in the history of the art and the objective tests. This was his way of seeing if the standard had been met. Judge Hand, however, decried the ability of the Judge to decide whether an invention would have been obvious to the man of ordinary skill in the art.

Moreover it scarcely needs more than the statement of the question to disclose the fatuity of asking judges, undisciplined in the craft and untutored in its inarticulate presuppositions, to say how far the innovation is beyond the powers of merely competent craftsmen . . . we have over and over again resorted to the history of what went before, the duration of period during which [the invention] . . . was needed and its acceptance.<sup>38</sup>

In dealing with the issue of invention we have tried to rely upon objective factors in preference to our *a priori* judgment, drawn from what seems our untutored experience to be within the range of a person skilled in the art. Instead of trying ourselves to mirror his capacities, we look to the length of time during which the incentive existed . . . to the number of unsuccessful efforts . . . to the density of those efforts at about the time when the invention was made, to whether success came independently to several inventors at about the same time, and to the extent . . . it supplanted what had gone before.<sup>39</sup>

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<sup>37</sup> *Jungersen v. Baden*, 166 F. 2d 807.

Mr. Thoger Jungersen later testified before the Senate Patent, Trademarks & Copyrights Committee<sup>50</sup> that prior to the decision of the Supreme Court the patent had been regarded as valid in 20 other countries, but the effect of the American decision had practically destroyed all his income from that invention. Prior to that decision there were almost 100 licenses issued in the jewelry industry, jet engine development, gas turbines and aircraft manufacturing. Mr. Jungersen said the invention was used to the extent of \$200,000,000 per year giving employment to over 50,000 Americans. Mr. Jungersen testified that he created an entirely new industry and added he "would have to starve to death if he had to live on this invention as a result of the Supreme Court decision."

<sup>38</sup> *Landis Machine Co. et al v. Parker-Kalon Corp. et al*, 190 F. 2d 543, 1951.

<sup>39</sup> *Clark v. Wright Aeronautical*, 162 F. 2d 960, 1947.

In June of 1955, Judge Hand decided the famous *Lyon v. Bausch & Lomb Optical Co.*<sup>40</sup> case in view of the 1952 statute and its Section 103. Lyon had devised a method for coating optical lenses by adding his first step to the prior art method, that is, heating the lens before the chemical coat was applied. Hand held the claims valid because he believed Section 103 restored the "judicial gloss" of *Hotchkiss v. Greenwood*.<sup>41</sup> He reviewed the features of the invention and then asked:

[Was it] . . . enough to support a patent? It certainly would have been so 20 or 30 years ago; indeed it conforms to the accepted standards of that time . . . there was nothing lacking in the implementary arts . . . to put the advance into operation. . . . On the other hand it must be owned that, had the case come up for decision within 20 or perhaps 25 years before the Act of 1952 . . . it is almost certain that the claims would have been held invalid.<sup>42</sup>

Hand then discussed the old Supreme Court decision of *Hotchkiss v. Greenwood* and said that the case set forth the test of obviousness which:

. . . became a standard rubric and was applied in many cases. The variants were numberless; and 'invention' became perhaps the most baffling concept in the whole catalog of judicial efforts to provide for indefinitely varying occasions. However the court never formally abjured it . . . Section 103 only restored the original gloss, which has never been overruled; but on the contrary for 70 or 80 years had continued to be regarded as authoritative. Moreover, although it may have ceased in practice to be followed, and had come to enjoy no more than lip service, there never has been the slightest intimation of any definite substitute; . . . certainly a legislature, whose will the courts have undertaken to proliferate, must be free to reinstate the court's initial interpretation, even though it may have been obscured by a series of later comments whose upshot is at best hazy.<sup>43</sup>

Hand considered the case of *Norman v. Lawrence* in 1960, in which the invention was only a simple combination, but which enjoyed great commercial success. He speculated about the worthiness of such simple inventions and whether they merited a patent. He felt that the present invention did, since the history of the art and the tests, his reliable signposts, were in support of his conclusions.

It is true that Courts have again and again evinced repugnance to recognizing as patentable a trivial readjustment of pre-existing elements into a new combination, apparently insisting that monopolies should be limited to new assemblages of old elements that are important or imposing . . . it is hard to attach value to a trifling modification of a gadget that has arisen on the surface of a stream of novelties because it has found immediate favor. We can only reply that, while the standard remains what it is, we can see no escape

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<sup>40</sup> *Lyon v. Bausch & Lomb Optical*, 224 F. 2d 530, 1955.

<sup>41</sup> *Hotchkiss v. Greenwood*, 13 L. Ed. 683, 1850.

<sup>42</sup> *Supra*, note 40.

<sup>43</sup> *Ibid.*

from measuring inventions in cases where all the elements of the new combination have been long available by (1) whether the need had long existed and been desired; (2) whether when eventually contrived it was widely exploited as a substitute for what had gone before.<sup>44</sup>

In Judge Hand's last patent case, *Reiner v. The Lyon Co.*, he reaffirmed his belief that Congress intended to stop and reverse the judicial attack on patents.

... There can be no doubt that the Act of 1952 meant to change the slow but steady drift of judicial decisions that had been hostile to patents which made it possible for Mr. Justice Jackson in dissent to speak of the 'strong passion in this court for striking them down so that the only patent that is valid is one which this court has not been able to get its hands on.' 335 US 560,572. We still cannot escape the conclusion . . . that Congress deliberately meant to restore the old definition and to raise it from a judicial gloss to a statutory command. . . . The test laid down is indeed misty enough. It directs us to surmise what was the range of ingenuity of a person 'having ordinary skill in the art' with which we are totally unfamiliar; we do not see how such a standard can be applied at all except by recourse to the earlier work in the art, and the general history of the means available at the time. To judge on our own . . . is to substitute our ignorance for the acquaintance with the subject of those who are familiar with it. There are indeed some sign posts [the objective tests].<sup>45</sup>

#### SOME PHILOSOPHICAL OBSERVATIONS BY JUDGE HAND

There is a sort of philosophical aside which shows up in several of Judge Hand's opinions. At other times and places he made like observations, and such expressions are those of a judge speaking his piece.

Hand recognized and took note of the argument that inventions are inevitable, but he cautioned that it was not the office of the Judge to condemn an invention because of feelings about this matter. He held claims invalid to a locomotive grease having increased amounts of soap

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<sup>44</sup> Norman et al v. Lawrence, 285 F. 2d 505, 1960.

<sup>45</sup> Reiner et al v. I. Lyon Co., 285 F. 2d 501, 1960.

There certainly has been no widespread judicial affirmation that the standard of invention was lessened by Section 103. A Pennsylvania District Court referred to "the sensitive observation of Judge Learned Hand" in the *Lyon* case but went on to say that Section 103 neither raised nor lowered the standard of invention, ED Pa 190 FS 787, 796. The Second Circuit cited the *Lyon* decision in a pair of cases, one of which agreed that the Act lessened the standard, 258 F 2d 124, 132; and the other which said that the invention under consideration must be evaluated by the tests as set out by Hand. 305 F 2d 100, 101. The *Reiner* case has been referred to by the Fourth Circuit 293 F 2d 127, 132 and the 10th Circuit, 292 F 2d 159, 165 with an expression of approval in both cases for applying the "signposts" to evaluate an invention. Another Fourth Circuit case, 299 F 2d 793, 800 and a 7th Circuit case 298 F 2d 772, 780 approved of the "signposts" indicated by Hand; and further said that the "flash of genius" test was put in question by Section 103.

to hold it in place. Smaller amounts of soap in the grease were known.

The patent seems to us another instance of a kind which must become more and more common, as the arts advance in understanding and multiplication of detail, only a corollary of what had gone before, demanding no more than the competent use of knowledge already at hand. Courts have always discouraged efforts to dress up such advances when exploited by well organized selling as inventions; that discouragement was never more proper than at the present time, at least while the Patent Law remains as archaic as it is. Perhaps if its presuppositions . . . now 300 years old and not in their origin the result of inquiry . . . were re-examined, it might transpire that pushing a new article to general acceptance is as deserving a reward as its invention, certainly if the test of invention be as factitious and subjective as it now is. But until that day comes, as it probably never will while the system lasts, we must continue to proceed as though we were dealing with actualities.<sup>46</sup>

Despite any feelings about the advantages of the patent system Hand stated that judges are bound to work within its scope. He held claims valid for hydraulic shock absorbers, and said:

It is of course possible to look at all patents as odious monopolies; perhaps they are; perhaps the condition interpolated about a hundred years ago that their production must evince some exceptional talent is not the right protection; certain it is that our attitude towards them has greatly changed in twenty years. Yet I cannot see—until some tangible and authoritative substitute is at hand—how we can administer the existing system without recognizing as authentic evidence of high talent, the discovery of new combinations though made of elements which had long been open to all, if they prove at length to answer a need that those thoroughly versed in the matter have been repeatedly and fruitlessly trying to fill.<sup>47</sup>

Hand decided that a patent was valid which disclosed the latex rubber seal for food containers. This was a substitution for natural rubber.

It would indeed be absurd to rank the invention as a great pioneer such as come only at rare intervals and are the work of genius. Indeed, it is precisely those which probably need no patents to call them forth; the stimulus of profit has little or no part in their production. The patent law is aimed at animating the lower order of imagination and skill to invent; more it is true than the ordinary rub of competition automatically brings out from competent workmen in the art, but not the superlative skills—at least that has been its uniform avowed purpose. Perhaps the system is outworn but while it stands, it stands clothed with its history like any other statute . . . and not to recognize so substantial an achievement as this which has resulted in the improved preservation of foods . . . would deny recognition where recognition most is helpful.<sup>48</sup>

In the *Jungersen* case, something like an indifference to the patent

<sup>46</sup> *Texas Co. v. Sinclair Refining Co.*, 87 F. 2d 690, 1937.

<sup>47</sup> *Pennington Engineering Co. v. Houde Engineering Corp.*, 136 F. 2d 210, 1943.

<sup>48</sup> *Dewey & Almy Chemical Co. v. Mimex Co.*, 124 F. 2d 986, 1942.



system creeps through his decision. Yet the Judge makes a clear-headed remonstrance that the law exists and it is his duty to follow it.

Moreover, I am not aware of the slightest bias in favor of the present system; I should accept with equanimity a new system or no system. However, I confess myself baffled to know how to proceed if we are at once to profess to apply the system as it is, and yet in every concrete instance we are to decide as though it did not exist as it is . . . the combination in suit has every hallmark of a valid patent.<sup>49</sup>

In 1955, Senator Joseph C. O'Mahoney conducted hearings to study possible modernization of the patent system.<sup>50</sup> Judge Hand was invited to make a statement.

Hand urged a thoroughgoing re-examination of the patent system. He said one of the things that could be uncovered in support of a patent system would be a showing that the establishment and maintenance of specialized corporate laboratories depended in very large measure on limited period of monopoly, and that the steady advance of arts occurred in such laboratories. "That would be a very cogent reason for having something of the sort [patent system]."<sup>51</sup>

The Judge observed that a great deal of the odium that has surrounded the subject is because patents are monopolies. He then said he would like to distinguish a copyright type of monopoly from a patent monopoly. The Judge then submitted "with much diffidence" the idea that patents be protected in the manner of copyrights. In other words, a patentee could be protected if he proved that someone copied his idea, but would have no protection if someone could prove that they had independently made the same discovery.

I don't think there will be any constitutional difficulty in limiting the monopolies to those who could be shown to have copied what the inventor did. If you did have that as in the case of copyrights, it would not be necessary to have any tests for invention.<sup>52</sup>

Senator O'Mahoney asked the Judge if in his opinion the patent system was a good and useful thing; whether it promoted the arts and sciences. The Judge answered:

. . . that is just the question. Nobody knows and nobody can know until they examine . . . the system which has been working after all for 150 years in our present very complicated industrial society.<sup>53</sup>

The Senator then probed the Judge for a personal expression of the value of the patent system.

<sup>49</sup> *Supra*, note 37.

<sup>50</sup> Hearings before the Sub-Committee on Patents, Trademarks and Copyrights of the Committee of the Judiciary, United States Senate, 84th Congress, first session, pursuant to S. Res. 92 on the American Patent System, October 10, 11 and 12, 1955.

<sup>51</sup> *Ibid*, p. 117.

<sup>52</sup> *Ibid*, p. 114.

<sup>53</sup> *Ibid*, p. 116.

Senator O'Mahoney:

... in all of your experience on the bench in patent cases, have you received no glimmering of notion that the patent law served a useful purpose?

Judge Hand:

I have an opinion but I don't want you to cross-examine. I don't think it would be any good. I think it has. A great one. If you cross-question me and ask me why, I don't know.<sup>54</sup>

#### CLOSING REMARKS

It is interesting to wonder what would have been the influence of Judge Hand had he been appointed to the Supreme Court. Justice Frankfurter said that "Holmes coupled Learned Hand with Cardozo as the two judges whom he wished to see on the Supreme Bench."<sup>55</sup> Would Hand's view of invention and inquiry into the history of the art have tempered the harshness of Supreme Court decisions such as the *Great A & P*<sup>56</sup> and the *Cuno Engineering* cases?<sup>57</sup>

It is believed that Hand made great contributions in the treatment of the subject of invention. He believed that the patent laws existed to encourage and reward even small and simple efforts, so long as the surrounding circumstances, the signposts, indicated that the effort was something more than what the ordinary routineer could perform. He looked into the history of the art to see what these circumstances, signposts and objective tests would tell. This was more difficult than to form a subjective opinion of when invention was attained, but it was, however, more true. Learned Hand quickly and severely deprecated his layman's ability to make such a subjective judgment.

The presentation of the slight change doctrine in cases like *Traitel Marble* and *Old Town Ribbon* was consistent with his view that simplicity or modification of structures should not be the determinants of invention. The objective tests, the conception and the purpose of the invention would serve as better guides.

The Judge had a full appreciation of the importance of discoveries and inventions to America's well being. He intuitively felt that the patent system had done a great deal of good. However, he showed the scholar's scepticism because, in his view, there had been no evidence by study or other activity which would be persuasive that the present system does achieve its purpose of promoting the arts and sciences.

In spite of all of this he was a traditionalist who recognized the

<sup>54</sup> *Ibid*, p. 119.

<sup>55</sup> Proceedings in Honor of Learned Hand, 274 F. 2d, Supplement.

<sup>56</sup> *Supra*, note 9.

<sup>57</sup> *Supra*, note 10.

duty of the Judge to enforce the present patent system. He also recognized his duty, irrespective of any arguments relative to the merits of the patent system, to follow the lead of the Supreme Court. The Judge's decision and such expressions lead the writer to conclude that Judge Hand was definitely although reservedly pro-patent. A pro-patent attitude would not necessarily support the present system, but would support at least the principle of patent protection. At various times he expressed conjectural thoughts such as a willingness to consider a system that would protect the inventor only from the copyist so that the monopoly would be more limited. Nonetheless, his treatment of patent cases appeared to be substantially free of any preconceived notions of what the patent system should be. He applied the patent statutes as he was able to judicially interpret them. This quality in itself would make any judge a good patent judge.

He was the judicially trained Judge, for he called into play the new "doctrinal trend" of the Supreme Court regarding the higher standard of invention. And when the 1952 Patent Act sanctioned his inclinations, he wrote what is probably the most famous decision regarding the statutory standard of invention in *Lyon v Bausch & Lomb*. Section 103, to Judge Hand, prescribed factual objective tests within the boundaries of the involved art.

The 1952 Act, in the opinion of Hand, required an examination to evaluate an invention and to thereby see if the statutory standard was met. It did not mean to Hand that he as a judge should make a subjective opinion of what is unobvious to the man of ordinary skill in the art. He still urged an examination of the history of the art and a consideration of the objective tests, albeit always a wary consideration.

To Hand, Section 103 restored the "judicial gloss of *Hotchkiss v. Greenwood*" as to what comprises an invention. Judge Learned Hand's patent decisions, displaying his clarity, perceptiveness and superb literary style, have provided a major amount of judicial substance as well as gloss.

#### APPENDIX

A statistical, or rather, arithmetical summary is presented of how often Judge Hand held for a patent and against a patent. This will be told in different ways.

The computation was made by counting the number of "chances" Hand had to decide validity (V), invalidity (INV), infringement (I), noninfringement (NI) or validity and infringement (VI). In a single case, Hand may have held some claims invalid and some claims valid and infringed. This will be taken as two chances—one being for

validity and infringement and one for invalidity. Based on this foregoing limited hypothetical, the report would be that he held for patents 50 per cent of the time.

There follows an over-all treatment and separate treatments corresponding to different time periods as a circuit court judge. There is a list which will identify his holdings as a circuit judge following affirmance, reversal or a dissent. The percentage figures are rounded off. Therefore, the total for any one series may be plus or minus one or two per cent.

The following was prepared more in the spirit of a game than as a serious effort to gather evidence. The purpose was to see what pattern developed and not show thereby whether Hand was pro-patent or anti-patent. Such "evidence" is too casual and limited to tell very much about the thoughts and attitudes of the judge. The reader must remember that each case is characterized by its own facts, and that generally only doubtful patents are litigated.

TABLE 1  
PERCENTAGES: FOR AND AGAINST THE PATENT

Time	Chances	FOR (V, I, VI)		AGAINST (NI, INV)	
		%	No.	%	No.
1909-1960	204	38	(78)	62	(126)
1909-1915	23	44	(10)	56	(13)
1916-1919	30	40	(12)	60	(18)
1920-1925	20	50	(10)	50	(10)
1925-1934	53	40	(21)	60	(32)
1935-1944	54	32	(17)	68	(37)
1945-1960	24	33	( 8)	67	(16)

Table 1 shows a definite increase in decisions against the patent starting and continuing from about 1930. This is even more pronounced than it appears, for starting with the *Lyon v. Bausch & Lomb* case in 1955, Hand's last patent cases were 3 for and 1 against. This trend prior to *Lyon v. Bausch & Lomb* may be explained by Hand recognizing the new "doctrinal trend" of the Supreme Court towards establishing a higher standard of invention.

TABLE 2  
CIRCUIT COURT PERCENTAGES: FOR AND AGAINST THE PATENT

Time	Holding	Chances	FOR (V, I, VI)		AGAINST (NI, INV)	
			%	No.	%	No.
1925-1960	Affirmed	61	33	(20)	67	(41)
	Reversed	54	37	(20)	63	(34)
	Dissent	16	38	( 6)	62	(10)
1925-1935	Affirmed	29	38	(11)	62	(18)
	Reversed	17	47	( 8)	53	( 9)
	Dissent	7	28	( 2)	72	( 5)
1935-1944	Affirmed	18	22	( 4)	78	(14)
	Reversed	29	34	(10)	66	(19)
	Dissent	7	43	( 3)	57	( 4)
1945-1960	Affirmed	14	36	( 5)	64	( 9)
	Reversed	8	25	( 2)	75	( 6)
	Dissent	2	50	( 1)	50	( 1)

Table 2 shows that Hand affirmed about as many cases as he reversed. His reversals were more favorable to the patent than his affirmances.



# Additional Aspects of Proprietary Rights and East-West Trade

HERSCHEL F. CLESNER\*

*"It is the established policy of the United States Government, adopted with care and caution and deliberation, to pursue a policy of building bridges to the East. The essence of that policy is the improvement of relations, on a highly discriminating basis, with those Communist countries which demonstrate relative degrees of national independence, which abstain from hostile activities against non-Communist countries, and which show a willingness to enter into cordial, business-like, and responsible relations with non-Communist countries." Senator J. William Fulbright, Chairman of Senate Foreign Relations Committee, July 26, 1965.*

## SUMMARY

**D**ESPITE CONTINUING POLITICAL AND MILITARY CRISES East-West trade continues to grow. The Communist countries of Eastern Europe (hereafter referred to as Bloc countries) are disillusioned by their inability to achieve technological and economic progress because of their isolation from the rest of the world's industrial community. Because they no longer regard trade with the world market as a temporary phenomenon or as a necessary evil, they have shown a willingness to adopt many of the accepted practices of commercial intercourse in use among the major trading nations of the world. The drive of the Bloc countries to become competitive in world trade and to achieve industrial efficiency at home has brought in its train significant changes in their commercial behavior and national economic systems. In turn, the market-oriented trading nations of the West (hereafter referred to as the West) especially Western Europe to a large degree, follow their orientation and, for their mutual advantage, conduct trade with the Bloc countries. The evidence develops that the policies of the individual Bloc countries are being shaped by the exigencies of trade, the need to obtain technology, know-how and plants, and the desire to exploit their inventions. The role of licenses, patents, technical know-

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how and assistance, confronted by a set of unfamiliar conditions in the exchange of intangibles, are all explored.

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#### INCENTIVES TO TRADE

**L**ONG-TERM PURCHASE CREDITS ARE DEEMED A TRADE INCENTIVE. The Bloc countries have succeeded in breaking the five-credit limit (Bern Union Agreement of 1958) which the West had followed as a practical restraint against a possible credit war.

The British have granted the Soviet Union and Yugoslavia 15-year credits to pay for plants, equipment and know-how. The Czechoslovaks have obtained 12-year credits and the East Germans five to eight-year credits.

The Japanese have extended eight-year credits to the Soviet Union and Rumania. The Italians and Belgians have granted equally long-term credit to Hungary, Bulgaria and Czechoslovakia. The Bulgarians and East Germans have received similar credit from the French. The West Germans and the Dutch have stated they intend to offer long-term purchase credit to the Bloc countries because of their own declining sales to them in recent years and competition in the face of rising French and British sales. In recent months, our own Export-Import Bank has approved a seven and one-half year (30 months deferred and 6 percent interest for the next five years) credit to Rumania for the purchase of a petroleum cracking plant.

Governmental or quasi-governmental agencies such as Britain's Export Credit Guarantee Department and the West German Agency, Hermes, guarantees the Bloc countries the purchase credit extended by financial institutions.

It is expected that the efforts of the involved countries of the West, in expanding their exports of industrial equipment and licensing of technology to Bloc countries, will succeed under the impact of these practical inducements.

#### UNITED STATES LICENSES INVOLVED IN EAST-WEST TRADE

A greater amount of United States technology and innovation may be involved in East-West trade than our statistics show or than we acknowledge. *The Wall Street Journal* reported that \$7.8 million of asbestos processing equipment was ordered by the Soviets from Lynn MacLeod Engineering Supplies, Ltd. of Thetford Mines, Canada, for delivery in October, 1965 to be used for a plant in the Urals. The transaction was made possible through the help of Export Credits



Insurance Corporation of the Canadian Federal Department of Trade and Commerce, which guaranteed 85 percent of the commercial risk after it had received a guarantee of payment from the State Bank of the Soviet Union. The MacLeod company announced that it looked at one American component for price comparison but couldn't get it because of a United States Government embargo on Soviet trade so the company eventually decided to use a Canadian-built product made under a license agreement with a United States company.

In the 1950's, a United States company received over \$1 million in royalty payments from the sale and subsequent installation of a rubber tire plant in the Soviet Union. In the famous Bryant Chucking Grinder ball-bearing-producing machine incident of the "on" and "off" again Department of Commerce export license, an allegation was made to the effect that the Soviets could in time obtain such machines from an unrestricted Italian patent along with the know-how licensee of Bryant. It might have been asserted that not to grant an export license would deprive United States workers of the right to produce items which would benefit the Italian licensee's employees. Bryant, in any event, would benefit as licensor through royalty income. (RIB SpA of Turin, Italy, in 1962 sold to the Soviet Union some \$320,000 worth of machinery for the production of ball bearings. The Italian firm is not providing assistance but before 1962 it was an exporter of ball bearings to the Soviet Union.)

The Rumanians announced on December 22, 1964, that their state trading agency, Masinimport, had agreed to finalize a purchase contract with Universal Oil Products of Des Plaines, Illinois, to supply the technology involving a large catalytic cracking plant for the production of high-octane gasoline and high-grade diesel oil. This was confirmed by sources in the United States on January 4 and 5, 1965. The purchase cost is estimated to be about \$22 million. This plant, in turn, was to operate in conjunction with the \$40-million synthetic rubber plant which was to have been provided by Firestone Rubber Company. The Universal Oil Products contract was finalized on July 22, 1965.

A group of French firms, including a representative of the Schneider group and others, have contracted to build a \$23-million ammonia plant for the Soviet Union. In this instance the package calls for building a 1200 tons-per-day production for which Societe Grande Paroissi will supply the ammonia synthesis process and the French affiliate of Foster Wheeler will do the gas-production engineering.

## LICENSING OF SOHIO'S PROPYLENE-AMMONIA ACRYLONITRILE PROCESS

Evaluation of the trading experience of Western Europe with the Bloc states has led a number of important and influential United States nongovernmental and governmental entities to seek either a modest United States expansion in East-West trade or else to participate to a greater degree in such trading ventures.

At the beginning of 1965, the West German government called upon the United States to provide full information about reported plans of several United States companies to sell licenses and equipment to East Germany for the construction of a synthetic fiber plant estimated to be a \$25 million transaction. Involved is an acrylonitrile monomer process for manufacturing basic material used in production of acrylic fiber which was developed by Standard Oil Company of Ohio (SOHIO). The Badger Company is the exclusive domestic process-design licensee. The involved SOHIO process is the most efficient and economical means of making acrylic fiber in use in the United States. The West German government criticized the proposed transaction and recalled that West Germany, at the request of the United States, went to considerable trouble in the past years to carry out an embargo on large-diameter pipeline sales to the Soviet Union and other Bloc countries.

A United States State Department spokesman reported that the Department of Commerce had approved the export license of the \$13-million synthetic-fiber process to Communist East Germany on June 18, 1964. The license was for the re-export of technical data only. However, since equipment for the plant would be supplied from a United States-owned firm in Western Europe, the decision to license the export of technical know-how also meant, in effect, United States approval of the sale of the equipment. The Litwin Engineering Company of Wichita, Kansas, is slated to provide the equipment and build the plant. As of now, no agreements have been signed, but the company affirmed that like many other United States companies it is investigating the possibility of doing business with Bloc countries.

The Asahi Chemical Company of Japan announced that it is negotiating the sale of a \$28-million acrylonitrile monomer, polymer and fiber plant (using the SOHIO process) to the Soviet Union. Asahi is a licensee under the process and it has been reported that the sale of the process, data, and know-how has been cleared by the issuance of a license by the United States Department of Commerce.

When the West German government decided to breach the five-year credit limit of the Bern agreement, a spokesman stated that a

factor was believed to be evasion of the strict United States policy by United States exporters. It was asserted that the transaction with East Germany involving the SOHIO acrylonitrile process contemplates easy-payment financing to be arranged in France through the screen of a French subsidiary.

#### 1964—A YEAR OF BRIDGE BUILDING?

During 1964 the number of requests processed by the Department of Commerce for licenses for the export of technical data to Bloc countries reached 271, or three times the 1963 volume of 95. The Department of Commerce approved 262 licenses in 1964 in contrast with 81 in 1963. The licenses relate to authorization, based on the use of technical data originating in the United States, either for bids in reply to inquiries received either directly from the Bloc countries or from other countries desiring to bid for Bloc business. Nine requests were rejected in 1964 compared with 14 in 1963. The Department, in its fourth quarterly report to the Congress in accordance with the Export Control Act of 1949 as amended, stated:

These applications, as well as additional requests from United States business firms for advice concerning technical data exports to Communist countries, reflected the increased interest displayed by Eastern European countries in obtaining American technology concerning industrial equipment, processes and plants, particularly in the fields of agricultural products, chemicals, fertilizers, petrochemicals, and petroleum.

The Bloc countries have had interest. In 1964 the door opened to the degree that the Department could find, after evaluation, that the granting of these licenses would not contribute to the Bloc's potential, militarily or economically, or be detrimental to the security and welfare of the United States.

The approved export licenses of technical data in the fourth quarter of 1964 were broad and included chemical, electrical, mechanical processes and products of advanced technology. This policy practice has continued into 1965. The Department, during the fourth quarter of 1964, completely denied two license applications and partially denied one for the export of technical data to Bulgaria for a steel-tandem mill and to the Soviet Union for a butadiene and polybutadiene plant and a butyl rubber plant.

#### BLOC-LICENSING TRADE ORGANIZATIONS

To build up their trading funds the Bloc countries are also attempting to promote the sale or licensing of their innovation and technology

to the West. They realize that Western companies are willing either to buy rights to, or a license for, worthwhile innovations for potential use or marketing value. Within their capability, they are willing to sell or license.

The Bloc states have concluded that it is often more economical, as well as less frustrating, to purchase licenses for foreign inventions, data, and know-how than to attempt duplication. They are willing, they say, to pay the necessary price for the time and resources they will have saved in connection with developmental work in launching an advanced plant or a new item of industrial equipment.

To carry out some of the above functions, the Soviet Union created the agency called *Litsensintorg*. Previously the different foreign-trading organizations had the responsibility of foreign licensing in their respective fields.

*Litsensintorg* is authorized in foreign countries to engage in selling and licensing Soviet inventions as well as technical documents, exchanging patent rights and documents, and cross licensing. It may arrange or coordinate the purchase or sale of equipment, products, prototypes as well as anything else required in the licensing agreement. Though *Litsensintorg* has licensed Western enterprises, the Soviet purchases of licenses for use of Western technology, know-how, data or arrangements for technical assistance are still mainly conducted by other trading organizations.

*Polytechna*, the Czechoslovak foreign-trade corporation for arranging technical and license exchanges, is a similar but older and more experienced organization than *Litsensintorg*. In 1960, prior to *Litsensintorg's* existence, *Polytechna* concluded several important licensing agreements with West German, British, and Italian firms for the utilization of their processes and know-how.

The practice of the other Bloc countries, by contrast, has been to utilize the trading organization for a particular national industry, with possible incorporation of a licensing office so that the administration and operation can be geared directly to the economic planning of the industry in question.

#### FILING OF BLOC PATENT APPLICATIONS IN THE WEST

Stimulated by the discovery that Western business pays for proprietary rights to practical innovations and by the income potential, the Bloc planners have been induced to take a more pragmatic approach toward foreign patents and their use. They have learned that to consummate the sale of the innovation, full and proper patent protection

is usually a necessity. So, at present all of the major Bloc countries file applications for patents on inventions with the patent-issuing agencies of the major countries of the West, including the United States Patent Office.

In the United States, patents have been issued in considerable number to inventors from Bloc nations and are usually assigned to the appropriate trading organizations. The countries in question are: the Soviet Union, Poland, Czechoslovakia, Rumania, East Germany, Bulgaria, Yugoslavia, and Hungary. For years the Soviet Union, the big brother of the Bloc countries, did not file for United States patents and was not as knowledgeable, or as active, as certain other countries of the Bloc. Yet today the Soviet Union is quite active in utilizing the services of the United States Patent Office. The USSR had no patent applications filed in 1957, three applications in 1958, 15 in 1959, 34 in 1960, 14 in 1961, 14 in 1962, 134 in 1963, and 262 applications in 1964.

In 1962 the Soviets succeeded in receiving three United States patents, the Hungarians 17, the Czechs approximately 50, and in 1963 the Soviets obtained 15 United States patents covering a variety of industrial disciplines. For the week of December 8, 1964 only, the Soviets succeeded in receiving the following three United States patents: United States patent 3,160,159 relates to a device called by the Soviets "Lectro-Sleep," which induces sleep by the action of electric current pulses on the brain. United States patent 3,160,573 is entitled "a machine for removal and mounting of covers of coke oven loading manholes" and United States patent 3,160,640 concerns a method of extracting pure griseofulvin from mycelium. The Soviets have also obtained one or more patents (United States patent 3,182,931) on their MIL helicopter. It appears that the Soviets are acquiring a varied portfolio of United States patents and have surpassed other Bloc countries in this endeavor. The ownership of a United States patent gives the assigned owner the right to exclude all others from the manufacture, use or sale of the claimed invention for a period of 17 years.

The Soviets have also been active in filing patent applications in West Germany, Great Britain, France and Sweden. In fact, their patent-filing activity in West Germany and Great Britain has far exceeded their similar interest in the United States.

In France the Soviets obtained three patents in 1959, 37 patents in 1960, 16 patents in 1961, 31 patents in 1962. By such an increasing monetary-investment and patent portfolio, the Soviets must expect to exploit their patented inventions in the West.

	Germany	Great Britain	Sweden	France
1957	6	0	0	
1958	1	3	0	
1959	23	41	5	
1960	27	21	13	
1961	35	22	11	
1962	32	27	14	
1963	275	206	67	217 <sup>1</sup>

<sup>1</sup>Information compiled by P. J. Federico, Examiner in Chief, U.S. Patent Office, November 1964.

#### BLOC PATENT USE IN THE WEST

In light of the present economic system of the Bloc countries and their existing patent practice, they obtain foreign patents in order to license and receive income from their inventions. Someday they may use their own patents to protect export-sales items to the United States and to other countries of the West. But there is no present evidence of this. Under certain cooperative overtures with Western enterprise they are exporting manufactured items for assembly and sale in the West. These items are protected by the patents of the cooperating Western company.

There are also a few instances where industries in a Bloc country presently export to countries of the West and they are protected as patent licensees of Western firms. They do not use the foreign patent either to monopolize or to protect their manufacture of the invention within the national confines of that foreign country since they do not have any manufacturing units outside their own national boundaries. Yet this, too, may someday be subject to change as it is a rapidly evolving world. Hence, their present interest is directed to patent rights, know-how data, efficiency, technical adaptation and development, risk cost, plus other vital considerations involved in successful marketing which, in turn, are relevant to the task of obtaining the highest potential lump sum and/or royalty payment.

The Bloc organizations now realize that an invention even with a valid protective-patent position is not sufficient to assure automatic licensing. Western, as well as Bloc purchasers, demand products or processes that are efficient, not obsolete, economically feasible, and possess quality in relationship to similar products or processes. Westerners also seek innovations that will generate a profit in their marketing operation. The Bloc traders have learned that the innovation's efficiency, economic feasibility, and profits depend mainly on costs based on the market price of raw materials, intermediates, labor, transportation, financing, advertising, distribution, user demand and ac-

ceptability, and the ability to compete in the world market pricewise with technology. Accordingly, many of their innovations, developed without consideration of market factors and costs, but based only on the decision of economic planners and an inadequate pricing system, have not attracted prospective Western licensees.

#### PATENT LICENSING BY THE USSR

The Soviets have had some success in licensing innovation and technology to various Western companies. Dresser Industries purchased the exclusive United States rights to Soviet turbo drills in the late 1950's.

The Soviets have sold licenses on their process for the continuous casting of steel to French and Japanese companies. The French licenses were handled through Atlantique Française, an agent for Société des Forges et Ateliers du Creusot and Delattre Levivier. There has been publicity that various United States business interests have been negotiating with the Soviets concerning licenses covering the use of the same innovation. However, active and constructive interest by United States companies may be dependent upon whether the French can successfully solve existing technical difficulties to make the process economically feasible for Western purposes.

*Litsensintorg*, completed for the exploitation of a Soviet-developed process for the preparation of molding sand in France, Switzerland, Spain and Portugal, an exclusive licensing arrangement with four French steel companies: Société des Forges et Ateliers du Creusot, Société de Fonderies de Pont à Mousson, Ateliers et Forges de la Loire, Société Doittau.

Several European enterprises, including one from Japan, Brazil, and Italy, have obtained licenses from the Soviets for the manufacture and sale of silicalcite, a building material. This high-tensile, light-weight, aggregate-building material has been under study by, at least, two large United States companies, Dow and Vulcan, and one Canadian company, Seldirk Company of Winnipeg, Manitoba.

A United States company operating under a licensing agreement with *Litsensintorg* has further developed Soviet surgical suturing instruments. It has obtained United States patents on these improvements and intends to market such instruments.<sup>2</sup> The National Patent Development Corporation, New York City, has a license to Soviet electronic sleep devices (U. S. patent 3,160,159).<sup>3</sup> The company has filed United

<sup>2</sup>Rand Development Corporation of Cleveland, Ohio, in 1959 held a license to this item.

<sup>3</sup>*Ibid.*

States patent applications on improvements to these devices made by United States engineers. At present the device is being clinically tested in order to prepare submission data for possible Food and Drug Administration clearance preliminary to marketing.

The Soviets have had success recently in Britain in licensing artificial limbs which can be used for thalidomide babies, and in the United States they have licensed a method for an accelerated champagnization process. An Italian firm has taken a license to produce a Soviet-developed system for automatic industrial pneumatic installations. Finsilta SpA, an Italian agent for *Litsensintorg* has been negotiating with Italy's state-owned Finsider Corporation for a license to exploit a Soviet-developed special electrode for welding iron and steel as well as with the privately owned Edison SpA for a license to manufacture and sell a novel railway car coupling.

*The Economic Gazette*, the official Communist party newspaper of the USSR, which emphasizes technology, announced on September 2, 1964, that the Japanese government had approved a Kobe Steel Works agreement to take a Soviet license to produce and use special electrodes for melting and welding high quality pig iron and has a separate agreement whereby Kobe Steel Works agreed to purchase the process and equipment from the Soviets to smelt or resmelt metals and alloys in a cooled-pressure furnace. The same issue asserted that *Litsensintorg* had granted an eight-year license to the Montreal Prosthetic Institute of Montreal, Canada, to produce and sell in Canada bioelectric shoulder prosthetic devices. The Soviets are to provide the Institute with a number of working models and full technical documentation.

Recently there have been announcements that British and United States companies have taken licenses to a new kind of plastic contact lens developed by the Czechoslovaks. It was asserted that the development may eventually make all existing contact lenses and even all spectacles obsolete. The plastic—a jellylike material—can be molded into a contact lens that need never be removed from the wearer's eye. It permits the natural moisture on the eye surface to flow through the plastic, instead of over or around it as in contact lenses at present. But specialists at London's Moorfield Eye Hospital who have been experimenting with the new material, say that many problems remain to be solved and one researcher predicts that it will take ten years to perfect the new lens.

#### BLOC POLICY TO PROMOTE FOREIGN-PATENT LICENSING

To increase the number of successful negotiations the vice chairman of *Litsensintorg* has invited United States businessmen, if they have an



interest in or knowledge concerning Soviet innovation, to make a direct approach to the agency, which would obtain the invention information, know-how and data, file the necessary patent applications, and license or sell the innovation outright in a package deal. In fact, licensing contracts have been consummated by the Soviets which, in effect, constitute a barter contract. The chairman of *Litsensintorg* has also publicly encouraged contacts from Western companies that have learned about Soviet technical innovation from Soviet scientific and technical publications or other sources.

Enterprise managers and research directors in the Bloc countries are presently being told not to overlook the foreign-sales potential of innovations and the need to file foreign-patent application prior to publication in order to obtain foreign proprietary-rights protection. In fact the Soviet Union issued patent regulations on July 24, 1963, that were designed to carry out this intent. The regulations require all research institutes and other agencies that are working on technological innovations to file promptly the applications on inventions with economic potential with the State Committee for Inventions and Discoveries which would undertake the necessary preparations for filing foreign-patent applications.

To emphasize this policy position an article appeared in *Pravda*, the official Communist party newspaper, announcing the regulation and asserting that the protection of Soviet inventions in foreign countries and the sale of licenses was essential as a source of replenishing Soviet gold and foreign currency. The Soviet Union was unable to obtain foreign patents for a high-speed compression because a Professor Velikanov of the USSR Academy of Sciences had rushed into print with his contribution prior to reporting it to the State Committee. As a result, in many countries, the publication or the issuance of the Soviet patent became a statutory bar to obtaining patent protection.

A search of the Soviet technical literature directed to the claims of several United States patents issued to Soviet inventors leads this author to conclude that in several instances prior publication in the Soviet Union occurred early enough to constitute a statutory bar. So, the criticism raised by the *Pravda* article is relevant, and as such it may be directly pertinent to the validity of several United States patents issued to Soviet inventors. However, propaganda, the mechanism of party and state communications, is being utilized in order to educate Soviet inventors and to prevent in the future such incidents as Professor Velikanov's, as well as to bring forth inventions for the foreign-licensing program of *Litsensintorg*. The Soviet ratification of the Convention and its acceptance into the International Union for the Protec-

tion of Industrial Property should be helpful because of the reciprocal right of a year to file patent applications in other member countries, and with the priority of the date in the Soviet Union.

The Polish inventions law passed by the Sejm (Polish Parliament) in May 1962 contains provisions that provide that inventions connected with exports, foreign licensing, and anti-import production will be especially rewarded by monetary award.

#### LICENSING PRACTICES

The practice and procedure may vary in scope from one Bloc country to another, but the overall desire is in the same direction: The promotion and utilization of patents and new technology as instruments to acquire foreign currency and to increase trade with the countries of the West. The trade journals of the Bloc countries carry announcements and advertisements of new processes and products for domestic and foreign interest.

The Rumanians, Hungarians, and other Bloc members are actively pursuing Western promotion opportunities in this area. They promote and participate in foreign-trade fairs and domestic exhibits. In addition the Soviets have made varying agreements with various Western enterprises to act as their licensing agents in certain countries (e.g. Japan, Italy, France, United States, and Britain). They are considering contracting with various Western companies concerning licensing broad sectors of technology. They now advertise, through mailings, conferences and other means in Western countries, that they have patented inventions and know-how available for licensing. However, the success of their licensing efforts can only be determined by the extent of the invention's market use and its resulting income in relationship to the cost and effort. As of now, a sufficient period of time or experience has not elapsed to attempt to pass judgment.

*Litsensintorg*, *Polytechna*, and the trading organizations largely follow the accepted Western practices in the negotiation of licensing agreements. They require that the prospective licensee be a firm which not only can produce the item in the quantity and quality required, but will also be able to successfully market as well as to develop further markets. The terms would normally provide for the interchange of information concerning improvements and modifications made, periodic plant visits to evaluate development, production, and exclusive licenses for a period of usually 10 years. It would include either a paid-up sum or an initial lump sum plus annual royalties of gross sales depending upon expected sales volume, profit margin, the amount of further development, the degree of technical assistance, usually together with

a minimum-production royalty guarantee as well as arbitration clauses.

As in all business endeavors, many disappointments occur. The turbo drill did not turn out to have its implied potential. Several United States companies thought that they had understandings with the proper organization for the purchase or licensing of technology only to discover later that the particular agency never had had or had lost such authority. The axiom applies here, as well as in domestic trade, that the party must have the authority to assign clear title to the item of exchange.

For example, a Soviet agency forwarded to Smith, Kline and French, a pharmaceutical company, specific chemical compounds for screening. SKF analyzed and tested the compounds to determine whether they possessed pharmacological activity. The company undertook the task, believing it had obtained exclusive licensing rights to market the compounds in the United States if they proved to be useful as drugs. However, the Soviet organization which released the compounds did not have the authority to grant such rights.

#### PATENT FILING BY WESTERN COMPANIES IN THE BLOC COUNTRIES

As the Communist nations now actively file for patents in the West, it is of interest to determine whether Western companies file for patents, or their equivalent, within the Bloc countries. It is also pertinent to ascertain what proprietary and trading significance these patents may have. Several large Danish, Swedish, British, United States, French, and Italian companies over the past few years have filed either for patents or certificate of authorships in the Soviet Union or other Bloc countries. The number of filings is still very minor.

However, in the past two years there has been an upsurge of United States and Western companies filing patent applications in Bloc countries. In 1963, 124 requests for licenses for the export of technical data were approved by the Department of Commerce Export Control program for filing of patent applications with Bloc governments, and in 1964, 292 requests were approved. During the fourth quarter of 1964, 78 licenses were granted to United States firms to permit filing of patent applications in Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, Rumania, and the Soviet Union.

The owner of a Soviet patent is entitled to negotiated royalty income for its use, whereas the holder of a Soviet certificate of authorship is entitled to a percentage of the savings up to 20,000 in non-convertible rubles achieved from the efficiency of the invention's use in their economy. The Soviet patent has a term of 15 years commencing with the filing date. It can be opposed any time during its life span, in con-

trast to an author's certificate, which can only be challenged within one year after its issuance. The patent may be revoked, in whole or part, if found to be unpatentable. The Soviet statutes do not allow patents to be granted on foodstuffs, medicines, and methods of treating diseases but their law does allow the issuance of a certificate of authorship on these items.

Soviet patents may be licensed and assigned. The assignment must be recorded with the State Committee on Inventions and Discoveries. Authors' certificates are not transferable. The list of Western companies which have filed in the Soviet Union either for patents or certificates of authorship includes Imperial Chemical Industries of Britain; Montecatini of Italy; Rhone-Poulenc of France; Rohm and Haas of the United States; Smith, Kline and French of the United States; Ericson Company of Sweden, and others.

The Patent Bureau of the All Union Chamber of Commerce is the sole agent for foreign inventors and companies in representation before the State Committee on Inventions and Discoveries. A Soviet patent is expensive to obtain and especially to maintain. At present there are only 200-plus patents on foreign inventions in effect in the Soviet Union. The issued patent descriptions are, in most instances, insufficient as a disclosure to effectively practice the invention. The examination is relatively poor. The claims are vague, without definite metes or bounds. A result is that the scope of the invention as to its use is hard to ascertain.

#### PATENT USE IN A BLOC COUNTRY

It is difficult, if not impossible, to determine the extent of the volume of use to which a patented invention is applied in the Soviet Union and to calculate royalty payment due, based on sale or use. This is partly due to the fact that the right to inspect production facilities is not granted. However, recently several British companies reported license agreements with such provisions with Polish enterprises and they encountered no difficulties in carrying out an inspection of the production operation. At present, prices are still arbitrarily determined and usually have no resemblance to the invention's marketing price in Western countries. And if the Soviet or other Bloc governments find the invention is of special value for the benefit of the state, for purposes of defense or for the fulfillment of the national economic plan, the Council of Ministers of the USSR or the responsible agency of other Bloc countries can permit any use, including consumer, and payment is fixed. The act of enjoining Soviet industrial organizations from using and making the patented invention for the commercial

market does not exist as it does in the United States and other Western countries.

The Polish, Soviet and other Bloc countries' patent statutes state that the granting of a patent gives the right to the exclusive use of the invention industrially and commercially throughout the country. However, the exceptions and the lack of enforcement means may destroy the force and effect of this right. The law makes clear that the holder of the patent may not make use of his patent in any way which infringes upon the principles of the public interest in the Bloc state. The Soviet patent statutes do not provide the means of excluding others from manufacturing and utilizing the patented invention and it cannot be used to monopolize the market for exports to the Soviet Union. Further, as all items are manufactured and distributed by government facilities, the patentee cannot undertake to manufacture, produce and/or distribute items in the Soviet Union or any Bloc country. As a rule, an invention will not be utilized in the Soviet Union unless it is asked for by the factory manager and the pertinent State Committee and allocated as part of the economic plan.

Recently the Krupp Company of West Germany and other Western firms have entered into negotiations involving cooperative ventures with Poland, Hungary, and other Bloc countries. As a result of the proposed Krupp-Polish agreement, publicity was given that the building of factories in Poland would be the property of the West German company or the joint property of the "Communist government and the Krupp firm." An official Polish statement followed which stated that manufacturing companies or other forms of organizing enterprises owned and operated by capitalist concerns in Poland cannot exist since the principle of socialist ownership of production means is basic to the social system. Thus, even with present changes, it is very doubtful if, in the immediate future, Western companies will be allowed to manufacture or produce items in Bloc countries. However, Western companies may be allowed to invest in and manage a Bloc production unit with an allocation of the unit's production, or production sharing.

Then why do Western enterprises file for and receive Soviet or other Bloc-country patents or certificates of authorship since they do not possess any control as to whether or how the inventions will be made, be used, or be marketed in the USSR?

In the case of the United States companies, the efforts appear to be experimental. With European firms it is believed that the value of filing for and obtaining Soviet patents is mainly as a bargaining factor in present or future negotiations. In certain instances, in connection with either a negotiated agreement or for an independent reason, the

Soviets have made royalty payments, usually a lump sum, for the Soviet manufacture and use of items for which Western companies obtained Soviet patents. But again it appears that a distinct need and desire existed to maintain good business and contractual relations with the particular Western firm and the Western commercial community in order to avoid embarrassment. Yet, with the rapidly shifting economic and management changes in the Bloc countries, some Western companies have found that there is an honest attempt by Bloc countries to abide by Western commercial rules and therefore such companies may act to obtain patents for possible future enhancement of their bargaining position.

#### LICENSING BLOC INDUSTRY

Royalties for processes, patents, data and know-how are, as a rule, negotiated as part of the license and/or plant purchase agreement. Where the payment is not a lump sum, it is usually a sizable lump sum plus subsequent royalties in the 3-10 percent range. However, since there is no basis of checking on the exact volume produced and sold, or necessarily on a reasonable price relative to Western market prices, or on the inspection of Bloc production facilities, minimum royalty payments per year are usually required. To estimate such "royalties" the Western companies usually take, as an arbitrary reference, the percentage they would get from the sales of a licensee in another large or similar market and apply that percentage to the expected production capacity utilized in the Bloc country. Thus, the annual payment, really part of the total sum divided into annual amounts over the life of the license agreement, may include technical-assistance terms, such as training technicians in the use of the innovation at the site of the Western company or the rendering of technical assistance at the Bloc plant site.

A negotiation of interest is the proposed East German contract with the United States companies, Standard of Ohio and Litwin Engineering to build an estimated \$25 million acrylic fiber plant using SOHIO's acrylonitrile monomer process. The State Department's assertion relating to the granted export license gave a \$13 million tag to the process, know-how, and technical data part of the contract. Another such overall contract involves Rumania's purchase of a liquid ammonia and a urea plant from a West German contractor involving an ammonia process and know-how licensed from a Danish firm and a urea process licensed from a Dutch contractor.

Examples of overall plant-purchase agreements between the Soviet foreign trading organizations are (1) Simon-Carves Ltd. of Great Britain to build four polyethylene plants using Imperial Chemical In-

dustries Ltd.'s processes, patents and technology; (2) Courtaulds Ltd. of Great Britain, since 1958, to build triacetate fiber, viscose tire cord, acrylic fiber and acetate yarn plants applying Courtaulds' processes and technology; (3) Continental Engineering NV of Amsterdam to build two caprolactam plants and four urea plants utilizing processes developed by Netherlands State Mines NV; (4) Polyspinners Ltd. for a polyester plant in which Imperial Chemical Industries Ltd. will be provided; (5) Toho Bussan whereby Chiyoda Chemical will provide the engineering for a polyvinyl chloride plant using process technology supplied by Kureha Chemical; (6) Toya Menka Trading Company whereby Fuginagata Shipbuilding and Japan Chemical Machine Manufacturing will equip and the latter company, with Kansai Catalyst, will supply process technology for a rubber antioxidant plant; (7) SPEICHEM (Société pour l'Équipement des Industries Chimiques) of the Schneider group for seven plants including phosphoric acid plants with the company providing the know-how, technical assistance and supervision on a continuous basis; (8) VOEST of Austria to build a \$35-million oxygen converter steel plant using the VOEST process with 15 Austrian and German companies providing supplies; (9) the Swedish firm Karlstads Mekaniska AB for a magazine pulp mill with technical know-how provided by another Swedish firm.

A significant licensing agreement was entered into by the Soviets, with Burmeister and Wain of Copenhagen, to use the Danish firm's technology and technical assistance for the production of specific marine diesel engines by Soviet industrial organizations. The Soviets are negotiating with Lenzing-Chemiefaser AF of Austria to license its newly developed process, plans, and know-how for the manufacture of a rayon fiber plant which Fried Krupp of West Germany will build.

In 1960 *Polytechna* of Czechoslovakia obtained licenses from Montecatini of Italy for the production of ammonia, acetylene, and methane, with Imperial Chemical Industries of Britain for the production of polyester fibers, and Bayer AG of West Germany for the hydrogenation refining of benzene. Recently *Polytechna* together with *Strojoimport* (construction import) negotiated a \$6.1 million contract with the Mitsubishi interests of Japan (Nissho Co., Mitsubishi Chemical, and Mitsubishi Heavy Industries) for a 10 metric tons per year 2-ethyl hexanol and butanol plant. The awarding of the bid was that the Mitsubishi process resulted in high yields and quality Imperial Chemical has licensed a number of Eastern Bloc chemical operations. The Netherlands State Mines NV, through its subsidiary Stamicarbon NV has licensed the State Mines urea production process to the Hungarian state enterprise, Chemo, in the construction of two 300-ton-per-day

plants. The Poles, Bulgarians, Rumanians, and East Germans, too, have concluded successful licensing agreements with Western companies.

There are several new developments involving the licensing of Bloc enterprises that are playing an important role. Over the past few years several of the Bloc nations, in order to intensify their export, have concluded agreements with various Western firms to cooperate in the production of equipment which is then sold on the home market of their partner, or is exported to third markets. Poland has entered into such agreements with Italian, Austrian, Swedish, British, and West German companies. Under such agreements the Bloc enterprise exports, as a cooperative trading partner, various categories of industrial equipment, sub-assemblies, machines and other items to the Western partner. The items are in many instances produced under a license. The Bloc nations believe these agreements stimulate their technical progress and contribute to the overall quality and design of their products as the result of the use of foreign licenses, data and technical know-how.

There are examples where a Bloc country has pirated technology. The Soviet Union, in one instance, invited a United States company to demonstrate a specific item. The company did so. The end result was a case of piracy of not only the item, but also of the accompanying technician.

#### INVENTION-PROPERTY RIGHT PROTECTION

The Bloc nations do not, as yet, provide the same kind of full protection to inventions patented in their country as is provided by the United States or by other industrial states of the West, i.e. regardless of whether the inventor or assignee is a national of the Bloc country or that of the West. Given the existence of a totally planned national economic system, accompanied by state ownership of all industrial activity, it must be assumed that it will remain impossible to achieve such protection unless further changes are generated in the management and operation of their economic system.

In many ways, the procedural operation in effect in the Bloc country is similar to that which emerges in connection with the manufacture and use of a privately owned patented invention by the governmental sector of the United States economy. The main difference is that, at present, in their case the government sector is co-terminal with the total economy. According to our experience, the Government may utilize any patented invention, but the owner has a claim for compensation against the Government for such an amount as he may file for in the United States Court of Claims. Similarly, in Bloc countries the govern-



mental enterprises may use any patented inventions, but the patent owner does have a legal cause of action for compensation under their statutes. As a result, there is no bargaining at arm's length or negotiation concerning accounting, arbitration and royalty terms related to patents obtained by Western companies in a Bloc nation. This type situation also exists in countries of the West, such as Mexico. Similarly, the industrial company of the West, in trading with the Bloc countries, is confronted by a set of unfamiliar conditions in the exchange of intangible valuables to be decided by a system with little experience in the area of exchange. This system continues to function in an economic and philosophical environment which is changing due to pressures, the necessity to trade and to maintain systematic economic contact with the community of the more advanced industrial nations.

#### CONCLUSION

The Bloc countries desire to trade with the West. The more advanced industrial nations of Western Europe and Japan, in turn, actively seek increasing commercial relations with the Bloc states. The result is a continuing trade growth between East and West.

The Bloc nations have moved away from the Stalin-imposed policy of (autarchy) attempting to achieve technological and economic progress in isolation from the rest of the world. Basic changes have been made which affect their economic and management system. They realize that to share in world trade they must improve their economic efficiency, create greater incentives and introduce new technology. Accordingly, they have modified their wage system by eliminating the last vestiges of the equal-pay-for-all doctrine. They have introduced profit sharing for industrial labor and collectivized farmers. They have decentralized their national economic planning and management system. They now allow certain industries and soon will allow many more industries to operate on a market-demand basis. Greater discretion has been granted to individual plants and their managers. Higher priorities are given to consumer industries and a more realistic pricing system has been instituted. Price as a market force has been restored to respectable regard by official Soviet, Czechoslovak, Polish, and other Bloc economists. Joint or cooperative ventures with capitalist Western enterprise are being discussed as a common occurrence rather than a rare exception.

In order to purchase and sell technology and equipment, the Bloc nations have adopted many of the accepted commercial practices in the West and conscientiously meet their trade obligations. They seek patents for their inventions in the leading industrial countries of the

West and attempt to capitalize on them for advantage or trading purposes. They openly try to exploit licensing arrangements involving their innovation, data and inventions. Most of the Bloc nations are now members of the International Proprietary Rights Convention and the European Arbitration Convention. In spite of past and existing restrictions of critical thinking on travel and communication, and their rigid Marxist indoctrination, the citizens of the Bloc countries are becoming educated and accepted citizens of the world.

Western trading concerns have been able to negotiate agreements and contracts with little or no delay when the Bloc trading organization had firm orders from their prospective user and clearances from their economic planning agencies. By the same token Bloc trading organizations have been able with little delay to negotiate contracts with Western companies if the necessary export licenses, guarantees and clearances are promptly available. Western firms have entered into a growing number of licensing arrangements with Bloc enterprises. Western industrial companies now file for patents for their inventions in Bloc countries. There is a growing basis for exchange and understanding between the Bloc countries and the West.

To trade, nations need a mutual desire and a firm basis of exchange. The Bloc states have negotiated bilateral trading agreements with major commercial nations of the West. Many of these Western countries have entered into barter arrangements with Bloc countries. Western companies have banded together in order to provide the sum total needed to complete the purchase as desired by the Bloc state. To further expand their commercial exchanges, many countries of the West have granted long-term credits to Bloc countries. The growth of trade between the Bloc countries and the industrial countries of Western Europe has led to the reestablishment of former natural trade routes and areas such as the Danube Basin and the Baltic Sea. As a result there has been a definite upsurge in East-West trade.

Substantial impediments to trade still exist. Despite the recited incidents of change, Bloc countries are governed by a politico-economic system which is quite unlike that familiar to the West. It is a system where all manufacturing and distribution is still in the hands of the state. It is a system undergoing an upheaval. So, Westerners seeking to trade have difficulty establishing effective business contacts, finding the real buyers, and obtaining the necessary clearances. For reasons of national policy the Bloc nations, as a rule, do not allow the establishment of foreign business offices within their national domain.

Drawbacks to greater United States East-West trade are many and include lack of credit guarantees, credit bans, denial of most-favored-

nation treatment, stringent export control, lack of understanding of the methodology of their trading mechanisms, disinterest and boycott. A willingness to explore ways to increase United States East-West trade has been expressed by President Johnson. In turn, the present Bloc leaders have indicated a willingness to discuss and remove hindrances to international commercial exchanges. Many of the leaders of Western Europe have expressed similar sentiments especially if they envision accruing benefits from such trade. The trend for greater East-West trade will continue, even though limited by the politico-economic system and exchange capability of the Bloc countries, military actions and the national policies of all the involved nations. In any event, increasing East-West trade exchanges bring about greater activity involving proprietary rights.



# The Number of Patentees in the United States

BARKEV S. SANDERS\*

## SUMMARY

**A** FUNCTIONALLY USEFUL DEFINITION OF AN INVENTOR is one who has received one or more patents from the United States Patent Office. Only one study by L. J. Carr is known where an attempt was made to determine the number of patentees. Carr tried in 1916 to do this by selecting a random sample of patentees from the list maintained by the Patent Office to determine empirically the frequency with which his list of patentees reappeared year after year. He did this for ten years and estimated that in those ten years there had been 195,579 different inventors to whom one or more patents had been issued. This approach is cumbersome and cannot give the total number of patentees in the population at a given time.

In this paper an effective method of estimating the number of living patentees is developed. Used in conjunction with the data obtained through the Patent Utilization Study it indicates that there are about 225,000 "independent" and 235,000 "employee" patentees in our population. This is equivalent to about four patentees aged 20 and over, per 1,000 population. The average age of these patentees at the time when they first became a patentee is about 45 for "independent" and 38 for "employee" patentees. The age of all living patentees is estimated as 60 and 55 for "independent" and "employee" patentees, respectively. The average "independent" patentee receives two United States patents in his lifetime. The corresponding average for the "employee" patentee is about four.

It is believed that a precise knowledge of the number of inventors, their productivity and their changes would all prove a useful index of the favorable or unfavorable effect of our laws and the practices affecting the patent system.

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**H**OW MANY LIVING INVENTORS ARE THERE? Are their numbers increasing or diminishing in our population? How productive is each inventor? Have the changes in patent law or patent practice affected

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the number of new inventors and their patent productivity? Before we could attempt to answer these and similar questions we need some sort of clear cut definition of an inventor. I recommend a functionally useful definition. Such a definition of an inventor could be a person who has received at least one patent from a country where novelty is a prerequisite to patenting. I shall restrict my definition of an inventor to residents of the United States who have obtained jointly or singly one or more patents from our own Patent Office. The single patentee still characterizes the bulk of our patentees.<sup>1</sup> We shall not differentiate joint or single patentee in our definition of an inventor; in our count of patentee we use no qualitative criteria as to the merits of the patent or the degree of inventiveness manifested by it as long as our definitional criterion is satisfied. With such a definition, how many living patentees are there in our population now?

When thus limited to patentees of the United States, I know of only one study where an attempt was made to estimate the number of living American patentees. This study was made by Professor L. J. Carr (now deceased), nearly 35 years ago at the University of Michigan.<sup>2</sup>

#### THE ATTEMPT OF PROFESSOR CARR TO ESTIMATE THE NUMBER OF PATENTEES

Professor Carr approached his problem somewhat differently from the approach I shall use. As a consequence, he never arrived at an estimate of the number of living patentees at any given time, though we believe that was the goal he was groping toward.<sup>3</sup>

For his study, Carr selected a random sample from a list of patentees to whom one or more patents had been issued in 1916. Such a list is maintained by the Patent Office. Had he determined the proportion of initial patentees to those who had had prior patents in 1916 and ascertained the ages of these, their number in the population could have been estimated, assuming 1916 was typical of other years in this respect—an assumption which Carr relied upon for all his estimates.

Carr found that these 1,000 patentees and 169 joint inventors

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<sup>1</sup> Siegel, I. H., "Dominance of Sole Patentees in Computer-Related Technology," *IDEA*, Vol. 8, No. 1 (Spring 1964), pp. 45-50.

— "On Individual and Joint Patent Production," *PTC J. Res. & Ed. (IDEA)*, Vol. 6, No. 2 (Summer 1962), pp. 241-260.

— "Persistence of The Sole Inventor," *PTC J. Res. & Ed. (IDEA)*, Vol. 5, No. 2 (Summer 1961), pp. 144-149.

<sup>2</sup> Carr, L. J., "The Patenting Performance of 1,000 Inventors During Ten Years," *Am. J. of Sociology*, Vol. 37, No. 4 (January 1932), pp. 569-580.

<sup>3</sup> Thus one of his subheadings is "How Many Inventors Produce Our Patents?" *Ibid.*, p. 572.

accounted for 1,321 patents issued in 1916. The 1,000 sampled patentees accounted for 3,457 patents issued in the ten years, 1916-1925, inclusive. Of course, one cannot approximate from these ten years the average number of patents that the average patentee may receive in a lifetime nor estimate the number of patentees living at any given time. We shall attempt separate estimates for "independent" patentees and "employee" patentees.

The 1,000 sampled patentees included 904 residents of the United States or nearly 90 percent; the balance were non-residents. Carr's study concerns itself primarily with these 904 resident inventors sampled systematically taken from the alphabetical index kept by the Patent Office. There is a reference to 148 with these 904 joint inventors, but future patent productivity of these joint inventors was not pursued,<sup>4</sup> despite the fact that the proportion of patents per patentee used in 1916 by Carr in making his estimates was based on dividing 1,204 patents issued to 1,052 ( $904 + 148$ ) patentees in 1916, giving 1.144 patents per resident patentee. We see no rational basis for the exclusion of these joint patentees in estimating the overall number of patentees. Professor Carr makes no effort to justify this exclusion of some 14 percent of the patentees responsible for the 1,204 patents produced by the resident group in 1916.

Carr assumed that the ratio between patentees and patents of 1.144 in a single year would remain more or less constant from year to year. Therefore, dividing the number of patents issued to residents in each of the years 1917-25, inclusive, and in 1930, he obtained by this ratio an estimate of what he regarded an unduplicated count of patentees within each of those years. He did not test from year to year the invariance of 1.144. Even though the assumption of invariance seems a plausible approximation, the ratio cannot be regarded as independent

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<sup>4</sup> With respect to these joint patentees Carr makes the following observation in a footnote: "The patenting records of the partners were not followed, and no count of partners was kept beyond 1916, except in the case of 86 individuals selected at random. These 86 had 21 partners in 1916 and 29 during the whole ten years. *Ibid.*, p. 571.

The proportion of patents with two or more patentees has been increasing progressively over the years, and it is considerably higher for assigned than for unassigned patents. Thus, in the Patent Utilization Study conducted by The PTC Research Institute, the percentage of patents with two and three or more inventors for assigned patents in 1938 was 10.5 and 0.4 respectively. In 1952 the corresponding percentages for assigned patents were 20.4 and 3.1. The percentages for 1948 were intermediate to those observed in 1938 and 1952. For unassigned patents the percentages with two and three or more patentees in 1938 were 5.8 and 1.0, and in 1952, 9.5 and 1.1 with intermediate percentages for patents issued in 1948. For percentage of patents with multiple inventors in more recent years see Siegel, I. H., *Supra*, note 1.

of the number of patents issued in a given year—i.e., there is probably a significant correlation for which Carr made no allowance between the number of patents issued in a given year and the proportion of repeat patents in that year. On the basis of his estimates the total number of patents issued to resident inventors between 1916-1925 was 377,443. It was estimated that there were 329,939 patentees excluding duplication of patentees within each specific year.  $377,443/1.144$  yields 329,933. The difference in this figure and that given by Carr is in rounding, since Carr makes his estimate for each year and adds these together, getting the total patents and total patentees. These estimates give an annual average of 37,744 patents and 32,939 patentees. For 1930 there were 40,535 patents issued to resident inventors and the estimated number of different patentees in that year would therefore be 35,422.

Having made an estimate of an unduplicated count of patentees in each specific year, Carr was after an empirical approach to eliminate the duplication of patentees from one year to subsequent years. To obtain this end, he searched the list of patentees in each of the years from 1917-1925, as well as in 1930, in order to determine the frequency with which any of his sample of 904 resident patentees reappeared.<sup>5</sup> The number of these reappearances is shown in Column (2) of Table 1. He assumed that this pattern of reappearance of the same inventors, except for sampling variability would remain more or less constant for at least such a short stretch of time as ten years. To meet this latter difficulty, he fitted a function to his observations and used the readings from this fitted curve as the average percentage of repeats for each year. These fitted values and equivalent percentages of repeats which Carr obtained are shown in Columns (3) and (4) of Table 1.

The function fitted to the frequency of repeat appearances of the sampled patentees was  $y=ar^t$  in which  $a$  is the origin, or the intercept on the  $y$  axis, 150.99 in this fitting;  $r$  is the rate of change, in this fitting 0.91519; and  $t$  is the time in years running from  $t=0$  for 1916, to 1 for 1917, and so on to  $t=9$  for 1925. Table 1 gives the observed frequencies of repeats, the readings from the fit of the function just described, and the percentage of repeats (obtained by dividing the readings from the fitted function by 904 and multiplying the quotient by 100).

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<sup>5</sup> The multiple appearance of joint patentees found in the 1916 sample should also have been eliminated.



Using the percentage of repeats given in Column (4) of Table 1 reiteratively<sup>6</sup> applied to estimated number of patentees in each year, Carr came up with an overall estimate of 195,579 different resident

TABLE 1—Number of 904 patentees in 1916 sample who reappeared in subsequent years, estimate of these numbers from the trend line fitted to observations, and percentage of repeat patentees derived from the fitted line—1917-1925.\*

Year	Observed	Line of trend**	Trend as percentage of 904
(1)	(2)	(3)	(4)
1917	177	150.99	16.7
1918	130	138.18	15.3
1919	129	126.46	14.0
1920	106	115.75	12.8
1921	102	105.92	11.7
1922	88	96.94	10.7
1923	89	88.71	9.8
1924	98	81.19	9.0***
1925	96	74.30	8.2

patentees who received one or more United States patents from 1916 through 1925. He concludes thus:<sup>7</sup>

The net total of names not duplicated during the decade turns out to be 195,579. In other words, during the years 1916-25 inclusive, in Continental United States exclusive of the *District of Columbia and Alaska*, 195,579 different inventors took out patents. This is, of course, merely an approximation depending on the adequacy of our sample

\* Carr, L. J., "The Patenting Performance of 1,000 Inventors During Ten Years," *Am. J. of Sociology*, Vol. 37, No. 4, Table III, (Jan. 1932), p. 574.

\*\* The trend line is obtained by fitting  $y = ar^b$ , as explained in the text, to the frequencies in Column (2).

\*\*\* In the original this is given as 8.9.

<sup>6</sup> Reiterative process is as follows: all the patentees of 1916 were included as an unduplicated count of patentees. In 1917, 16.7 percent of the patentees in 1916 were subtracted from the estimated patentees on the basis of the fitted curve indicating that that proportion of patentees in 1917 had already been encountered among the 1916 patentees; the rest were considered all new patentees—unduplicated. In 1918, 15.3 percent of the patentees counted in 1916 are subtracted from the patentees estimated for 1918, and 16.7 percent of the patentees of 1917. The remainder is considered unduplicated patentees for 1918. It is apparent that if this process were continued long enough negative figures would come up which would be embarrassing, so Professor Carr, to save effort and avoid possible difficulties, stopped with 1925.

<sup>7</sup> This number would have been smaller had the joint inventors also been eliminated.

and the validity of our assumption that the patent rate per group of individuals tends to remain constant from year to year.<sup>8</sup>

That Professor Carr was groping for a method to estimate the number of living patentees is apparent from the observation which follows. Relating his estimate of 195,000 to 196,000 patentees to the total population age 25 and over he wrote:

There was approximately one patentee to every 551 persons in the United States. In other words, *less than two-tenths of one percent of the population [age 25 and over] was carrying on the work of material invention.*<sup>9</sup>

Of course, Carr was fully aware that his 195,579 patentees were not all the living patentees. In fact all of the 195,579 never lived simultaneously as patentees. The 195,579 patentees represent a stream of patentees that lived sometime in the period 1916-1925 and took out one or more patents within that interval. Carr had sagacity enough not to stretch his reiterative process beyond 10 years, even though he made some adjustments in his observational data and fitted his function  $y = ar^t$  to these adjusted observations in (1) dropping from observation 1917 and in (2) dropping from observation the year 1925

$$y = 155.4 (0.94236)^t \quad (1)$$

$$y = 177.9 (0.92627)^t \quad (2)$$

and projected these curves to the year 2,000 at which time the value of  $y_{(1)}$  is 1.3% and  $y_{(2)}$ , 0.3%. But he avoided any estimate of the unduplicated count of patentees for the years past 1925, observing:<sup>10</sup>

It is possible to predict the number of patentees from any given year who will reappear in the patentee index of any given year in the future. *But such predictions involve a considerable degree of error and should not be extended more than a few years from the date of estimate.*<sup>11</sup>

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<sup>8</sup> Carr, L. J., *Ibid.*, pp. 573-74. Emphasis added. In this quotation Professor Carr seems to be saying that his estimate of patentees is exclusive of those residing in the District of Columbia and Alaska. We do not believe there is any basis for this. The number of patents which he uses in Table I from which he estimates the number of patentees appears to be all patents issued to the residents of the United States in those years. In fact the number of patents of resident patentees which he used in his Table I are consistently somewhat higher than the number of patents reported in *Historical Statistics of the United States, Colonial Times to 1957*, published by the Bureau of the Census as a supplement to United States Statistical Abstracts, Series W 66-76, p. 607.

<sup>9</sup> *Ibid.*, p. 575. Emphasis added.

<sup>10</sup> From what has been said, it should be clear that not all the 195,579 unduplicated patentees who had one or more patents issued to them during 1916-1925 were living at the end of that period.

<sup>11</sup> Carr, L. J., *Ibid.*, p. 580. Emphasis added.

Carr discussed in some detail the patent productivity of his 1,000 patentees. He found that his 904 resident patentees accounted for an average of 3.5 patents per patentee in the 10 years, while the non-resident patentees averaged 2.7 patents. In his sample there were 11 woman patentees who averaged 1.6 patents. In other words, women patentees accounted for about .5 percent of all the United States patents issued during the ten years from 1916 through 1925. Carr showed that over 53 percent of his resident patentees appeared only once in the ten year span, that is, had only one patent issued to them during these years. The distribution for the 904 resident patentees with one to ten patents within the ten years from 1916 through 1925 is shown in Table 2.

TABLE 2—Frequency of one to ten patents granted to the resident patentees in the sample in the years 1916-1925, inclusive.\*

No. of patents in ten years	Patentees actually observed			Number of patents		
	No.	%	Cumulative %	No.	%	Cumulative %
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	480	53.1	53.1	480	15.2	15.2
2	147	16.3	69.4	294	9.3	24.5
3	83	9.2	78.6	249	7.9	32.4
4	46	5.1	83.7	184	5.8	38.2
5	30	3.3	87.0	150	4.7	42.9
6	12	1.3	88.3	72	2.3	45.2
7	13	1.4	89.3	91	2.9	48.1
8	15	1.7	91.4	120	3.8	51.9
9	11	1.2	92.6	99	3.1	55.0
10	9	1.0	93.6	90	2.8	57.8
Total	846	93.6	—	1,829	57.8	—

\* Carr, L. J., "The Patenting Performance of 1,000 Inventors During Ten Years," *Am. J. of Sociology*, Vol. 37, No. 4 (January 1932), Table V, p. 577.

Table 2 accounts for 846 resident patentees, 93.6 percent of the total, who account for 1829 patents. This constitutes less than 58 (57.8) percent of the patents issued to the 904 resident patentees. Each of the 58 sampled patentees not appearing in Table 2 received eleven or more patents in the ten years. Each of the eleven of these 58 received 41 or more patents in the ten years. Each of the two of the patentees in the sample with the highest number of patents received 65 patents during the ten years. Carr compares these two

with Thomas Alva Edison, who was not in the sample, but who was found to have received 78 patents in these same ten years.<sup>12</sup>

#### OUR ESTIMATE OF THE NUMBER OF LIVING PATENTEES

What Professor Carr missed was the concept of dividing patentees into cohorts and following each cohort through. That this was his difficulty is made clear by another paper of his.<sup>13</sup> From the title of this earlier paper, "Typical Inventors," it would appear that Carr had already been struggling with his paper on "The Patenting Performance of 1,000 Inventors During Ten Years" which we have analyzed extensively. The effort in 1927-28 was perhaps a part of his groping for a method of estimating the number of living patentees. From his analysis of the productivity of 904 resident inventors when he wrote his paper in 1928 he knew that the average patentee has very few patents to his name. Probably Carr thought this average would be confirmed from a sample of patents the inventors of which were reached by a questionnaire. He must have been surprised when the patentees who were reached from a sampling of patents turned out to have on the average many more patents than he was prepared to expect.

His sample for this 1928 published study consisted of patents and not patentees. How large this sample was we are not told, but these patents were selected at random from the Patent Office Gazettes of September 7, 1926 and July 5, 1927. Questionnaires were sent to the patentees of these sampled patents as was done in the "Patent Utilization Study" by Rossman and Sanders, undertaken for The PTC Research Institute of The George Washington University, Vol. 1, No. 1 (June 1957), p. 174. Professor Carr labeled his paper in terms of "typical inventors" because he thought if he selected patents at random, the sample of patentees responsible for these patents would

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<sup>12</sup> Of course, this is just an interesting bit of information thrown in, since 1916-25 was not a period in the life of Edison when his patent productivity was at its highest, although in all probability this was the case with respect to the two patentees in Carr's sample. We assume that patent productivity, on the average, reaches its maximum intensity when patentees are in their thirties and early forties and then declines gradually, notwithstanding the assertion of Dr. E. H. Land, who in his acceptance speech as recipient of the Kettering Award, on June 17, 1965, denied that there was any slowing down in inventive productivity with advancing age. (See *IDEA*, Vol. 9, Conference Number)

<sup>13</sup> Carr, L. J. "A Study of 137 Typical Inventors," publication of The American Sociological Society, Vol. 23, Papers and Proceedings, 23rd Annual Meeting held at Chicago, 1928; published in 1929, pp. 204-206.

also be random and therefore "typical"—which is not the case at all. To turn to his own words, he wrote:

One hundred and thirty-seven American inventors, responding to a questionnaire sent out in 1927 to a random sample chosen from The Patent Office Gazettes of September 7, 1926 and July 5, 1927, held an average of 18.2 patents which they had acquired in *an average patenting period of 16.2 years. In this respect my title is a misnomer, for undoubtedly these 137 were somewhat more productive than the average run of American inventors.* Yet over 18 percent had only one patent. At the other extreme, 12.3 percent held fifty-one or more. As to age, they approximated a normal distribution, ranging from twenty-five to more than seventy and averaging 47.3, which is 3.2 years more than the average of the whole population twenty-five and over in 1920.<sup>14</sup>

What Professor Carr failed to realize is that when patentees are selected from a random sample of patents the patentee with 100 patents in a fixed period of time has 100 times the probability of showing up in such a sample in comparison with a patentee with only one patent within this same time interval. Therefore, if one is interested in the average patentee, he must adjust for this over-representation of patentees with many patents in comparison to those with only a few or one patent. One way to overcome this difficulty is to make cohort analysis. By cohort analysis we mean selecting from the universe of patentees those who become a patentee for the first time in a specific year and following these patentees year after year to the end of their lives.

#### THE PATENT UTILIZATION STUDY<sup>15</sup>

In the Patent Utilization Study by The Patent, Trademark, and Copyright Research Institute of The George Washington University, in addition to seeking information on the economic contribution of patents, we also sought and obtained information on various characteristics of the patentees who returned our questionnaire. We also obtained some information with respect to the patentee from the

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<sup>14</sup> *Ibid*, p. 204. Emphasis added. It should be seen that 18.2 patents in an average period of 16 years is way out of line with 3.5 patents in 10 years—which Carr obtained from his sample of patentees. Also only 18 percent of these had only one patent, while Table 2 shows 53 percent with only one patent. Unquestionably the 137 patentees obtained from a systematic sample of patents do not represent an appropriate sample of patentees.

<sup>15</sup> Some of the material included in this section was presented in Seminar Number II of the meeting sponsored by the Commemorative Committee of the 175th Anniversary of the United States Patent Act in Washington, on April 8, 1965.

assignee. Bits of the information, such as the age and educational level of "independent" and "employee" patentees respectively, were published in the first Annual Conference issue.<sup>16</sup> But much of this type of information regarding the characteristics of patentees still remains for analysis and publication and they are not unlike the characteristics which Carr gives for his 137 "typical inventors." We shall not stop here for any comparisons of these two groups. The age composition of the patentees responding to our questionnaire is given in Table 3 to 5, separately—for "independent" and "employee" inventors en masse, and also after dividing them into initial patentees and others.<sup>17</sup>

In the Patent Utilization Study questions dealing with patentee characteristics include the date of his birth, in view of the fact that age is associated with various other events; the place of his birth, country or state; his education; early signs of inventiveness; his age at the time when he received his first American patent; his occupation, industry and employment status in general, and specifically at the time of his sampled patent; his official position in the company if he were an "employee" inventor; events and circumstances which led to the sampled invention; time required from conception of the sample patent to the stage of development where it was ready for patenting; and detailed information regarding the patent productivity of the patentee. Thus, he was asked the total number of patents bearing his name, the number of those that were assigned, the number that were put to commercial use, and so on, including the rank order of the sampled patent, the number of patent applications which he had pending, et cetera.<sup>18</sup>

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<sup>16</sup> Sanders, B. S., "Patent Utilization," *PTC J Res. & Ed.*, (IDEA), Vol. 1, 1957 Conference Supplement, pp. 67-75 and 150-155; especially Tables D, E, and F in Appendix A, pp. 153-155.

<sup>17</sup> Our patentees of unassigned patents have an average age of about 49 and those with assigned patents about 42. See Table 5. The combination, assuming approximately the same proportion of the two types of patentees in the population would indicate an average age of nearly 46, somewhat younger than the average of nearly 47 years obtained by Carr. But whether this indicates a real change in the average age of inventors in this interval or the non-representativeness of the samples involved is difficult to surmise. Of course, the difference could be attributed to a somewhat higher proportion of "independent" inventors in 1927 than might have been true in more recent years included in our study. There are a number of other factors that could contribute to this difference, but we shall not go into it further at this time.

<sup>18</sup> *PTC J. Res. & Ed. (IDEA)*, Vol. 1 (June 1957), pp. 102-107. See also pp. 109-111 for assignee questionnaire containing some information regarding the inventor of the sampled patent.

From our data it is therefore possible to estimate the number of individuals who enter the patentee club each year—that is those who form the cohort of new patentees in a given year.

In Table 3 we give you some of these statistics. Columns (2) and (3) give the age distribution of all the “independent” patentees in our sample who returned our questionnaire. This would be analogous to the group of 137 patentees that Carr studied, except that he did not differentiate between “independent” and “employee” inventors which we do in Tables 3 and 4. This combined group is a conglomeration of patentees and not an appropriate sample since, as we have pointed out, the patentee with 100 patents in a defined period of time has 100 times greater likelihood of being included in our sample compared to the patentee with only 1 patent to his name within the same period.<sup>19</sup> However, we had additional information to resolve the responding group into its components so as to obtain our cohort of patentees. Using the information on the number of patents and the rank order of the sampled patent we were able to separate the patentees who in a specific year acquired their first patent from other patentees.

It was thus found that of the “independent” patentees about 55 percent of the sampled patents in a given year were issued to those who were getting their first patent. This percentage was reasonably close for the three years and such variations as were observed were attributable to known selective factors.<sup>20</sup> These initial patentees and their age distribution are shown in Columns (6) and (7). Their age distribution is somewhat younger than the age distribution of patentees for whom the sampled patent was not the first patent—

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<sup>19</sup> We have no information whether patent productivity in any way was associated with the probability of the patentee responding to our questionnaire. Carr's sample was also subject to this risk of non-representativeness of patentees who returned a questionnaire, though we do not know how large his sample was or the percentage of non-response. For our sample the percentage of non-response was about two thirds for “independent” inventors and almost half for “employee” inventors. The non-response rate in our study was highest for 1938 and lowest for the 1952 sample indicating, other things being equal, that the inventors who have had a recent patent are more apt to respond than those who had their patent issued some years before. This is partly a function of age since many of the older inventors have died, are incapacitated or have retired and are therefore less apt to return a questionnaire. A significant proportion of the inventors of our sample patents were deceased in 1955-56 when our questionnaires were mailed out.

<sup>20</sup> In using this percentage to estimate the annual cohort of new patentees we are, of necessity, assuming the representativeness of our sample for which we have no conclusive evidence as of now. Originally it was assumed that there would be a follow-up of non respondents to establish the representativeness of our sample, but this has not been possible for lack of needed resources.

shown in Columns (4) and (5). Columns (8) and (9) show the age distribution of patentees with multiple patents as to the reported age when these patentees received their first patent. This latter age

TABLE 3—Age of "independent" patentees at the time of their sampled patent, when they received their first patent, and estimated age and numbers of new patentees in an average year based on samples drawn from patents issued in 1938, 1948 and 1952. Information obtained from inventor questionnaires.

(Preliminary)

Age	Age at time of sampled patent						Reported age at time of first patent		Estimate of 1st inventors in an average year Based on (6)
	All reporting		First patent not the sampled patent		First patent the sampled patent				
(1)	No. (2)	% (3)	No. (4)	% (5)	No. (6)	% (7)	No. (8)	% (9)	No. (10)
15-19	—						2	2.1	
20-24	2	1.0	1	1.2	2	1.9	9	9.5	150
25-29	7	3.4	8	9.2	5	4.8	19	20.0	384
30-34	23	11.2	2	2.3	14	13.4	17	17.9	1,072
35-39	18	8.7	7	8.0	14	13.4	15	15.8	1,072
40-44	30	14.6	13	14.9	22	21.3	12	12.6	1,704
45-49	29	14.1	19	21.8	13	12.5	10	10.5	1,000
50-54	35	17.0	16	18.4	12	11.5	3	3.2	924
55-59	28	13.6	9	10.3	11	10.6	4	4.2	848
60-64	15	7.3	5	5.7	5	4.8	1	1.1	384
65-69	9	4.4	7	8.0	3	2.9	2	2.1	232
70-74	8	3.9	—	—	1	1.0	1	1.1	80
75+	2	1.9	—	—	2	1.9			150
Unknown	1	—			1	—			
Total:	207	100.2	87	99.8	105	100.0	95	100.1	8,000

distribution is appreciably younger (see Table 5) than the age distribution found in Columns (6) and (7). This difference in age could reflect the higher productivity of patentees who start inventing early—that is, become patentees when they are very young.<sup>21</sup> It could also reflect some bias on the part of patentees in reporting their age,

<sup>21</sup> Carr, L. J., *Supra* note 12, in his study of characteristics of his 137 patentees without differentiating them as to whether "independent" or "employee" observes: "The best inventors not only began patenting fifteen years ahead of the poorest and kept at it seven times as long, but they have produced patents more than ten times as fast." Dr. S. C. Gilfillan, cites several other sources on the age of inventors, but there is serious reservation as to how representative these are of patentees in general. This applies to my sample of patentees as well, unfortunately. See "*Invention and The Patent System*" by S. C. Gilfillan, material relating to continuing studies of technology, economic growth, and the variability of private investment, presented for consideration of The Joint Committee, Congress of the United States, Joint Committee print (December 1964), pp. 203-204.



when they received their first patent, as somewhat younger than the facts might have warranted. Perhaps the difference represents a combination of both of these factors.

If, on the average, 55 percent of the patents issued to "independent" patentees in a specific year are issued to those who are becoming patentees for the first time, then in an average year about 8,000 new patentees join this exclusive club forming a cohort which can be followed thereafter. This estimate of 8,000 was obtained by applying 55 percent to the average annual number of unassigned patents issued to resident inventors in recent decades. The approximate age distribution of these 8,000 new club members is shown in Column (10) based on the frequency distribution of Column (6). Given the annual crop of new patentees and the age at the time when the individual joined the club, i.e. entered the cohort, it is simple to estimate the number of these in the population at any given time and their current age composition. Since the overwhelming majority of patentees are white males, we have used the mean life expectancy of white males according to the 1959-61 United States life table to estimate their number in the current population.<sup>22</sup> The estimate thus obtained is 225,000 individual patentees.

Table 4 parallels Table 3. The percentage of patentees among "employee" inventors who received their first patent was 25.3, 30.7 and 31.8 in 1938, 1948 and 1952 respectively. The weighted average for the three years is 30 percent, which figure we have used as the basis of estimation. This yields on the average about 7,000 new "employee" patentees each year.

The age distribution of these 7,000 patentees is shown in Column (10) of Table 4. The estimate of the probable number of living "employee" patentees is essentially the same as that obtained for "independent" patentees. The actual estimate obtained is 235,000 instead of 225,000. But, of course, these estimates are at best a crude approximation based on numerous assumptions the validity of which we cannot attest to with full confidence. Especially weak is our confidence in the representativeness of our sample of patentees. We believe, nevertheless, that these estimates are well within the ball park. More important, we have developed here a method which we can use to make as precise an estimate as is deemed desirable—preferably combining the approach which Carr used in sampling patentees with the cohort method of follow-up which we have developed.

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<sup>22</sup> *United States Life Tables 1959-61*, Volume 1, No. 1, U.S. Department of Health, Education, and Welfare, Public Health Service (December 1964), Table 5, pp. 16-17.

Table 4 parallels Table 3. Columns (2) and (3) give the age distribution of all the responding "employee" inventors. Columns (6) and (7) give the age of distribution of first inventors. These are of special

TABLE 4—Age of "employee" patentees at the time of their sampled patent, when they received their first patent, and estimated age and numbers of new patentees in an average year based on samples drawn from patents issued in 1938, 1948 and 1952.\* Information obtained from inventor questionnaires.

(Preliminary)

Age	Age at time of sampled patent						Reported age at time of first patent		Estimate of 1st inventors in an average year Based on (6)
	All reporting		First patent not the sampled patent		First patent the sampled patent				
(1)	No. (2)	% (3)	No. (4)	% (5)	No. (6)	% (7)	No. (8)	% (9)	No. (10)
10-14							1	.2	
15-19	2	.3	---	---	2	1.0	9	2.0	70
20-24	3	.4	---	---	3	1.5	54	11.7	105
25-29	45	6.6	23	4.8	22	11.1	128	27.7	777
30-34	118	17.2	62	12.9	51	25.8	147	31.8	1,806
35-39	148	21.5	93	19.3	50	25.3	71	15.4	1,771
40-44	117	17.0	87	18.1	28	14.2	23	5.0	994
45-49	109	15.9	86	17.9	20	10.1	19	4.1	707
50-54	68	9.9	59	12.3	9	4.5	7	1.5	315
55-59	39	5.7	29	6.0	9	4.5	1	.2	315
60-64	23	3.4	16	3.3	4	2.0	2	.4	140
65-69	11	1.6	10	2.1	---	---	---	---	
70-74	3	.4	3	.6	---	---	---	---	
75+	1	.1	1	.2	---	---	---	---	
Unknown	23	---	12	---	8	---	42	---	
Total:	710	100.0	481		206	100.0	504	100.0	7,000

\* It should be observed that the age composition will be, in some measure, affected by the interval of time when the patent was issued and when information from patentees is sought. More of the oldest patentees would be eliminated from the sample if the intervening time were greater.

interest to us for our estimates. As in Table 3, the age distribution of these first inventors is younger than the age distribution of inventors for whom the sample patent was not the first patent which they had received—Column (4) and (5). Again, similar to what we found in Table 3, the age distribution of patentees for whom the first patent was the sample patent is considerably older than the age distribution of multiple patentees who were asked to report their age at the time when they received their first patent—Columns (8) and (9.) In all probability both the selective factor than, by and large, inventors who start inventing early in life prove much more productive and a

possible tendency to report a somewhat earlier age at the time of first patent, as a sort of distinction, account for this difference as in the case with the parallel difference observed among "independent" patentees.

TABLE 5—Summary statistics on the age of different groups of patentees who returned a completed questionnaire and the probable age composition of the estimated patentees in the population. (Preliminary)

Groups of patentees	No.	Mean	Med.	S.D.	C.V.
<i>"Independent" patentees</i>					
Age at time of sampled patent—					
All responding	206	48.7	49.0	14.4	29.5
Sampled patent, not the first	87	47.9	48.3	11.0	23.0
Sampled patent, first patent	104	45.4	43.9	11.6	23.2
Reported age at time of first patent	95	37.0	35.2	11.4	30.8
Estimated total in the living population	225,000	59.5	56.9	7.0	12.3
<i>"Employee" patentees</i>					
Age at time of sampled patent—					
All responding	687	42.4	41.2	9.8	23.2
Sampled patent, not the first	469	44.0	43.2	12.1	27.5
Sampled patent, first patent	198	38.5	37.1	8.8	23.0
Reported age at time of first patent	462	32.0	31.3	7.3	22.8
Estimated total in the living population	235,000	55.4	53.2	5.0	9.0

Table 5 summarizes the age statistics characterizing the various sub-groups of "independent" and "employee" inventors. It shows that, by and large, "employee" inventors are considerably younger than "independent" inventors. It shows the probable age distribution of the total number of living patentees in the United States.<sup>23</sup> As it would be expected, this average is substantially higher than the age composition of patentees in the population who returned our questionnaires. This is to be expected, partly because of the sampling bias favoring the most productive inventors who would tend to be inventors closer to their prime, and partly to the greater failure on the part of oldest living inventors to respond to the questionnaire.

The anomaly which shows a lower age distribution for the 87 "independent" multiple inventors must be explained in terms of the exclusion of a few such inventors being included only in the aggregate total of 206 cases of all the inventors responding who could not be identified as being multiple inventors. Otherwise, by logic, the mean

<sup>23</sup> This was obtained by adding to the ages of initial inventors one-half of the years of the prospective life expectancy as a rough approximation of the current ages of 225,000 "independent" and 235,000 "employee" inventors currently living in our population.

age of all responding inventors must be lower than the age of multiple inventors as is demonstrated for "employee" inventors.

The relationship between the mean and the median suggests reasonably symmetrical age distribution both for "independent" and "employee" inventors. Considering the relative magnitude of the mean and the median of current ages reported, the "independent" inventors age distribution tends to be slightly positively skewed at least in some categories, indicating a shortage of persons in older years. For "employee" inventors, without exception, the mean is higher than the median for all groups.

Returning to our main theme, the probable number of living patentees in our population, we could say that in the United States we have less than half a million living patentees at this time—465,000. Related to our adult population, that is those aged 20 and over, this suggests, for both groups of patentees combined, four men out of an average of 1,000 Americans have distinguished themselves as being the recipient of one or more United States patents.

The average life expectancy of the "independent" patentee after he receives his first patent is 28 additional years. In these 28 years the patents produced by this group would approximate 420,000, or an average of about two patents per patentee. The "employee" patentees have a longer life expectancy, that is they are younger, on the average, when they first become a patentee (see Table 5). Their life expectancy after their initial patent is 34 years. The average number of assigned patents produced over 34 years would be about 820,000, averaging about four patents per patentee if it is assumed that all of their patents would be assigned which might not be the case. However, two and four are perhaps rough approximation of patent productivity of the average "independent" and "employee" patentee. These numbers are less generous than those obtained by Professor Carr since they indicate about the same number of patents per lifetime of each patentee as obtained by Carr during a ten year period studied by him. It is quite conceivable that, despite the superiority of our method, our statistics could be more faulty since only about a third of the "independent" patentees in our sample returned a questionnaire. It is possible, therefore, that our sample had a higher proportion of "new-entrants" than was true of the universe of patentees. This could be also true for "employee" inventors of whom about half responded to our questionnaire. Possible, therefore, our estimates of patentees might err on the high side. On the other hand it is quite conceivable that over these 35 years or so there has been a measurable decline in the productivity of patentees. This suggests one of the significant reasons for a study

of this type in order to measure changes in productivity of patentees and to try to determine the forces responsible for these changes in patent productivity.<sup>24</sup>

In the Patent Utilization Study our primary interest was in the patent and its economic role. Therefore sampling from a universe of patents was the efficient course to have followed. In a study in which the primary interest is in the patentee, sampling patentees, as Carr did, and sending them questionnaires, which Carr did not do would be the more efficient course to pursue. Therefore, if resources could become available for the Research Institute to undertake a study along this line, it could be most enlightening and could yield a very useful index of patent productivity and its changes over time associated with other changes in patent legislation and litigation as well as in the numbers of patentees.

Our interest in a more precise estimate of the number and life-time productivity pattern of patentees is not prompted by intellectual curiosity, worthy as that would be, but more by the conviction that only through quantitative analysis of this sort can we evaluate objectively the effect of various Government and nongovernmental changes in the milieu of patenting on inventiveness. Without precise knowledge of these pertinent parameters and the changes in them in consequence to changes in the matrix of forces impinging on inventors, we can go blundering and arguing about what the Government's policy should be towards patents, and as well as towards other vital issues *ad infinitum*. Just as cytology has put a powerful tool in the hands of the pharmacologist so that pharmacological effect and potency of a drug can be observed on individual cells from different tissues, and assessed; so the changes in the number and productivity of patentees, when measurable with reasonable precision, could give us a much more objective guide as to what is the right course to follow to increase worthwhile patented inventions. Armed with this type of measuring stick we would avoid actions that would badger or kill our patent system, the goose that lays the golden eggs.

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<sup>24</sup> If one were a follower of Ogburn, that inventions are inevitable combinations of cultural elements, one would expect a progressive increase in productivity of inventors. On the other hand, as simpler and more obvious combinations are exhausted one can assume that new inventions become more and more complex, and therefore more time consuming. On this latter theory a decline in the number of inventions would seem inevitable. Patent statistics have demonstrated a decline in per capita patenting since the beginning of this century, so a drop in productivity in terms of number of patents involved per inventor might be more reasonable to expect.

It should be remembered, however, that Carr excluded 148 joint patentees. This exclusion, *per se*, would somewhat artificially boost the patent productivity of his sample of patentees.



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## FORUM

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Although the primary purpose of *IDEA* is to communicate the research work of the Institute, it also serves as an educational vehicle for the exchange of informed opinion. This section is intended to serve such educational activity. The positions taken by the authors of papers and notes in this section are not necessarily those of the Institute. It is hoped that the material published in this section will stimulate researchers to undertake further study of the issues.

### Breaking the Innovation Barrier\*

CARL E. BARNES\*\*

**F**IRST OFF I SHOULD MAKE IT CLEAR that I am neither an economist nor a social scientist. I shall speak strictly from the viewpoint of an industrial-research chemist, inventor, and research administrator. I hope this viewpoint will be of interest.

I have been asked to discuss the relationship between research, innovation and industrial development. I think, perhaps, the relationship of research to industrial development is pretty well understood. The basic idea nowadays is that the establishment of brand new businesses (as opposed to the expansion of established ones) is an important part of industrial development. We carry out research in an effort to discover new and useful products or processes on which such new businesses can be built.

This approach to industrial growth became so popular during the post-World War II period that an industry simply was not considered progressive unless it could boast an impressive research and development budget. And if it chose to emphasize "basic research" and "complete freedom" for its research people, then it was even more progressive. I fear that in some companies research was carried on primarily for the purpose of presenting a favorable corporate image. This wasn't too hard to rationalize when the Government paid half the costs.

#### INDUSTRIAL RESEARCH COSTLY

But in recent years some of the glamour has worn off, and more and more, questions are being raised as to whether industrial research is really a good investment. Two years ago a drug executive complained

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\* This paper was presented at the Plenary Session, Annual Meeting of the National Research Council of the National Academy of Sciences, March 16, 1965.

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that although research spending in his industry increased threefold from 1955 to 1962, the increase in the number of new drugs put on the market advanced only slightly more than 20 percent. This same trend has continued. The *New York Times* of March 7, 1965, reported that despite record-breaking expenditures for research in 1964, the United States pharmaceutical industry introduced fewer new products than in 1963. There is no question but what there is a growing dissatisfaction with the productivity of industrial research; some even question whether research as a way to new products isn't vastly over-rated. Just how else to come by them isn't made clear, however.

On the other hand there is considerable concern in some circles about the need to bolster our economy. Typical of this concern were the extensive hearings held by a Senate Subcommittee on the Role and Effect of Technology in the Nation's Economy.<sup>1</sup>

Some summarizing statements by then Senator Humphrey are typical of the importance attached to research and development in the nation's economy:

- (1) Our national well-being is becoming more dependent upon human resources than upon natural resources.
- (2) The strength of our economy and our economic growth depend increasingly upon and are limited primarily by our technical capability.
- (3) The growth of our economy will depend more and more on technical solutions to the problems of our industrial life. We should, therefore, find ways to encourage technical entrepreneurship; the responsibility falls on the Federal Government to assure that proper conditions exist in which technical entrepreneurship can flourish.

The best indication of the conviction that economic growth depends on research is, of course, the magnitude of the Federal R&D budget. As you know, it is running this year at the rate of \$15.5 billion of which about \$2 or 3 billion is for non-defense research. And these figures are *doubling* every two and one-half years! On top of this, industry, perhaps with tongue in cheek, is spending another \$7 billion this year.

#### NEED GREAT FOR NEW INDUSTRIES

How well is this paying off? It is perhaps too early to tell. This accelerated spending of Federal funds only started about seven years ago. And yet this seems a long enough period so that some effects should be showing up. One thing is certain: results are sorely needed.

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<sup>1</sup> Hearings before a subcommittee of the Select Committee on Small Business, United States Senate, May 20, June 5 and 6, etc., 1963 continued in 1964.



According to Dr. Seymour Wolfbein of the Department of Labor<sup>2</sup> we need *right now* new jobs at the rate of 300,000 a month to fill the combined need of those made jobless by automation plus new people coming of employment age. This means one fairly good-sized industry a month.

There is considerable concern today about the large number of people who have been made jobless by automation. This would seem to point up one area of success in the Government-supported research effort at any rate, namely *automation*. Let us hope that we are not to be placed in the embarrassing position of having spent Government funds for research which, because of success in this area, has had the effect of putting many people out of work! But unless we can do something to improve the yield of new products or processes from research and transform these into new businesses which will provide the needed jobs, this will be precisely the situation. For we are upsetting the "balance of nature" so to speak. We are speeding one phase of the process of technological change without an equivalent speed-up in the establishment of new businesses which would provide the needed jobs for those who are put out of work by automation. This may be yet another example of the dangers involved in tampering with "natural" laws without thoroughly understanding what you are doing.

Now a proper question would be, why have we been so successful in the area of automation with our research effort and at the same time so unsuccessful in the area devoted to the development of new products and processes? Is one area of research so much more lucrative than the other? No, I think there is a much more obvious answer. The yardstick by which we measure the productivity of research is, of course, the number of products from research which are commercially successful—that is, reach the marketplace. Now all that research can do is to develop the new gadget, product or process, whatever it is. Whether or not it is ever commercialized is wholly up to someone else, who is commonly referred to as the entrepreneur. It is his decision as to whether he wants to risk the capital to innovate. If we will but compare the elements of risk in each of the following examples I think we shall have the answer:

First, *Automation*. In this case research has developed a new machine which will make drastic reductions in the labor cost of a product the company is already manufacturing. The quality is as good or better. Will the company use it?

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<sup>2</sup> Dr. Seymour L. Wolfbein, Director, Office of Manpower, Automation, and Training, United States Dept. of Labor at the Hearings *ibid.* June 20, 1964, Part 3, p. 232.

Second, a *New Product*. In this case research has developed a new product which has interesting new properties. Research cannot, however, provide the answers to such questions as:

- (1) the utility or public acceptance;
- (2) the competitive position;
- (3) the manufacturing costs;
- (4) the price at which the product must be sold;
- (5) the total size of the market;
- (6) the advertising and sales costs;
- (7) the patent position;
- (8) and many other unknowns.

Will the company use it?

The answer is clear. In the first example the manufacturer can hardly wait until the automated equipment is installed and thus realize the cost reduction of his established items. But in the second case the uncertainties and risks involved serve as a strong restraint. He must have the answers to most of these questions before he can arrive at an intelligent decision, and unfortunately simply getting the answers will cost a lot of money.

#### INNOVATION LAGS

I think it is clear that research is no more productive in one area than in another, generally speaking. But the problems of innovation can be quite different. I suggest that industrial research may be just as productive as it ever was if we but measure its success in terms of *potential* new products or processes. But if we insist on using as a yardstick the number of products on the market, we are introducing another factor which completely clouds the issue and gives us an answer which is essentially meaningless. While it is true that *potential* products are of little value, nevertheless we must recognize that we are falling down in the innovation step—not at the research phase. *It is innovation which is lagging in this country, not research.* Realizing this, we can now attack the problem of stimulating industrial development in a more intelligent way. I believe an intensified study of how to promote innovation is overdue. Until a solution is found potential new products from research may continue to pile up and not even be recognized for what they are.

It is difficult to say how many potentially useful products there are now "on the shelf" so to speak. For one thing, they can't be shown to be useful until they have been commercialized. One indication is a statement made by President Johnson at the National Rocket Club dinner, March 1963, that more than 3,000 new products and processes

of private commercial potential have come out of our national space program. With an existing need of 300,000 new jobs a month it would seem logical that we set about innovating some of these new products as soon as possible.

#### LEGAL ATTITUDES OUT OF PHASE

What are the reasons for lagging innovation? Well, there are a great many, for this has been a neglected field. Many of them will come under the headings of "business climate," "incentive," and "risk." Again I must emphasize that not being an economist I am not the one to make an exhaustive study and submit recommendations. But I might suggest that it is apparent even to a layman that over the past 25 years or so there have been many changes in our laws which have produced a less favorable business climate. These laws were enacted to regulate *existing* businesses and may have been very desirable. I doubt whether any thought at all was given to the effect these laws might have on new businesses trying to get started. In the past we have had a sort of "that's your problem" attitude toward the entrepreneur who was trying to start a new business. We say, "everyone knows you have to be prepared to lose money the first year or two." May I suggest, now that we need 300,000 new jobs a month that perhaps it is "our problem" as well as the entrepreneur's.

Perhaps we should now make a distinction between new businesses attempting to get started and established businesses. If you stop to think about it, where in nature can you find an example of the newly-born having to share all the responsibilities of the adult? Protecting the new business for a few years until it is strong enough to stand on its own feet would seem to me to be the most logical thing in the world. It should be possible to work out such things as tax incentives or write-offs, loans at low interest rates to augment the capital put up by the entrepreneur, or as a last resort, even some sort of subsidy or partial insurance against complete failure. If we will just keep in mind the fact that it is we—the public—who are desperately in need of these new businesses, and therefore it is even more to our advantage to help them get started than it is to the entrepreneur, then perhaps we shall make some progress. I say this because it is my understanding that the people who have capital to invest, and are therefore potential entrepreneurs, find it so much easier to invest in tax-exempt municipal bonds that there is little or no interest on their part in becoming entrepreneurs.

Probably because of this situation most entrepreneurs today are established businesses seeking diversification. But then there are other

difficulties which present themselves. For example, the businessman quickly gets into the never-never land of antitrust. Now I don't want to be misunderstood on this point for I happen to believe that the antitrust laws have been a great stimulus to the development of our free-enterprise system. But they can also be abused. In any event, it would be very helpful to the entrepreneur if he could know exactly where he stands—that is, what the rules are.

And there is another uncertainty to be considered by today's entrepreneur, whether he be the head of an established business or one who is trying to start a new business "from scratch." This is the area of patents. One of the best bases for investing in a new enterprise is the commercial exploitation of a strong patent. But what is a strong patent today? Of course, this depends importantly on the novelty of the invention. But unfortunately it also depends upon the attitude of the courts. As things are now it is difficult to say how strong a patent is until it has been tested by the courts, and there is one court in the country that hasn't upheld a single patent which it has reviewed in the last seven years. Surely there must have been *some* good patents in all those reviewed. And even if the court should uphold the patent, with today's attitude toward patents, the entrepreneur will undoubtedly be required to license it, thereby creating a competitor before he is really on his feet.

Now I ask you, why do we have to make innovation so difficult? It seems to me that we have things all backward. I could understand all these difficulties if we were in the position of having *too many* new businesses. But here we are needing to establish new businesses at a rate sufficient to produce 300,000 new jobs a month—and we seemingly do everything conceivable to discourage them from starting. It seems to me that our legal attitudes are 180 degrees out of phase with our economic needs!

#### IMITATION—MODERN BUSINESS TREND

But there are yet other problems completely apart from the matter of business climate which make it difficult to get these potential new products from research into the hands of the public and so create a new business in the process. The problems which the entrepreneur encounters with one of these products from modern research are quite different from those he may have been used to. For example, if he has been used to developing natural resources the "imponderables" which he had to consider were very simple. Let us say he is considering the acquisition of mineral rights to a deposit of phosphate rock. He must consider, of course, the quality of his rock and how it compares with

that of competitors. This is essentially a matter of determining whether he will be able to produce at a competitive cost. Next, he must consider his markets. Assuming that he can produce a product of competitive quality, which is no problem since manufacturing methods are common knowledge in the trade, his major considerations center around the question of whether there is room for another producer or whether, due to a special situation he may be in a preferred position to sell to certain customers—perhaps he has come into a situation where he has in effect a captive market. If all these things fall in line, then he will decide to go into the business.

This is the kind of business opportunity which most of our business executives understand and they are constantly on the alert for such situations. But when you present to such an entrepreneur an opportunity to build a new business based on a promising product from, let's say his own research department, then he will be faced with an entirely different set of imponderables, most of which are entirely unfamiliar to him. Questions such as these must be answered before an estimate of the size of the risk can be made:

- (1) Does the product have utility—will the customer buy it?
- (2) How much will he pay for it?
- (3) How much will it cost to produce it?
- (4) Since there is a cost-volume relationship, it is important to know the size of the potential market. How large is it?
- (5) What is the competition? Are there other products on the market (or perhaps coming on the market) which are better than yours or almost as good, which will sell at a lower price? Would the consumer pay the difference for your better quality?
- (6) What is the size of the advertising budget necessary to create the required demand?
- (7) What are the selling costs going to be—what is the most suitable method of selling?

These are just a few of the many questions he must consider. And the answers to many of them are not to be had without spending a good deal of money in order to get them. The chances are that he will shy away from the innovation of this product even though it came from his own research laboratories. He probably doesn't feel too concerned about it anyway, for after all, the Government paid for half the research costs. Would the situation be any more favorable for innovation if the Government were to pay for 75 percent of the research costs, as has been suggested?

It takes a special kind of entrepreneur to commercialize the products from research. He must be a pioneering type similar to one of those

men who innovated products such as Scotch Tape, Nylon, the Polaroid Camera, and Saran Wrap, for example. While we obviously have some of these types in some of our large corporations, by and large, we do not. We have mostly the kind of entrepreneur who, once the profitability of a product like Nylon has been demonstrated, will jump into the business later. Just to illustrate, there are now 12 producers of Nylon. These people, strictly speaking, are imitators not entrepreneurs.

What we must have to achieve commercial realization of the results of our tremendous outlay of R&D funds are a great many more entrepreneurs with imagination and those who have had the training to enable them to understand the problems connected with the innovation of the type of product which comes out of modern research. I believe that some of our business schools are attempting to train such entrepreneurs. But the question is how are we going to get these people into positions where they can be entrepreneurs? Most chief-executive officers reserve this role for themselves, and in fact guard it most zealously.

#### NEW PRODUCTS NOT ASSURED BY RESEARCH

It would seem that the best solution is to recognize that in all probability it will not be the presently existing large corporations who will be the innovators of these new products from our research. It will be either some of our smaller companies who are fortunate enough to have one of these entrepreneurs in a position of authority or, more likely, it will be a brand-new company formed for the purpose of exploiting one of these new products. That is why I feel strongly that we need to find ways of nurturing new companies until they can get on their feet. If we are interested in the matter of industrial development within a community, it is here, I think, that the great opportunity lies.

Now this may not be in accord with the popular thinking along these lines, which seems to be the establishment of a research institute in the locality. The theory behind such institutes seems to be that such an organization will assemble a group of imaginative thinkers who will carry out basic and applied research and eventually they will come up with some new product around which a business can be built. And, of course, it will be built right in the community since this is where the people live. To prove the theory correct one only has to point to Boston's famous Route 128 where there are many such businesses—all obviously offshoots of M.I.T.

While this example is there for all the world to see, there is more

to it than just the presence of a famous research institute. There are obviously some very experienced entrepreneurs around who understand thoroughly the problems involved in the innovation of products from modern research. I don't believe that establishing a new business today based on promising products from present-day research will come about automatically simply as a result of the founding of a research institute in the community.

#### INNOVATION MAY BE INHIBITED

There is one other problem which should be discussed in considering how best to bring to commercialization the potential new products from our vast research program. The problem, simply stated, is how do we bring together the imaginative entrepreneur and the potential new product of promise? This is a really tough problem, especially if you believe in the free private-enterprise system as I do. There are really two basic problems here. First, how do you get the products developed by the Government laboratories innovated and second, how do you get those developed by private industrial laboratories innovated if the owners are indisposed to do so?

The two problems, although quite different are both intimately tied up with our patent system. It is the patent system itself which is preventing the innovation of both classes of potential new products—and oddly enough for opposite reasons! In the first case the principal reason why attractive new products developed by Government laboratories cannot be innovated is because they are not patented (or if they are, the patent is assigned to all the people, which is the same thing as not being patented). And in the second case the reason the promising products held by industry cannot be innovated is because they *are* patented!

Now at this point, I am sure you must feel that I belong to the school of thought which believes that we would be better off without a patent system! Nothing could be farther from the truth. However, I should like to consider ways of modifying our patent system with an eye to making it possible for us to accomplish our objective of achieving maximum commercialization of the useful products from all this research we are carrying out.

Our present patent system has gone essentially unchanged for more than one and one-quarter centuries. The basic law under which we are now operating was established in 1836. There have, of course, been some minor revisions, but no basic changes. During this long period, we have changed from an agricultural nation to a highly industrialized one. The basic principles of our patent system are no longer as effec-

tive as they should be in our changed society primarily because the incentive which they provide is directed toward the individual inventor. While there still are a goodly number of private, individual inventors, by and large the most significant inventions are those made by the "paid-to-invent" employees of organized research laboratories operated either by the Government or by private industrial concerns.

There is no question but what the incentive is somewhat reduced for these present-day inventors since as a condition of employment, they have had to agree to assign the title of any inventions they may make and patents which may result from them to their employer. Although I will not agree that *all* the incentive is gone (for there still remains the recognition and public acclaim which comes from being the author of a United States patent, and, depending on the company, certain financial rewards), nevertheless, I think most people would agree that the incentive is considerably reduced from what it was, say, 50 years ago when the inventor had full title to the patent.

It would seem then, that any attempt to modernize our patent system should be aimed at increasing the incentive for invention; but in view of the need for commercialization, an even more important objective should be to provide for increased incentives for *innovation*. In fact, it would be desirable to devise a penalty for failure to innovate a patent owned by someone other than the original inventor in order to create the maximum incentive for innovation. Then there is one other provision which would be desirable. We should provide alternative routes for the innovation of a patent which for any reason has not been developed by its owners. By this I do not mean to imply that "big corporations" deliberately "sit on" patents as some would have you believe. Although it may have happened in some cases, it is by no means general practice. There are cases, however, where the owners of a patent may lack the vision to see the potential of the new invention which they control. This can happen much more frequently than we realize for only in those rare cases when somehow the invention gets into other hands and is then successfully innovated do such cases come to light.

There is a good example of this today in Xerox. No one would argue that the patent covering the process of xerography was not a valuable one to the public and owner alike. And yet the inventor took his process to *20 different companies*<sup>8</sup> including two or three of our largest corporations, and all 20 of them concluded that this patent had

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<sup>8</sup>Statement by Chester F. Carlson, the inventor at a meeting to discuss possible changes in the United States patent system, called by the United States Department of Commerce March 1, 1965.



no commercial value! Were it not for the fortunate fact that ownership of this patent resided in the hands of the inventor, the public might never have had the benefit of this useful invention. *How many other potentially useful inventions has the public lost because control of the patent rested with someone other than the inventor?*

Surely an objective of any modernization plan ought to be to provide a means of circumventing such a situation. A way must be found for the inventor, who had the imagination to make the invention in the first place, to have some effective voice in its innovation. He may well be the only individual with the vision to perceive its commercial potential.

#### MAINTENANCE FEE PRINCIPLE

A common proposal for circumventing a "xerox type" situation centers around the payment of maintenance fees. I don't want to take the time to go into this matter in detail. I will simply say that in principle the patent would terminate if these maintenance fees were not paid. There are many who favor this plan.

In the first place the payment of maintenance fees would be a useful way of helping to make the Patent Office more self-sustaining. But, of course, there are many ways of accomplishing this if this is the primary objective. Maintenance fees have been recommended as a method of "weeding out the deadwood." Insignificant or inconsequential patents cost everyone money and it would certainly be desirable to eliminate them. Here again, though, in the case of company-owned patents, we are faced with the problem of deciding whose judgement to follow—the owner's or the inventor's. Judging from the inventor's experience with the Xerox patents it would appear that the managements of 20 companies would have decided not to pay the maintenance fees. For reasons I shall discuss later, this would undoubtedly have resulted in the loss of this valuable process to the public.

The chief objection I have to the principle of maintenance fees is that it destroys the patent—that is the patent becomes public property. In our country this defeats a major objective which was to bring about innovation if there is any merit whatever to the patent. This point needs a little further discussion since someone always points out that the system works well abroad and that we are, in fact, the only industrial country except Canada which does not have maintenance fees. We should remind ourselves that there is another way in which we are unique among nations. We should bear in mind that the United States is a leader and has been a leader in effective antitrust law enforce-

ment. And this makes a world of difference in the way which termination of the patent for non-payment of maintenance fees works.

In a country like England, for example, if a major company allows a patent to terminate, how many other companies are there with appropriate experience and background who are also large enough to attempt the innovation? Possibly one or two. In this case one of these companies can pick up the patent if it so chooses, knowing that for all practical purposes even though it is public property they are without any effective competition. In other words, "public ownership" means in effect that the patent goes to perhaps the only other company in a position to use it.

In our country by way of contrast, because we have discouraged monopolies, we may easily have 10 or 20 companies any one of which could utilize the patent. None of them will, however, for there is too much potential competition. Throwing the patent open to the public is *in fact* the strongest possible deterrent to its use in *our country*.

#### PUBLICLY OWNED PATENTS

There are many economists and social scientists who will take issue with what I just said. They will point to several examples of patents which have been innovated after being opened up to public use. Often cited examples are an improved rayon spinning process, Government-owned fertilizer patents, and a textile-treating process developed by a Government laboratory. An outstanding example is to be had in the case of transistors—public ownership of these patents resulted in a host of companies entering the field (many of them had rough going, too). By way of contrast, some will maintain that the monopoly created by the patent actually *slows down* commercialization since others who might aspire to the business must wait until the patent expires.

On the other hand, successful inventors and corporate heads will insist that patents which are generally available will *not* be innovated. And they, too, can cite such convincing examples as the many patents which emanated from various Government laboratories and especially the situation which existed during the war and immediately afterward when many valuable patents seized from the Germans were offered to the public. Very few of these were ever used by anyone. And in one of the cases where an attempt was made, namely that of the Leica camera, the results were disastrous. This is a clear example of what most businessmen know without "burning their fingers."

And yet the fact remains that *some* publicly owned patents *are* utilized and hence we have a situation which is not only confusing but leads to a continuance of the controversy. This seemingly anomalous

situation may be explained in this way. Patents may be broadly classified into "original" or "basic" patents and "improvement" patents. It is the *improvement* patents, by and large, which confuse the issue.

If you are a manufacturer of rayon, let's say, and a patent on an improved process comes into public ownership, why wouldn't you use it? You are already in the rayon business and here is a better process which your competitors will undoubtedly use and if you don't you will be at an obvious disadvantage. There is little speculation involved and it is a better process. Of course, such a patent will be widely used. Who would want to be left as the sole high-cost producer?

Most of the examples of widely used publicly owned patents will fall into this category. Even in the case of the transistor, which was a basic new discovery, it *replaced* the electron tube. Would you want to be the only electronics manufacturer who could not offer a transistorized version of your product? The transistor was actually an improvement over the electronic tube.

When experienced inventors and corporate executives say that a patent will not be innovated if it passes into public ownership they are not referring to these types of patents. They are talking about patents which cover totally new products in which the market potential is wholly unknown. Xerox again is a good example. I know of no cases where patents of this type have been innovated as a result of passing into public ownership. Who would risk the capital?

#### RESTORATION OF INCENTIVES

Before coming to what I believe is a novel way to accomplish our objectives while at the same time minimizing the ill effects, let me summarize them. We should like to:

- (1) create something in the nature of a penalty for failure to innovate;
- (2) provide strong incentives for *invention*, in particular for the "paid-to-invent" employee of an organized research laboratory;
- (3) provide maximum incentive for *innovation* not only for the owner of the patent but for an entrepreneur as well;
- (4) establish alternative routes for the innovation of a patent so that it can have maximum opportunity to come into a favorable situation;
- (5) and finally, we must do all these things on as equitable a basis as possible.

If we can accomplish these goals, I believe we shall have taken a great step forward. For I believe there are a great many "Xeroxes"

which have been imprisoned by our present system—inventions which if released could provide the new industries we so urgently need.\*

The change necessary to accomplish all this is a simple one. It would provide that after, say, five years the title to the patent, if it has not been innovated, would revert to the inventor—that is the “paid-to-invent” employee of an organized research laboratory. Private inventors would not be affected, of course. By this simple device we have accomplished all of our objectives.

First, we have provided a penalty for not innovating a patented invention, namely loss of ownership of the patent.

Second, we have restored a great part of the incentive to *invent*. A would-be inventor now knows that his invention is likely to be used rather than “sit on the shelf”—a situation which has frustrated many an inventor and discouraged him from further efforts. If his invention is not utilized, he knows that ownership will come to him and therefore its future is in his hands. If he cannot interest anyone in it he has only himself to blame. And the new invention is without question in the best possible hands for realizing any commercial utility it may have, for no one has more faith in it than the inventor.

Third, we have created a most powerful incentive for *innovation* on the part of the original owners of the patent—the large corporation, shall we say. For the possibility now exists that the patented invention will fall into the hands of someone who *will* successfully innovate it—possibly a competitor. Such a situation would, of course, raise questions as to the wisdom and judgement of the management personnel.

No such embarrassing situation could exist in the case of the presently proposed maintenance-fee plan, for should management decide not to pay the continuing fees, the patent will simply terminate. Under these conditions it is unlikely to be used and no one will ever know whether management made a wise decision or not. Because of this it is, of course, not necessary to give the matter a great deal of thought.

Without doubt, the proposed new plan would provide a strong incentive for the original owners to utilize the patent. It is certain that at regular intervals top management would take one last look at those patents nearing the end of the five-year period to make a final decision. As things stand now, most patents are not reviewed by top management at any time.

There is a modification of this plan which I should mention here.

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\* Since this paper was presented a survey carried out by Barnes Research Associates has shown, among other things, that 26% of the Research Vice Presidents polled and 41% of the inventors polled indicated that they knew of potentially valuable commercial products which were “on the shelf” in their companies.

Depending upon how much force you wish to impose in the direction of innovation, alternatively the maintenance-fee principle could be followed with this difference: instead of terminating the patent at the end of the five-year period, the title would revert to the inventor if the proper fees were not paid.

Finally, we are now preserving the patent intact with its full value rather than destroying it. The new owner is therefore in the best position to attempt innovation by license, outright sale, or by starting a new business after raising the required capital on the strength of the patent. We have, in other words, provided for several alternative routes by which the patented invention can be innovated.

There are, of course, many details to be worked out so that the arrangement will be fair to all parties. For example, in a situation where a company holds a family of patents, all related to say the same end-product (such as alternative methods of manufacture) it would be unfair to the company to force it to lose title to those patents they were not using, provided they were in the process of developing the product via one of the patented routes. In such a case, the innovation of one member of a group of related patented inventions should reserve the whole group for the company.

Another problem is the "conflict of interest" which would develop with employee inventors who still retain their job but at the same time are trying to exploit an invention which has now become their property.

Some businessmen will undoubtedly raise the objection that such a plan would be unfair since it would deprive them of their property which they have paid for in terms of research expenditures and a substantial salary for the inventor. However, in granting the patent rights to the businessman there is an implied responsibility to utilize them for the public good, and he will lose these rights only if he does not fulfill this obligation. I suspect such a plan would prove to be a healthy medicine, just as were the antitrust laws to which business so violently objected.

There are doubtless many more such objections which will come up, but these can be worked out on an equitable basis and I do not think we should drop consideration of this plan unless insurmountable objections arise.

If we were to do something like this, I would recommend a re-examination of our whole policy regarding patents with an eye to strengthening incentive to the fullest. Patents are private property and if properly used they should be protected by law as is other private property. The courts should be encouraged to *uphold* proper patents

and not apply the philosophy that patents are not in the public interest.

In summary, I would say that industrial development must rely heavily on research, but unless we take steps to ensure the innovation of promising products from research, not much can be expected by way of tangible results. It seems clear that industrial progress depends primarily on our ability to *break the innovation barrier*. We must find ways to remove the road blocks to innovation which have crept in over the years. In particular we must find ways of nurturing a new business until it is able to assume the responsibilities of an adult.

With the need for new jobs increasing at an alarming rate, we can ill afford other "Xerox situations" where perhaps equally valuable "potential" new products are waiting to come into a favorable situation. I am convinced that there are in fact other "Xeroxes" lying around which, unfortunately are *not* in the hands of the inventor and therefore have no chance of coming into a favorable situation if they are controlled by someone who lacks either the vision or the appetite to innovate. In this connection it is interesting to note that when Carlson finally did make a sale of his Xerox process it was to a company which desperately needed a new product line to save it from bankruptcy—it wasn't one of the successful industrial giants.

And so I believe it is essential that we make provision for the alternative routes through which the inventions, so to speak, can meet with the appropriate entrepreneur. If we do these things there is every reason to believe that the new businesses and new jobs which we so sorely need will come.

I would like to close by again paraphrasing Vice President Humphrey: It is truly the responsibility of the Federal Government to create the proper conditions in which technical entrepreneurship and innovation can flourish.

# The Case For Permitting Copyright In Works Of The United States Government\*

ARTHUR A. MURPHY\*\* AND MAXWELL C. FREUDENBERG\*\*\*

## SUMMARY

**B**OOKS AND OTHER WORKS PREPARED BY FEDERAL OFFICERS and employees in their official capacity are not eligible for copyright because of Title 17's long-standing prohibition against copyright in every "publication of the United States Government." Whether this absolute bar should be modified is one of the issues in the current effort to revise the copyright law. In this article, the authors argue for legislation which would permit Government works to be copyrighted in exceptional circumstances, whether published by the Government or by a private publisher.

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### CURRENT PROHIBITION ON COPYRIGHT

**O**NE OF THE WEAK POINTS OF OUR FEDERAL COPYRIGHT LAW is in the way in which it treats books, articles and other works produced by officers and employees of the United States Government in their official capacity. Such works are never eligible for copyright. It is immaterial whether the work is published by the Government or by a private publisher. The work is still not copyrightable.

Nearly everyone familiar with the problem agrees that the great mass of Government publications should not be copyrighted. The holder of copyright does have a qualified monopoly in his work. While other persons are free to write on the same subject and to employ the same basic facts and ideas, they generally must have the copyright owner's permission before copying his work or exercising the other exclusive rights comprised in copyright. The intellectual output of Federal personnel ranges from public speeches by the

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\* The opinions expressed herein are those of the authors and do not necessarily represent the views of the Departments of Army or Air Force or any other official agency.

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President and Cabinet Officers, through treatises on radar and the income tax, to pamphlets on cooking lobsters. Most of these works should not be subject to copyright restrictions of any kind. Some works are too important; others are too trivial. They should be in the public domain where they can be freely used or ignored by everyone.

It is nevertheless unwise to have an inflexible prohibition against copyright as part of our statutory law. The following case illustrates the harm which can result from today's absolute ban. Although the particular facts are manufactured, the case is a familiar one to a number of Federal offices.

Doctor Newman, a full-time staff member of the Walter Reed Army Institute of Research, is assigned to investigate possible medical uses for aconite. He completes his inquiry and submits a lengthy report to the Director of the Institute. Although the report is informative, the findings are of no special value to the Army or any Federal agency; the Director sees no justification for spending public money to print the report as a Government document. However, the Director and his staff believe there may be a large audience for the work among chemists and physicians. A private publisher is willing to assume the expense of publishing the report as a book but not unless he can include a copyright notice. Otherwise the publisher will have no recourse against competitors who might use inexpensive photographic processes to copy his book and bring out cheaper editions. Unfortunately for potential readers, Section 8, Title 17, United States Code, which forbids copyright in any "publication of the United States Government" is a formidable barrier. Court decisions have made it clear that Section 8 covers works, like Doctor Newman's, written by Government employees as part of their duties, even though published privately.<sup>1</sup> The aconite report will yellow in the files, its findings available only to researchers who track it down or come upon it by chance.<sup>2</sup>

The proscription against copyright in every "publication of the United States Government" has been part of the statutory copyright law since 1909. A similar prohibition first appeared in the

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<sup>1</sup> For citation and discussion of pertinent cases, see Gunnels, "Copyright Protection for Writers Employed by the Federal Government" in *Copyright Law Symposium-ASCAP* No. 11 (1962) at 138.

<sup>2</sup> A diligent, affluent researcher may be able to purchase a photocopy from the Clearinghouse for Federal Scientific and Technical Information of the Department of Commerce. See National Science Foundation, *Scientific Information Activities of Federal Agencies* No. 27 (October 1964), p.3.



printing law in 1895.<sup>3</sup> It probably caused no serious embarrassment when our Federal establishment was small and its literary output consisted chiefly of laws, regulations, records of proceedings and similar official documents. But the variety of subjects and quantity of works produced by Government personnel have multiplied. As the aconite case shows, the flat prohibition of 17 U.S.C. 8 can have unhappy consequences. The copyright statute should be amended to provide a more versatile instrument for regulating copyright in Government works; the meat axe should be exchanged for a scalpel.

#### TIME TO CHANGE THE LAW

If the rule is to be moderated, now is the time to do it. Bills for the general revision of the copyright law, House of Representatives 4347 and Senate 1006,<sup>4</sup> have been introduced in Congress. These identical bills were drafted in the Copyright Office after nearly ten years of study and public discussion. The Register of Copyrights has made a valiant effort to harmonize the competing claims of the many groups which create, disseminate and use copyright material. Although some problems do remain for which Congress must find answers, the outlook for revision is promising.

Regrettably, the Register's bill will maintain the total ban on copyright in official works prepared by Government employees.<sup>5</sup> The pertinent section of the bill, Section 105, provides in its entirety:

- a. Copyright protection under this title is not available for any work of the United States Government, but the United States Government is not precluded from receiving and holding copyrights transferred to it by assignment, bequest or otherwise.
- b. A "work of the United States Government" is a work prepared by an officer or employee of the United States Government within the scope of his official duties or employment.

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<sup>3</sup> For the genesis of the prohibition, see Berger, *Copyright in Government Publications*, Copyright Law Revision Study No. 33, Studies Prepared for the Subcommittee on Patents, Trademarks and Copyrights of the Committee on the Judiciary, 86th Cong., 2d Sess. (Comm. Print 1961) 27-32.

<sup>4</sup> 89th Cong., 1st Sess. (Feb. 4, 1965). Hearings on the House bill began May 26, 1965.

<sup>5</sup> From 1961 to 1964, however, the Register favored a change in the law to permit copyrights in unusual cases. For the Register's evolving position on this issue and the arguments made by various experts and interested groups, see *House Judiciary Committee* prints, dated July 1961, February 1963, September 1964, December 1964, and May 1965, issued under the general title *Copyright Law Revision*. For heated attacks on the idea of permitting copyright in officially prepared works, see Schnapper, *Constraint by Copyright* (1960); Brucker, "The Government Copyright Racket," *Saturday Review*, Aug. 11, 1962, p. 36.

## SPECIOUS ARGUMENTS

Some of the arguments used to justify the bar on copyright in Government works have little merit. The total bar is sometimes said to be required by fundamental principle or the Constitution itself. Copyright in officially prepared works would violate First Amendment "freedom of the press" and the public's "right to know". While these contentions have real force when applied to traditional Government documents like statutes, regulations, the Congressional Record and court reports, they are not relevant to peripheral works like the aconite report. The prohibition against copyright is not rooted in some basic concept of the proper relationship between government and people in a democratic society. The governments of most foreign countries, and of almost all the individual states of the United States, copyright official works prepared by their officers and employees. The Canadian Air Force booklet on physical conditioning,<sup>6</sup> which has sold so well here, is a copyrighted publication of the Canadian Government. The American statutory prohibition dates from 1895, not from the founding of the Republic. It is not a timeless principle of Constitutional or natural law.

Another *à priori* type argument used in support of the absolute ban is that works prepared by public employees at public expense are publicly-owned "property." Taxpayers, whether publishing houses, radio and television broadcasters, newspapers or individual citizens, should be able to use every such work for every purpose without charge and without asking anyone's permission. This argument is too simplistic. There are situations, the aconite case is one and we shall discuss others, where it may be impracticable to allow everyone complete freedom to appropriate intellectual property produced by Government employees. Intellectual property, like other "publicly owned" resources, must sometimes be controlled if it is to be used for the common good.

## TRUE ISSUES AND PROPOSED SOLUTION

The true issues can be stated more readily than answered. Is there a need for authority to copyright some Government works? If the answer is yes, can that authority be so defined and hedged with safeguards that it will not unduly interfere with the legitimate interests of others, including the general public and the press? In other words can the advantages of selective copyrighting of Government works be made to outweigh the dangers?

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<sup>6</sup> *Royal Canadian Air Force Exercise Plans for Physical Fitness—XBX and 5BX Plans* (Rev. Ed. 1962).

These issues are best discussed with a specific proposal in mind. One which the authors especially favor (having drafted it) is the suggestion by the Defense Department that the following subsection be added to Section 105 of the Register's bill:

(c) An administrative officer designated by the President shall by regulations establish standards and procedures pursuant to which copyright may, in exceptional circumstances, be secured in works of the United States Government. The regulations promulgated under this subsection shall:

(1) permit copyright protection only in cases where because of the special nature of the works or the circumstances of their preparation copyright protection is needed for effective dissemination of the works or for other reasons in the public interest;

(2) provide for limiting the enforcement of copyright to that period of time and to those exclusive rights which are necessary and appropriate to the purposes for which copyright is secured in each case;

(3) provide that the head of the Government agency for which the work was prepared shall make a determination in each case that copyright protection is warranted and shall provide that a record accessible to the public shall be made of the basis for each such determination.

No copyright shall be secured under this subsection, or enforced, which shall interfere with the freedom of the press in the United States to publish or reprint matters of public concern; except that, in any case where publication by a private publisher is found to be necessary in the public interest, and copyright protection is required in order to secure such publication, copyright may be enforced to the same extent as if the work were not a work of the United States Government.<sup>7</sup>

In effect, Section 105 (c) will permit copyright in Government works, including works published by the Government itself and works published privately at the behest of the Government, in those exceptional cases where copyright is clearly in the public interest. The decision to copyright must be made in each case by the head of the agency for which the work was prepared. His discretion will be limited by uniform, Government-wide regulations. Copyright protection will be restricted in duration and scope to the minimum required in each case and will not be used to interfere with the freedom of the press to publish matters of public concern.

#### NEED FOR COPYRIGHT

The need for permitting copyright in Government works is most obvious in the case of employee writings, particularly medical, scientific and technical writings like the aconite report, where the Govern-

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<sup>7</sup> Letter from Mr. Marks, Assistant Secretary of the Air Force, to Mr. Celler, Chairman, Committee on the Judiciary, House of Representatives, 24 May 1965.

ment itself cannot publish the work. Private publication may be desirable because there is no demand within the Government for multiple copies, or no funds for printing, or because sale by the Superintendent of Documents would not result in effective dissemination of the work. There is a limited market for textbooks on subjects like toxicology and statistical analysis. Private publishers are often better equipped to reach these special markets than the Superintendent of Documents. In any of these cases, publication by a private firm may be the only reasonable course. However, university presses and commercial publishers ordinarily will not touch a work unless they have the protection of copyright.

The opponents of copyright in Government works are troubled by the prospects of favoritism. They fear that a few companies will get all the business and realize excessive profits. Of course, this is one of the risks inherent in the management of all Government funds and property. The administrative regulations, established under the proposed 105 (c), should reduce these risks by requiring impartial selection of publishers and other normal, sound contracting procedures. It is also expected that the duration and scope of the publisher's interest in the copyright will be limited, that the maximum price at which the work can be sold will usually be fixed by the contract, and that the Government will retain sufficient control to satisfy its own needs and to protect the public interest. The copyright period could be shortened, for example, by requiring a commercial publisher to include this type of notice in each copy of a Government work:

© 1965 XYZ Scientific Press

The copyright in this work will not be enforced after December 31, 1970; thereafter the work will be in the public domain.

Official military histories, and other books which deal extensively with foreign countries, present special problems. Conceivably, a large market may exist for such a work in the country involved. On the one hand, no publisher may be willing to undertake the task of translation unless guaranteed the exclusive right to bring out the foreign-language version. On the other hand, the work may be distorted if translated by an inept or unfriendly publisher. It is not altogether certain whether a United States Government work which is in the public domain at home because of the proscription against copyright is consequently in the public domain in foreign countries. If the Government Printing Office could publish the original, English-language edition of such a work with copyright notice and a statement that all rights are dedicated to the public except the right to publish translated versions in foreign countries, both problems could be solved.

Another situation in which copyright might be desirable is when a private contribution cannot be separated from the Government's contribution to a work. The military services, for instance, have had cases where works were jointly authored by a Government employee and private persons, and where employees have voluntarily incorporated in official manuscripts unpublished material written by themselves outside their Government employment.

Unless amended, H.R. 4347 would aggravate the problems of protecting Government works while still in draft form. The current legal ban on copyright applies literally to "publications" only, and not to unpublished works. At the present time, a convincing argument can be made that the Government has some right akin to a common-law literary property right in the unpublished manuscripts of military histories, scientific and technical works, and the like. This literary property right includes the right of first publication. Section 301 of H.R. 4347, however, abolishes all common-law literary property rights. Section 105 would deny copyright protection to published and unpublished Government works indiscriminately. Thus if H.R. 4347 were enacted without change, a draft manuscript on the Korean War prepared in the office of the Army's Chief of Military History would seem to be in the public domain. An unscrupulous publisher could pirate the work without legal liability. Of course, Federal agencies can rely on physical security and other means to protect most manuscripts, but there are cases where copyrights would help secure the Government's "right" of first publication in a major work. The integrity of the work and the professional reputation of the employee-author could thus be assured.

Employees of the military Departments frequently create music, plaques, medallions, posters, organizational insignia and other non-literary works which through official adoption or repetitive use acquire a symbolic character. Experience has shown that these symbolic works may be misused in ways which degrade the work, deceive the public and erode servicemen's esprit de corps. Merchants have tried to trade on the reputations of the service academies, the post exchange system and particular military organizations. Two years ago, for instance, the Department of the Army had to contend with an extremist group whose members wore the World War II shoulder patch of a tank destroyer battalion. The Departments have coped with such problems as best they can, by use of trademarks, design patents and threat of Federal Trade Commission or criminal proceedings. In a number of cases these remedies have been unavailable. The authority to copyright would be useful to help fill the gaps in existing protective measures. Whenever

appropriate, the restrictive effect of copyright could be narrowed by printing on each copy of the work some such notice as:

© 1965 U. S. XYZ Department

This work may be freely reproduced and used without permission except that it may not be used for commercial purposes or in any manner suggesting official indorsement or approval of, or affiliation with, a person, firm, organization, activity or product without the written permission of the Director, U. S. XYZ Department, Washington, D. C.

Copyright might also be used to protect the public from hazardous misinformation. Some Government publications, such as manuals setting out standards of aircraft safety or flying procedures, contain data and instructions which are dangerous when obsolete. A commercial publisher who has a stock of reprints of a superseded manual may release them for sale; unsuspecting purchasers could harm themselves or others. If copyright were permitted, the official edition of a Government manual could, whenever appropriate, carry a notice that the manual may be copied, distributed and sold without permission until superseded. Thereafter unused copies may be distributed and sold only when they bear a suitable caveat.

One can foresee other categories of Government works for which copyright will eventually be desirable. For example, there is likely to be increased copyrighting of computer programs in the future by commercial firms. If the Government is able to copyright its employee-produced programs, it will be in a good position to negotiate cross-licensing arrangements with the commercial proprietors. It would be unfair to the taxpaying public if a private firm could freely appropriate any Government program and then insist that the Government pay for using the firm's own computer programs.

The examples cited show the need for authority to copyright a broad spectrum of works prepared by Government employees.

#### ADEQUACY OF SAFEGUARDS

In our discussion of the need for copyright we have dealt incidentally with the second issue: whether safeguards can be provided so that the benefits from permitting copyright in selected Government works will outweigh the risks and disadvantages. Two interrelated dangers frequently cited by opponents of earlier proposals deserve attention. The first is that, if the ban on copyright is lifted, the Federal departments will embark on massive copyright programs. Officials will entangle themselves and the authors who want to quote from Government works in red tape; interminable correspondence will be needed to obtain

copyright clearances. In short, the people who make this objection are unwilling to trust bureaucrats with copyright power.

Let us concede that, without adequate guidance, some Federal officials might become copyright enthusiasts or interpret the law differently from their critics. The amendment to Section 105 (c) suggested above and its implementing regulations, however, should provide all the guidance needed for fair and efficient administration of copyright programs. The section itself makes it clear that copyright is to be the exception rather than the rule, and that the scope and duration of the rights asserted will be limited as much as possible. There should be few copyrights and little red tape.

The second danger is that Government copyrights might impede the American press in its mission of informing the American public. Even without the safeguards of the proposed 105 (c) this danger is more apparent than real. Copyright protects only the form in which a work is expressed. It does not prevent others from writing on the same subject, or from using the same basic facts and ideas. Moreover, news media have great freedom, under the legal doctrine of "fair use," to quote from copyrighted works when the subject matter has news interest.

Nevertheless, Section 105 (c) has been drafted on the premise that the press in general, and news media in particular, must have even more guaranteed freedom in using Government works.

The last sentence of 105 (c), in effect, provides that no copyright shall be secured in any Government work published by the Government itself "which shall interfere with the freedom of the press in the United States to publish or reprint matters of public concern." In this context, "press" would be given its broad meaning which covers the production of books, films and broadcasts as well as newspapers and periodicals. Naturally, this freedom of the *entire* press would be qualified in cases where it is necessary to publish Government works through private publishers. But even in such cases it is anticipated that news media would normally be free to publish or reprint the works. Publication of condensed and serialized versions by newspapers and magazines generally does not hurt the sales of a book.<sup>8</sup> The regulations issued under 105 (c) can therefore provide for limiting the exclusive rights of the private publisher of a Government work to "book publication" rights.

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<sup>8</sup> An example of the common practice of dual publication is the current *Life* magazine series of articles taken from Mr. Schlesinger's book on President Kennedy.

## OBSTACLES TO CHANGE

Influential groups outside the Government have supported or resisted every plan to mitigate the ban on copyright in Government works. Author and publisher groups, including the Association of American University Presses, a Special Committee of the American Textbook Publishers Institute and the American Book Publishers Council, favor a change in the law. The American Newspaper Publishers Association, the Magazine Publishers Association, some education groups and historians oppose modification of the present ban. The editor of *The Public Affairs Press*, M. B. Schnapper, has been a tireless foe of Government copyright. His 1960 book *Constraint by Copyright*, is worth reading even though its polemics are frequently more impressive than its facts.

There has been a tendency to confuse the issue of permitting the Government to copyright its employee-produced works with the question of how best to guard against Federal officials misusing Government time, facilities, and information to create and copyright works in their own name for their personal benefit. This latter problem is not aggravated in any way by allowing the Government to obtain copyrights. The extraordinary copyright procedures will be open to Government agencies only and not to employee-authors. When Government works are published privately, under copyright, all royalties will enure to the Government.

—In fact, if Section 105 (c) is adopted, copyrighting by Government officials may become even less of a problem than it is at the present time. Under the law as it stands now, with no possibility of copyrighting Government works, we suspect that some authors improperly claim copyright in their own names for the sole purpose of getting their works into print. Although their conduct is legally and morally wrong their motive is understandable. No writer likes to see his brain child still-born.

Many other obstacles have prevented a consensus. The ambiguity of the existing ban on copyright in any "publication of the United States Government" has bred misunderstanding between Federal officials and interested groups outside the Government. As for amending the law, each side has found it difficult to impress the other with its legitimate concern. Heretofore the newsmen and their adherents have wanted to concede nothing; the Government agencies have been asking for more authority than they really need.



## THE ANSWER

The Defense Department's version of Section 105 may be the answer to the impasse. It resembles a measure which the Register of Copyrights prepared for the last Congress.<sup>9</sup> However, Section 105 (c) incorporates two new, important principles—limitation of the scope and duration of copyright and non-interference with the freedom of the press. Possibly, the authority to copyright Government works could be circumscribed even more closely in the statute without destroying the value of that authority. But in the authors' opinion it would not be wise to attempt this. All further restrictions should be included in the administrative regulations which issue under Section 105 (c) ; the regulations will be more responsive to changing conditions than the statute.

Our Government should have the power to permit copyright in official works prepared by its employees. The power can be employed, judiciously and resourcefully, to attain important ends. Valuable scientific and technical books, which might otherwise be lost, can be made available to the public through commercial publishers and university presses. Foreign markets for official works can be exploited more effectively. Copyright can be used to protect the public against diverse unscrupulous and harmful practices. There is nothing novel or sinister about the power to copyright official works. The people of Canada, the United Kingdom, and the state of New York have entrusted their representatives with this prerogative. The same power can be given to the agencies of our Federal Government with confidence that it will be used solely in the public interest.

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<sup>9</sup> Section 4 (c), H.R. 11947 and S. 3008, 88th Cong., 2d Sess. (July 20, 1964).



# Whither Goes the United States Patent System?\*

ROBERT C. BROWN, JR.\*\*

## SUMMARY

**T**HE PATENT SYSTEM IS TO BE EXAMINED by a Presidential Commission, and there has been much scurrying for quick solutions to the problems that face our present system.

Some proposals provide excellent food for thought, but unless interwoven with other concepts, they can lead to greater problems in the future.

This paper suggests that the first basic step is to require by statute that courts must preserve to an inventor that which is justly his patentable contribution to the art, so that the penalty for a patent claim which is too broad is not forfeiture. Any person operating within the ostensible scope of a patent claim would do so at his own peril, but would have a good defense if he could show that he is following prior art, or that which is obvious from prior art.

With this concept being made a fundamental part of the patent laws, we can then have simplified interference practice, simplified claims, some modified form of delayed examination procedure, and many other innovations in the law which would adapt the patent system to the needs of the future while still retaining the basic ingredients of the present United States examination system.

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## INTRODUCTION

**S**O MUCH HAS BEEN WRITTEN on the subjects of history of the patent system, sources of invention, economics of the patent system, industrial research, Government-sponsored research, international aspects of intellectual property, patent-law revision, and like subjects that it would be supererogation for me to attempt any sophisticated, historical, sociological, or economic treatise of these basic subjects. There

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was a time when I would have tried to do just that, and, as a matter of fact, after receiving my Juris Doctor degree at Northwestern University, I took several courses in patent law that were being offered at that time by the University, and then, with all that insight into the great field of patent law, I wrote a thesis on "Needed Reforms in the United States Patent System," and received my Masters degree in Science on the basis of that thesis. It makes me shudder when I think of what I wrote at that time.

I can assure you that my thesis written 35 years ago is not a source of material for this dissertation, and I mention it merely to show you that I have been thinking about this subject for many years, and that in the years following my graduation I have gained sufficient wisdom to realize that the encouragement of invention and technological progress through patent incentive is a most complex problem which defies simple solution, and the solution is not likely to be found in the thesis of a novitiate.

So where do we start? What are the forces which are driving some people to urge changes in the patent system? How valid are these pressures? What direction should we go? What should be the United States patent system of 1975? These are the questions that I would like to discuss with you today.

## NEED WE BE CONCERNED ABOUT THE UNITED STATES PATENT SYSTEM?

### *A. Growing Backlog in the Patent Office*

The Commissioner's report for the 1963 fiscal year shows that in that fiscal year there was a total of about 85,000 applications for patents filed, 54,000 patents granted, and 209,000 applications pending as of June 30, 1963. The corresponding figures for June 30, 1964 are about 88,000 applications filed, about 44,000 patents granted, and about 219,000 applications pending.

Comparing these figures with previous years, it is apparent that the number of patent applications being filed are continually and consistently increasing and this, of course, is to be expected, purely on the basis of population growth. However, with respect to the number of patent applications pending at any given time, it is interesting to note that there have been other years when even larger numbers of applications have been pending, and apparently means were found for reducing these backlogs to workable figures. For example, in 1948, 1949 and 1950 there was a period when greater numbers of patent applications were pending. Again in 1955, 1956 and 1957 the number of pending applications was greater, ranging from 215,000 to 221,000.

Hence it is difficult to argue that the number of pending applications per se is a compelling reason for immediate change in the patent laws in order to reduce this number.

Of course, one way to reduce the backlog of pending applications is by increasing the size of the Examining Corps, and it is this approach to the continual problem of increasing numbers of filed applications which the Congress and the Administration seem to think is an inadequate answer. It is probably a fact that Congress would not increase substantially the appropriation to the Patent Office in order to add the necessary number of Examiners to handle the present volume of work in the Patent Office and it is generally the feeling of Congress, insofar as I am informed, that the Patent Bar and the Administration must find a better way to handle the increasing volume and complexity of patent-law administration than by merely increasing the number of Examiners.

Recently, in conversations with Drs. Holloman and Eaton of the Department of Commerce, and with Commissioner Brenner, it was made plain to me by Dr. Holloman that insofar as the Department of Commerce is concerned, the question is not whether the patent laws are going to be changed, but the question is what alternative is to be chosen. Are we going to have a registration system, a delayed examination system, a vastly improved full examination system, or are we going to let the patent system fall of its own weight because of making no changes in the patent laws? Whether or not the appointment of a new Secretary of Commerce will change the attitude of the Department remains to be seen, but as of early December of 1964 that was definitely the attitude of the Department of Commerce.

It has also been expected that the President would appoint a Presidential Commission consisting of four Government officials and 10 persons selected from the public at large to give consideration to the patent laws and specifically to do the following: Find out how far the patent system meets the national and international needs, locate any deficiencies, devise possible improvements for the patent system, and recommend any legislation deemed essential to strengthen the system. At the time I talked with Dr. Holloman, Dr. Eaton, and the Commissioner, it was anticipated that the Commission would be appointed before the end of 1964.

### *B. Rate of Technological Growth*

The reason that I am concerned about the United States patent system of the future is not so much because of the backlog in the Patent Office, but because of the inevitability of the failure of the

present system, as technology becomes more and more complex and as the rate of technological progress continues to multiply many times the backdrop of human knowledge. From 1790 to 1836 the United States had a registration system and this was not unreasonable or unsound because it was the beginning of the industrial revolution. But as time went on, the indiscriminate granting of patents without proper regard for the value of the invention that was being protected by patent brought about the need for an examination system. It was in 1836 that the United States devised the examination system which has been followed in most of the countries of the world.

But what does the examination system really mean, and what is the present requirement of our patent laws for the granting of a valid patent? It is simply this: To obtain a valid patent, it is necessary to take the inventive concept, subtract from it the whole sum of world knowledge on the subject from time immemorial (but enlarging the subtrahend to include that which is obvious to persons skilled in the art) to leave as a remainder the precise patentable contribution that has been made to the art by the inventor. Then having due regard for the frailty of the English language, and with consummate skill in claim draftsmanship, set forth the precise parameter of the unobvious contribution to the art. Obviously, that is a very ambitious undertaking. Even in the early days of the examination system it was an ambitious task to draw claims and define the applicant's invention with anything approaching such precision, but now as technology multiplies itself and the rate of technological progress goes up by leaps and bounds, isn't it wrong fundamentally to determine patentability and the validity of a given patented invention by this archaic standard?

Obviously, it is easier to criticize the shortcomings of the present system of claiming than it is to suggest a valid substitute, but who can doubt that some substitute must be found for 1975, or even earlier?

### *C. Growing Interrelationship with Patent Laws of Other Countries*

As international trade grows at an accelerated rate, and American concerns become more interested in international patent protection, we do have a growing problem in achieving coordination or at least compatibility of the United States patent system with the patent systems of foreign lands.

Most countries have an examination system, but there are many types of examination systems. For example, in England the examination is only for novelty, and the question of invention or obviousness is left for the courts. In Germany the examination of the application

is very thorough and a high degree of invention is required for the ordinary German patent. This is because Germany relies upon the *Gebrauchsmuster*, or petty patent, for lesser inventions or innovations. In Holland a delayed examination system is used which presumably cuts down the total manpower required for a full examination system by not having a full examination of each and every application in the order of filing, but only giving such full examination when either the applicant or someone from the public at large, when informed of the patent application through publication, requests that the examination be made and pays a fee for doing it.

France, on the other hand, has a complete registration system, and surprisingly enough, there is no great excess of litigation as a result of this system, but one must also observe that the industrial progress of France is not to be compared, for example, with that of the United States and Germany. It is a general fact that the living standards of a country and its economic status are generally proportional to the sophistication of its patent system.

Russia has an examination system that, instead of granting a patent monopoly, gives a pecuniary reward to the inventor in accordance with a determination made by the government.

In most foreign countries, the right of priority is determined by date of filing of the patent application, and some would argue that the United States is out of step by permitting the one-year period before statutory bar attaches. In some countries, publication or public use anywhere is a statutory bar and hence the filing of a patent application in that country even under the International Convention cannot save validity if publication or public use took place before the filing of the United States application. Hence, to some extent, and to the extent that American patentees need to protect rights in foreign countries having this type of statutory-bar provision, we are operating at the present time under a requirement for the United States patent application to be filed before any public use or publication takes place.

It has been said that the United States is the odd-ball as far as unification of patent laws of the world are concerned, and it may be that we are unique in certain respects, as, for example, the one-year provision and in certain other areas. However, while this is a factor to be considered, it should not be given too much importance because the purpose of the United States patent laws is to encourage American invention; and compatibility with other laws is desirable only if it can be done without sacrificing the incentives which have made the United States patent system so successful.

*D. Housekeeping Under the 1952 Act*

We have had 12 years of operating under the 1952 Patent Act; and during that time, we have had an opportunity to see the good things in the Patent Act and things that need to be changed. We have had an opportunity to see how Section 103 operates in trying to establish a standard for invention in the area of obviousness and non-obviousness. We have seen how Section 112 operates in permitting an element in a claim for a combination to be expressed as a means or step for performing a specified function and the interpretation to be given to that means clause. We have dealt with the changes in the reissue statute and contributory infringement requirements. All of these things, and many others, should be re-examined objectively in the light of decisional law since the 1952 Act went into effect and we should do everything that can be done to make the present law as effective as possible.

*E. Need Review of Basic Principles*

Nothing succeeds like success itself, and the effectiveness of the United States patent system has been strongly evidenced by the place that the United States holds in scientific and industrial progress. Yet, there are some who say that it is American enterprise that has brought us to the top—that we would have attained the same heights without the patent system, and that the system at best is antiquated.

Common sense tells us that no one can say where America would have been had it not had the benefit of the United States patent system, and while complacency should not dominate thinking, neither should precipitant change be urged without full opportunity to evaluate the proposed changes and, if possible, pilot test them.

But, what are some of the areas for advanced thinking as relates to “promoting the progress of science and the useful arts”? If the framers of the Constitution saw fit to specifically recognize the desirability of granting limited monopolies to authors and inventors “to promote the progress of science and the useful arts,” cannot it be assumed that other incentives might also be used? True, the patent laws are a specific form of encouragement—perhaps we should have “Incentive Laws” to provide a broader base.

For example, tax laws, as they relate to invention, to the reduction to practice of an invention, and to the exploitation of invention, can be just as important a factor in promoting technological progress as the patent right itself.

Some broader type of official recognition for the true scientist in his endeavors might spur him on to greater heights, particularly since his accomplishments are usually outside of the scope of the patent laws.



Statutory encouragement for suggestion-award systems in plants and for otherwise inspiring all qualified employees of a company to think seriously about specific problems is worthy of consideration.

Improved ways to help the individual inventor exploit his invention are badly needed. The publication of a brief résumé of a patented invention in the *Official Gazette* or in some like Government publication (as distinguished from a mere listing of the patent number) to show availability for licensing or sale would be useful. It so happened that I fostered this approach in the *War Production News* during the war, and it met with great success.

These are but some of the areas which need to be explored for providing a broader incentive base to encourage invention, but most important, of course, is the question of the patent right itself, and how it should be dealt with.

#### *F. Time Factors and Expense*

We constantly hear about the length of time and the expense required to obtain a patent and also the length of time and expense involved to litigate the patent right. How serious are these matters?

Much has been done to reduce the amount of time that an application is pending in the Patent Office through the use of shortened periods for response to an Office Action and other elements of compact prosecution, but in some instances this increases the cost of prosecution to an applicant because of the frequent need, as a practical matter, for more interviews with the Examiner. Certainly, it is desirable to let the public know as quickly as possible when an inventor claims to have a patent right that might affect some business enterprise, and yet the attainment of this objective should not be done in such a way as to subject the applicant to any more expense than is absolutely necessary in obtaining his patent. In this area there is certainly much room for constructive thinking.

On the subject of court litigation, it has been evident for some time that the cost of litigation is becoming prohibitive, except to the large corporation, and this has a tendency to detract from the efficacy of the system. The discovery procedures, for example, in patent litigation are such that they not only involve the parties in tremendous expense in connection with the examination and copying of documents, but also tend to open up files to the inspection of competitors in a manner that is discouraging to the litigant.

If, as has often been said, "a patent is only a right to litigate," and if

the cost of litigation is prohibitive in all but the rare case, of what value is the patent right?

There are, of course, answers, but the challenge is still there.

#### WHAT DIRECTION TO GO—VARIOUS PROPOSALS

At long range, there must be some changes in our patent system, so the question now is what direction to go. Let us consider some of the possible alternatives that are offered, realizing that in many respects they are not alternatives, but rather a series of proposals. These are worth considering to see which ones are sound and may be combined with other proposals to end up with an improved patent system or incentive system, and meet the challenges of the conditions of the world as they exist now and will for some time in the future.

In some respects, I have tried to take up these proposals in some order of importance or at least feasibility, but there are many permutations for the proposals and only after each is considered fully would it be possible to evaluate its relative importance and feasibility.

##### *A. Amend the 1952 Act to Correct Defects in Present Law as May be Apparent From Operation Under That Law*

I have already touched upon a few of the needs for housekeeping under the 1952 Act and there are a number of committees that are working at the present time on this very subject. Under this category I do not include substantial changes in interference practice or any strong substantive change, but more on the order of those changes which were introduced into the 1952 Act even when that Act was prepared and presented as a codification of existing law.

##### *B. Amend Section 282 of the Patent Act*

Much of the difficulty that is experienced in the operation of the 1952 Patent Act and the law prior to that time results from two basic facts. First, even though the law does specify that only one invention may be claimed in a single patent, the Patent Office has been somewhat liberal in the interpretation of that rule and this causes considerable complication in the number and type of claims that are presented.

Second, the United States is quite unique in allowing a large number of independent claims to be presented in a single application as distinguished from the usual main claim type of procedure that is used in most foreign countries. The two-fold reason, of course, that the United States practice has developed with no particular restriction on independent claims is: (a) The most important factor is that attorneys

must necessarily draw a succession of more limited claims so that if a court finds the broader claims invalid for one reason or another, the more specific claims have some chance of being sustained; and (b) If the independent claim is held invalid by a court, there is some feeling among attorneys and judges that it reflects upon the validity of the dependent claim.

As a result, attorneys necessarily draw a multitude of claims and the Examiner must consider each and every one of these claims, which everyone knows is extremely time-consuming. When one is considering the areas in which an Examiner's time may be used more efficiently, it would certainly seem that reducing the number of claims and simplifying the form of claim would be a most important way to accomplish that objective, provided that in doing so it does not jeopardize the substantive rights of the patentee.

This subject, of course, is closely related to the matter of reissue and one must remember that prior to the 1952 Act, it was the law that one who infringed the claim of an original patent could not claim intervening rights if the reissued patent was of narrower scope. *This is a most significant point*, because it goes to the heart of the problem of claiming precisely what is the inventor's contribution to the art. Since I believe this is an impossibility in the light of ever-increasing knowledge, it is most important that the patent right be not forfeited because of having claimed too much.

It seems to me that when the Examiner, and the applicant through his patent attorney, have done their best to define the applicant's invention in the light of the art then known to both parties, anyone who infringes the claim which has thus been obtained, to be excupated, should have the burden of proving not merely that the claim is too broad, but also that he had the right to do specifically what he was doing on the basis of prior art and that which could be shown to be obvious to those skilled in the art. In other words, the person who comes within the ostensible scope of a patent claim should have the burden of establishing that his action is justifiable on the basis of public right, and not on the basis of patent right forfeiture.

If this philosophy is sound, and I think that it is, not only as a matter of right, but also as a matter of respect for the patent system, then we must study carefully and recognize that the reissue section of the 1952 Patent Act was not a codification of existing law, but a radical departure from it. It provided that in the case of a narrowed reissue as well as in the case of a broadened reissue, intervening rights would not apply if the defendant infringed a claim of the reissue patent which was also a valid claim of the original patent. Prior law said that inter-

vening rights do not apply to narrowed reissues. Now, obviously, if the patent is being narrowed because of the claims being too broad, it is impossible to have intervening rights apply to a narrowed reissue. Mr. Federico has informed me that this crept into Section 252 not as a matter of desirable law, but because it was too difficult to find language that would exempt it.

Perhaps in the housekeeping review of the present Patent Act this defect can be corrected. But, in any event, it would be desirable to give to the courts a duty and responsibility to preserve to an inventor whatever is his just and true contribution to the art, whether by way of reissue, or otherwise.

There are a number of ways in which this might be done. For example, at the end of Section 282 a paragraph might be added, reading as follows:

*"Courts having jurisdiction of patent matters shall have the duty and responsibility to restrict any claim of a patent otherwise invalid to save to the patentee the patentable contribution that he has made to the art as disclosed in the specification."*

If this were done, then it would be a simple matter to amend Section 112 of the Patent Act by inserting between the second and third paragraphs of this Section the following:

*"At no time during the prosecution of an application, or at the time of issuance of a patent thereon, shall there be more than three independent claims except upon approval by the Commissioner of Patents, and any dependent claims may refer to one or more of the independent claims."*

With these changes in basic law, many favorable results would ensue. In the first place, courts knowing that they have the responsibility to save to a patentee that which is justly his own, would not feel disposed, or even feel compelled, as some have in the past, to hold a patent invalid, and to that extent undermine the confidence of the public in the patent system merely because a claim happened to be too broad. Whether or not a court would on its own initiative restrict the invalid claim or require the owner of the patent to enter a voluntary disclaimer which would disclaim so much of the claim as rendered it invalid, or whether the court would send the patent back to the Patent Office for reissue in the light of the court's opinion, is a matter of procedure that could be worked out. *The main point is that claiming too much, even though acquiesced in by the Patent Office through the grant of the patent, must not result in forfeiture to the patentee and it is this concept which must underlie the future of American patent law.*

But what are other benefits? Certainly if the Patent Bar as a whole, as well as inventors, were to realize that there was protection afforded to the patentee through the proposed amendment in Section 282, then there would be no problem in writing a so-called main claim and having all other claims dependent. In other words, this would bring us closer to foreign practice, and most important, it would enable the Examiner to see at a glance precisely what the applicant was claiming in his application and would simplify not only the examination of the application, but also the searching required in that examination. As a matter of fact, all of the negotiations between the Examiner and the applicant could and should be primarily directed to the main claim.

It is recognized that this remedy, if adopted without a corresponding change in Section 252, would be more favorable to the patentee than the present Section 252 which establishes intervening rights even in the case of a narrowed reissue. This in itself is not disastrous for it is possible for more than one remedy to be provided to solve a given problem, but it might well be argued that Section 252 ought to be amended also to bring it in line with the philosophy that underlies the proposed change in Section 282.

It has been suggested by some that the relief granted to a patentee for having inadvertently claimed too much should not be by a positive requirement for the court to restrict the invalid claim to its proper scope, but rather that the courts be given some latitude in dealing with the situation. For example, it has been suggested that a separate paragraph be added to Section 282 reading as follows:

In actions involving the validity or infringement of a patent, the party asserting validity or infringement may demand affirmative relief by declaration restricting any claim or claims of the patent to save to the patentee any patentable contribution that he has made to the art as disclosed in the specification, and shall give notice of such demand in the pleading or by motion, and the court may grant such demand under such terms as the court deems equitable for the protection of investments made or business commenced before the demand.

Personally, I do not favor this soft approach because it does not provide the solid foundation upon which we can build simplified claim drafting and examination. For many reasons we must reach the single main claim approach, and the law must be clear that such procedure will not cause loss of substantive right.

This entire philosophy, of course, raises the question of how one would render an opinion on infringement if faced with these provisions in the law. The fact is that some courts actually apply these principles of law by restricting claims that are too broad to a narrower scope and

find infringement accordingly, and certainly the prudent lawyer, in rendering an opinion, must recognize this fact and advise his client or his corporation of that possibility. As a matter of fact, any truly sound opinion which concludes that a given device or method may be practiced with impunity must rest upon the proposition that the device being manufactured or sold, or the process being practiced is a right of the public growing out of obviousness in moving forward from given known art.

If we really want to preserve and strengthen the patent system, it is imperative that patents be recognized at their true value, and not just face value, and courts must have a right to determine what that true value or scope really is. By the same token, the public, in seeking to follow the teachings of a patent, must recognize that it has a right to do so only to the extent that it can successfully establish that in making a given device or practicing a given process, it is doing what it has a right to do because of the established prior art. It seems to me that these propositions are entirely sound and feasible to work with.

### *C. Deferred Examination System*

We have heard much talk in recent months about the Dutch delayed examination system and the corresponding system proposed for the E.E.C. It is easy to fall into a trap and conclude that, because the broad principle makes sense, the whole concept must be sound, and in my judgment, many people are making this error.

Certainly it makes sense that there is no purpose in examining a patent application and spending the time and effort of the Patent Office in examining an application if it should develop that the application is later to become abandoned because of its failure to develop an economic interest. Why issue a patent on something which in reality has no economic interest? If it takes time to find out if a particular development has importance and will be accepted in the industry, why not wait until that time before deciding whether a patent should be granted? It is easy to argue that these approaches are sound and that a delayed examination would benefit American economy.

One of the evils of the present full examination system with the backlog that is constantly growing, and will grow even more if some change is not made, is the fact that the public is kept in the dark for too long a time concerning proprietary rights which are being established through the patent grant. If the prosecution of an application is to be delayed for, say, seven years as in the Dutch system, with the patent issuing some time after that period, obviously the public could

be at a great disadvantage and the inventor at an advantage through this procedure.

To counter this situation, of course, there is the provision for the publication of applications after a given period of time, as for example, eighteen months or two years after filing. But look at the burden that is put upon the public in publishing an unexamined patent application. How can one tell if there is an infringement problem? To study all of the disclosures and determine if infringement problems might arise, would be a stupendous task.

#### *D. The British System*

There are two outstanding features of the British system. The first is that the Patent Office does not attempt to decide the issue of invention. The second is that the courts are given great freedom in restricting the claim of a patent, which is too broad, to a scope which properly sets forth the inventive contribution to the art.

In the examination of the British patent application, the Patent Office is concerned only with the question of novelty. The main claim is examined to see that it does set forth some substantive distinction over the prior art. It is significant also that the search in the Patent Office is limited to patents and applications bearing a date not more than fifty years before the filing of the patent application being examined. There is no attempt to search foreign art except insofar as such foreign art may be found in publications in the United Kingdom prior to the filing of the application. This merely means that publications which are relevant but which have not reached the United Kingdom prior to the filing of the British application are not considered valid prior art.

In essence, what the British system does is to examine for novelty and then allow the court to decide where the invention lies and under what circumstances the infringer shall be held accountable. The evidence is that this system works fairly well. It has a great advantage in that it does not place a burden upon the Patent Office to decide the difficult question of invention, particularly since the question of invention is primarily one of fact and it is necessary to hear evidence both as to obviousness and non-obviousness if a proper adjudication is to be made. A Patent Office is not properly established to obtain and hear such evidence. There are many who argue very convincingly that the question of unobviousness or invention is one that should be determined in the first instance by a court where evidence in support of

invention and evidence negating invention may be heard and judged by the magistrate and with opportunities for cross examination.

#### *E. The Priority of Invention Question*

The subject of interferences in the Patent Office has been a target for the critics of the patent system for many years, and as a matter of fact, it has been a target for those who strongly support the patent system and work with it continually.

We are, of course, concerned with the question of issuing the patent to the inventor because that is what the Constitution requires and the purpose of issuing the patent is to provide encouragement. Sometimes, however, it is difficult to determine who is the inventor first entitled to the invention.

Everyone knows that interference proceedings can be very costly, time-consuming, confusing, contradictory and most trying to the patience of the patent counsel, to say nothing of the resources of the client. It would be folly for me to try to consider the various proposals which have been suggested in the past as a means for getting rid of interferences in the Patent Office, but suffice it to say that all solutions are fraught with some objection and one can understand why the interference practice has persisted in spite of its frailties.

Basically, the question of priority of invention, like the question of obviousness, is one which can best be decided in the courts and there is considerable merit to the Canadian practice which permits the Commissioner of Patents to make an administrative determination of priority of invention based upon affidavits submitted by rival claimants. It can be urged that this practice can be conducive to fraud because it does not permit of cross examination, but it is a fairly good answer that the penalties for perjury are severe. If there is an opportunity afforded to a losing claimant to have the issue of priority tried out in the courts where a full review of evidence would likely reveal the fraud and perjury, it would appear that the chances of perjury taking place on a deliberate basis would be relatively slim.

#### *F. Do-It-Yourself Searching*

It has been proposed that if the Patent Office is unable to keep up with its load, it might not be out of place to require the applicant to make a search of the art on his own account and submit to the Examiners the results of his findings. There is some merit to this proposal. Particularly there should be every effort made by an applicant to get before the Patent Office all of the relevant art of which he has knowledge, and certainly he can be required to state the art that was con-



sidered at the time the application was being prepared. Here again we have this troublesome question of the attitude of the courts towards patents when they get before the courts on infringement questions. Courts usually take the position that there is no presumption of validity when the art relied upon by the defendant was not considered by the Patent Office. From this it should follow that an applicant should make every effort to submit all known prior art to the Examiner so that it will fall within the presumption of validity. If the law makes it mandatory for the applicant to disclose all art of which he has knowledge, there can be much room for debate on the subject of how much art should be revealed to the Patent Office before someone claims a foul.

In any event, the Commissioner already has been encouraging applicants to reveal prior art, and this is certainly a step in the right direction. Whether or not the law should go further and make it mandatory for all known art to be revealed by the applicant, and specifically require the applicant to make a search to find what relevant art he can, is a more difficult question to deal with.

#### *G. Copyright Approach*

If the main object of the patent laws is to make everyone do his own development, except to the extent that one wishes to use that which is definitely known in the prior art and is an obvious step forward from that known art, then one might argue that the copyright approach to the protection of intellectual property, in this instance invention, might be a sensible one. This would eliminate the need for searching and the question would primarily be whether the defendant had access to the plaintiff's invention, and whether there is an evidence of copying with the defense being "can the defendant establish that it had the right to use its product or its method on the basis of what was clearly disclosed in the prior art, or what is obvious from such disclosure." In some respects this is like the registration system, because no examination is required, and there is but a semblance of right given by the registration patent, with full consideration of the merits being required by a court to determine whether or not there has or has not been infringement. The copyright approach would be somewhat better than the registration system in that access for copying would be an essential factor in establishing infringement, and with proof of right to do the specific act on the basis of prior art and things obvious from such art being a complete defense. I do not advocate the copyright approach, at least for ordinary patents, but merely point it out as one which merits thought and consideration in overall thinking.

### *H. Other Types of Patents*

The United States patent system has in essence only three types of patents, namely regular patents, design patents and plant patents. Re-issue patents could be classified under the heading of regular patents.

Many other countries have additional types of patents as, for example, patents of addition, utility patents, confirmation patents, petty patents, and the like. Do any of these other types of patents fill a need which exists in the United States system?

Let us consider first the petty patent, such as the *Gebrauchsmuster* in Germany, or utility patents in certain other countries. Certainly there are many industrial designs which take a great deal of time to work out and skilled engineers to devise them, but may not involve the aesthetic to qualify for design patent. Isn't there some reason to provide incentive for this type of endeavor? A person is certainly an inventor in the broad sense of the term if there is any innovation and the recent decisions of the Supreme Court in the case of *Sears Roebuck v. Stiffel Co.* 140 PQ 524, and *Compco v. Day Brite* 140 PQ 528 somewhat points up the need for some type of a short term utility patent. Perhaps here is where a copyright type of patent would be useful. Ordinarily all that is required is that the innovator be given a period of, say, four or five years to enjoy the fruits of his labor before others take the benefit of his work, and a registration system or copyright type of system could provide this need.

However, it must be fully recognized that the incentive that is provided for inventors and for companies to innovate cannot be so predominate as to discourage or preclude the competitor from following in any way the public demand as it may have been developed by some other person through the introduction to the market of a new type of device, whether patentable or not. The subject is not easy, but it is certainly worthy of further study.

The next type of patent which is worthy of consideration is what we might call a supplemental patent, and it would bear resemblance to patents of addition. The chief characteristic of this type of patent would be that the application filed for supplemental patent would not be rejectable on the first case if there were a substantial difference in the subject matter, and if there were a common assignee the inventors would not necessarily have to be the same. It would be essential that the original patent and the supplemental patent expire at the same time, and the supplemental patent could be for an improvement, additional species, or divisible subject matter. A requirement would also have to be that the ownership remain the same. If renewal fees were

required, there would be no separate renewal fee on supplemental patents.

There are innumerable other proposals that have come up from time to time which may be worth mentioning just to catalogue them. These are listed briefly below.

1. Revocation of patent.
2. The term of a patent—should it be twenty years from date of filing?
3. Single Court of Patent Appeals.
4. Single Court to Review Decisions on Validity.
5. Technical advisors provided by the Patent Office or otherwise for the courts.
6. Compulsory licenses.
7. Maintenance and renewal fees.
8. Provisional specifications.
9. Sealed disclosure (Caveat).
10. Damage suits without injunction against a Government contractor tried in the District Courts.
11. Employee royalty.
12. Eliminating one-year period of grace as to statutory bar.

There are many others which could be mentioned, but these will suffice to show the range of proposals which deserve attention either for further consideration or complete rejection.

#### IS THERE SOME SOLUTION? WHAT SHOULD BE THE BASIC PHILOSOPHY OF OUR PATENT LAWS FOR THE FUTURE?

From this maze of disjointed thoughts and suggestions which have come up from time to time, and which individually attack various specific aspects of the total problem, the question then arises as to how we can make progress with our patent system, taking into account the multitude of problems which have been mentioned briefly above, and doing it in a manner which provides for an integrated system—one which can safely be relied upon as completely workable because of its retention of principles which have made the United States patent system the great incentive program that it has been.

In my judgment, there are certain permutations of the ideas that have been discussed which, if used as a basis for patent law revision, could result in a system that would meet the demands of 1975 and beyond. What are these essential ingredients?

A. First of all, the courts must be given a mandate that they have the responsibility and duty to uphold the rights of patentees to the

extent that the patentees have disclosed unobvious patentable contributions to the art.

B. The statutes and the rules must make it plain and must enforce the fact that only one invention may be claimed in a single patent so that we can adopt the practice of a single main claim, or at most, three main claims with the rest of the claims being in dependent form. In this way, the examination of an application may be restricted to the main claims with a great saving in the time of the Examiner, not only with respect to understanding the invention and searching the invention, but also with regard to finding the proper way to define the invention.

C. We should retain the one-year period for statutory Bar because it is often necessary to have that amount of time for an inventor to find out whether his invention has sufficient technical and economic merit to justify the filing of a patent application. Without this one-year period there could be a flood of worthless applications, or there is an equal possibility that many useful inventions would not be covered by patent application because their worth was not immediately appreciated or because there had been no opportunity to establish financial relationships in order to provide for the filing of the patent application.

D. Within one year from the time that an application is filed the applicant should be required to prepare a brief résumé of his invention and point out in general what he believes to be the novel feature of his invention. This should be done in collaboration with the Examiner for uniformity of form and with the thought that at the end of the one-year period the résumé and statement of asserted novelty would be published, and the cloak of secrecy surrounding an application would be removed. The résumé might be on the order of those published in technical journals with respect to recently issued patents, or they can be of the nature which attorneys generally use when writing to an associate asking for a preliminary search on a given idea or concept. In any event, the purpose of the procedure would be to have a simplified statement of the invention and asserted novelty which would be published to give notice to the world of the existence of the application and the general area to which it pertains, with the Examiner supervising the preparation of the résumé and statement of asserted novelty sufficiently to see that it is a fair presentation of the subject. The public in this way would be put on notice that the application is on file and if anyone's interests were sufficient, he would have access to the application to get a copy of the application as filed. For this purpose it might be convenient to have an applicant file two copies of his application, one to be used by the Examiner and be a part of the official record file,

and the other to be the copy that would be made available to the public after the expiration of the one-year period so that copies could be made from it.

E. At the end of the one-year period, the applicant, if he wanted to have immediate examination of his application, could pay an additional fee to have this done, just as in the case of the Dutch system, and in like manner, any member of the public could pay the fee in order to have the application processed to a conclusion.

F. The public would also be given an opportunity for a period of, say, six months, after publication of the résumé, to file with the Examiner a brief giving any information that would be relevant to the granting of a patent on the application in question, but the opposer's rights would be limited to the presentation of the brief and any material that might be submitted with the brief by way of attachment. The applicant, of course, would have an opportunity to rebut the opposer's contentions and it would then be up to the Examiner to decide on an *ex parte* basis what claims, if any, should be allowed the applicant. It should be understood that the position of the opposer is merely that of *amicus curiae* in supplying to the Examiner information which should be in his hands to make a proper administrative decision with regard to patentability of the applicant's invention. Definitely there should not be an interparties proceeding at this stage of the matter. The incentive for the opposer to submit relevant information is based upon the fact that nothing is gained by withholding the information, as the courts must sustain any truly patentable subject matter.

G. If neither party, that is, neither the applicant nor some interested member of the public, asked for prompt examination of the application and paid the required fee, the application would lie dormant until, say, seven years had expired and at that time the applicant would be required to pay the additional fee and have the application examined unless he wished to abandon it. In this respect the plan would follow the Dutch system, but there would be substantial advantage in publishing only a résumé of the filed application, as distinguished from the entire application because a search and examination of an entire application to determine relevancy would place a tremendous burden upon the public at large.

H. Even though an applicant did not call an examination up for prompt action and no one from the public at large saw fit to do so, it would be within the province of the Patent Office to require the application to be examined if it found that two applications pending in the Office were directed to the same general subject matter such that an interference would be likely. This is so that conflicting claims would

be resolved promptly, not by the usual interference, but by a modification of Canadian practice wherein rival claimants would be required to submit affidavits along with the appropriate evidence to enable the Commissioner to make an administrative decision as to which applicant was entitled to the conflicting subject matter.

I. The right of an opposer to file a brief, when an application had been thrown open to inspection, would not be limited to the showing of prior art, but would also permit an opposer to produce evidence, in the form of affidavits, to show that the applicant's so-called advance was obvious from known art. This would be a great improvement over present practice where the Examiner is only given an opportunity to receive evidence submitted by the applicant.

J. When a patent is issued to one of two rival claimants, the losing party should have an opportunity to file suit in the District Court in order to try to prove his claim of priority. In this court proceeding, he would be able to show, if he could, that the award of priority was erroneous, or contrary to law, and would be given an opportunity to cross-examine affiants to establish, if he could, that the award was on the basis of false affidavits. Obviously, in many instances, the losing party would not file such a suit and would be content to rely upon the affidavits submitted by the parties as evaluated by the Commissioner, particularly if the affidavits were supported by drawings, sketches, and other evidential material which had strong probative effect.

K. With the above principles underlying a new patent statute it is not difficult to provide for a twenty-year term, as has so often been advocated. The term would run from the date of filing, and would not be unfair to the patentee because the simplified interference procedure would enable a patent to issue within a reasonable time under all circumstances.

L. Obviously other desirable substantive law changes could be worked into a patent statute of the kind envisaged here, and the significant point is that many of the suggested changes are interdependent—valid when used conjointly, but harmful when introduced into present law in a disjointed manner.

#### CONCLUSION

What does all of this add up to? What are its advantages and what are its disadvantages? It seems to me that, by and large, the system which I have proposed would solve most of the problems which face us today and would provide a workable system for tomorrow. Why?

A. It first of all erases that impossible task of trying to subtract from a man's concept the whole sum of human knowledge with the penalty

for failure to obtain the exact remainder, the invalidity of his patent.

B. It preserves the full examination system but modifies it in the light of the Dutch system by providing a way in which applications which are not of immediate economic interest may be deferred for examination until it becomes apparent that they are of economic interest.

C. It provides for additional fees for the Patent Office when it becomes apparent that either the applicant or the public at large decides that there is need for a determination of the issue of patentability.

D. It takes away from the Patent Office the tremendous burden of present day interference practice.

E. It permits the Patent Office, in dealing with the question of obviousness and unobviousness, to have the benefit of industry's point of view as well as that of the applicant, so that the evidence is not all one-sided, and yet it preserves to the applicant an *ex parte* status free from interference of a type that could be prohibitively costly to many applicants.

F. It provides for a limited period of secrecy for applications in the Patent Office so that industry can be more certain of where it stands, and also so that it will not have to wait for many years before it can be confident of its position.

G. It puts the burden where it should be with respect to a person choosing to operate within the framework of a claim of an issued patent. It requires that person to establish his right to use the claimed subject matter on the basis of prior art, as amplified by those skilled in the art, because the defendant knows that a court is required to preserve to the patentee that which is truly his own and not let the defendant escape on the pure technicality that the invention was claimed too broadly.

It would be foolish to believe that the above concepts and proposals would be a panacea for all the ills of the patent system and would meet all of the problems which face it in the future. However, it is an attempt to piece together some of the fragments of the jigsaw puzzle that now confront us all, and it takes into account many of the proposals that are being submitted as a way to meet that need.





# Government Patent Policy—Its Impact On Contractor Cooperation With The Government And Widespread Use Of Government Sponsored Technology\*

HELGE HOLST\*\*

*This is the conclusion of the report published in the Spring 1965, issue (Volume 9, Number 1) of IDEA. The Summary and Conclusion preceding that report is reprinted below for the convenience of our readers who may not have ready access to the previous number.*

## SUMMARY AND CONCLUSION

A STUDY HAS BEEN MADE—as factual as possible in a sensitive area—of the impact of Government patent policy on the availability and cooperation of organizations with the Government. Effort has likewise been devoted to learning the effect of applicable Government policies on the use of private, proprietary technology in work for the Government, and reciprocally on the likelihood of wider use of technology developed on work for the Government in civilian applications of benefit to the nation.

The data obtained is striking. It represents responses of contractors, large, small and intermediate, who provide over \$10 billion of procurement to the Government each year. Their percentages of work for the Government to total sales, range from very small to 100 percent. It likewise reveals the attitudes of some organizations who do not serve the Government but are the kind which could contribute helpfully if they did undertake Government work. These firms constitute 2,268,000

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\* Condensed from a report presented to Secretary of Defense, Robert S. McNamara, on December 11, 1963. This report was prepared by the Subcommittee on Research and Development of the National Defense Committee of the Chamber of Commerce of the United States.

\*\*Mr. Holst was Chairman of the Subcommittee referred to in the previous footnote. He is Corporate Counsel of Arthur D. Little, Inc., in Cambridge, Massachusetts.

employees and supporting plant and equipment. They therefore comprise a significant resource of the nation.

In summary, the responses to the questionnaire indicate that organizations of the type which serve the Department of Defense, the Space Agency, the Atomic Energy Commission and other agencies of the Government which require technical items and services involving considerable technology, do hold and do depend for their commercial position upon patent rights and proprietary data. Such organizations for the most part serve the Government in their fields of specialization. In general, it is not the policy of such organizations to license others to compete with themselves, but they are, nevertheless, in general prepared to deal with the Government in ways which permit use of second sources.

*Government patent policy is a significant factor in discouraging responsible, competent organizations with substantial backgrounds of experience and proprietary rights from bidding on work for the Government. It is a fact that many such organizations do actually refrain from bidding on work for Government agencies whose patent policies they disapprove.* This finding should not be overlooked despite the apparent ability of the Government to secure contractors. Indeed, it is to be questioned what background available contractors do bring to their Government work.

Where organizations which disapprove of the patent policy of a Government agency do nevertheless undertake to work for the Government, they quite generally isolate their Government operations as a means of protecting proprietary rights, as well as for other purposes. There are indications that such isolation restricts the input of the organization's technology into work for the Government and likewise impedes flow of new findings from Government work back into the operation of the organization and thus into the general economy. This segregation, and the general attitude of organizations toward work for the Government, results from a fear that the terms sought by the Government threaten the commercial position of contractors to the Government.

There is significant evidence that organizations which undertake work for the Government are able to utilize know-how or other findings for other purposes. It is abundantly evident, however, that in applying such developments for other purposes, very substantial additional effort and cost is required—in relatively few instances can a direct transfer of the same product or service be made from Government purposes to civilian application.

There is, unfortunately, evidence that the devotion of private re-

search and development to Government work has produced a slowdown in the development of products for the general economy. It is also clear that many managements are reluctant to devote to Government work the high calibre personnel required to solve difficult problems because the withdrawal of such superior personnel from their regular operations would delay development of commercial products or expose the organization's regular business to the risk of falling behind the developments of their competitors. There is also evidence that such work for the Government has tended to increase the cost of private research and development.

Despite fears of Government work, and its consequences to the remainder of their operations, and despite the recognition of the relatively poor financial return from work for the Government, organizations are frequently motivated to undertake such activities in the hope of acquiring know-how and patent rights.

*In any consideration of this subject, it has seemed particularly necessary not to become lost in the relative equities of the Government and the contractor.* Accordingly, this study makes a special effort to focus on the best interests of the nation. This has been done by concentrating on the two major considerations:

- (1) What policy will best enable the Government to secure the most helpful assistance on primary governmental problems?
- (2) How can such work be carried out in ways which will produce maximum useful benefit to the economy at large?

As has been stated by representatives of the Government itself, in seeking the assistance of outside organizations, the Government desires better weapons, space systems, components, or other services directly needed for carrying out governmental functions. The patent policies and technical data provisions under which the Government deals with its contractors must, therefore, *above all else* seek to obtain that objective—first things first—the best possible end items and services at reasonable cost. To do so, governmental policies must attract the most capable organizations in the relevant fields of interest. In enlisting such organizations, it must have their whole-hearted and enthusiastic support. As participants they must be willing to devote their best talents, pertinent background, existing technology (whether proprietary or not), facilities, and all other resources to the work of the Government. There must be no holding back in any regard—no isolation of personnel, facilities, technology or skill which shut off any ability of any type which could contribute helpfully to the direct and vital interests of the Government.

The present study clearly shows that under its present policies as they are understood by contractors, the Government is not securing ready access to all organizations, especially those with pertinent proprietary rights. Moreover, even where such contractors do undertake work for the Government, they do so with a belief that Government patent (and data) policies are inimical to or threaten their basic interests. Despite this attitude, contractors in general remain remarkably willing to give the Government such rights as are truly needed to permit competitive procurement from multiple sources. It is believed, however, that if the Government would recognize the economic worth of the rights required to be surrendered by contractors for this purpose, and would deal with them on an economic and more nearly commercial basis, the cooperation of industrial organizations would be more widely available.

Now that the role of research and development in the creation of new products, new processes, new work opportunities, new tax revenues and general benefits to the public is being more clearly recognized, it is apparent that the widest possible public benefits should be secured from all work undertaken for the Government. It is therefore increasingly necessary to recognize the fundamental requirements of the economic system prerequisite to the utilization of new technology. In securing wider secondary applications, clearly, the difficulties of communication to the private sector will be reduced if the initial work is performed in the private sector. But beyond the problems of communication lie the need for incentives to take the steps needed to achieve further use. These requirements are many and varied. Individual experience and the public statistics indicate the magnitude of hazard and cost involved in launching new products and services. Speculative investment of this type should therefore not be undertaken by public agencies with public funds. It is believed best that such risks be borne by those who may reap the rewards of success but will also experience the losses of failures. This will lead them to operate under the pressures and restraints of investing their own funds and consequently provide maximum motivation to make such ventures succeed.

All factors considered in this complex area, it is believed to be in the Government's best interest to employ patent and data policies which have as their primary objective the assuring of Government access to the most able organizations for direct work on Government problems. The secondary objective of securing widespread use of resulting technology will then be best advanced by providing conditions which afford maximum incentive to organizations to make application of any useful results of their work for the Government. It is considered that

both primary and secondary objectives will best be achieved by leaving ownership of inventions and technology with those who originate them. This will provide incentive to capable organizations to serve the Government. It will likewise motivate the further very substantial efforts required to make further use of the developments. Such expanded use will benefit the Government, directly and indirectly.

Even though developments may be initiated under Government sponsorship, in almost every case their utilization cannot be achieved without further large and complex effort and cost on the part of the originators or developers. Thus, any benefits obtained would seldom constitute "windfall" enrichment. To the extent that such benefit is an added reward, it is inducement and compensation to organizations to perform work for the Government. In any event since benefits to the private developer cannot be obtained without conferring a wide circle of benefits to the public, employees, and the Government itself, a policy which achieves these results does accomplish the secondary objective of Government policy regarding patents and technology developed under Government sponsorship.

It is urged that the full data and discussion herein be carefully studied by those responsible for development of Government patent policy, including those charged with implementation of the Presidential Patent Memorandum of October 10, 1963. It is believed that patent policies and their implementation should be developed along lines which recognize the realities and vitality of the private enterprise system, including (a) the advantages to the Government of access to experienced organizations whose background and standards of quality would be useful, and (b) the prerequisites for promotion of new developments.

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#### OBJECTIVES OF GOVERNMENT CONTRACTING FOR R&D

##### (a) *First Things First—Wanted: Weapons, Space Systems and Tangible End Results*

**H**AVING BRIEFLY EXAMINED THE VALUE OF PATENTS and proprietary technology to contractors, it is well to emphasize the objectives of the Government in contracting for R&D. In doing so, particular attention will be paid to learning whether the purpose of the Government requires that it own or control patents and technology in the interest of the Government itself or the interest of the public at large.

In the establishment of Government patent policy regarding the ownership of inventions, and in demands by the Government for technical data developed by contractors on Government-sponsored work,

it is essential for all parties not to lose sight of primary objectives. This becomes all the more important when it is desired to obtain extensive utilization of technology derivable from Government-sponsored R&D. When the Government contracts for R&D, almost never is the primary purpose the obtainment of patents or even technical data for its own sake. In almost every case, what is sought is tangible end item—a weapon, a detection system, military atomic energy, a space vehicle or some functional component.

The objective of Government contracting for R&D has been very clearly stated by the Government itself. In a statement of Deputy Assistant Secretary of Defense for Procurement Graeme Bannerman to the Subcommittee on Patents, Trademarks & Copyrights of the Senate Committee on the Judiciary on April 18, 1961, he stated:

But it is clear that there has been a tremendous increase in research and development activity in the country, much of it funded by the Federal Government.

While what the proper patent policy for the Government should be in these circumstances can be discussed from a number of points of view, some social, some economic, the Department of Defense has always regarded certain practical considerations as compelling. These were expressed quite concisely in a letter dated November 10, 1949, from the then Secretary of Defense, Mr. Johnson, to the Director of the Bureau of the Budget, which I will quote from:

"Now, the Department of Defense conducts research and development activities on a scale far larger than any other executive department. Moreover, these activities are different in kind from the research and development work of other agencies. Whereas most of the research and development work of other agencies is directed toward securing a direct benefit to some aspect of civilian life, military research and development therefore are merely by-products. Although clearly the Government should not throw away these by-products, we should not lose sight of the primary purpose involved.

"The bulk of the Research and Development activities of the Department of Defense are carried on by nongovernmental organizations under contract. In selecting contractors for military research and development, it has been proven more efficient and economical to utilize for applied research and development those organizations which possess the most relevant background in knowledge, techniques, and equipment. About four-fifths of the contracted research and development work is therefore done by industrial organizations and we must negotiate the best arrangements possible with them. Our present policy for such contracts has been worked out over many years of negotiation. Although it is plain that they should not be considered immutable, sudden and sweeping changes would certainly disrupt the contracting operations of the Department of Defense."

Today we wish to restate and endorse this historical position in opposition to a rigid policy of taking title to all patents which are con-

ceived or first reduced to practice under our research and development contracts.

*Practical Considerations for the License Policy in Defense Contracts*

At the outset, I wish to make clear that I am talking about the area where substantially all the patentable inventions derived from our contracts occur; that is, in the development of military hardware. It is in this field that our patent policy has the greatest effect.

The national public interest is heavily and most importantly identified with the defense structure. National defense is the responsibility of the Department. To discharge this responsibility, we seek the best scientific and technological resources we can find, and our research and development contracts must necessarily be awarded to the firms—large or small—which have these resources and will freely devote them to military work. Our primary aim is to acquire military equipment incorporating the most advanced scientific knowledge, technology, and industrial know-how for military purposes. It is necessary that science and technology be pushed to the absolute limit.

Our objective in these major programs is the rapid development of constantly improving weapons. We are not seeking patentable inventions, the likelihood of their occurrence is unpredictable, and whether they do or do not occur is actually irrelevant so long as our development goals are achieved or surpassed.

Since it is weapons, space systems and other tangible end results which are sought by the Government, the successful obtainment of these objectives should be enhanced by the Government's procurement, patent and data policies. For this purpose, these policies should attract rather than repel competent contractors with pertinent background and experience. Policies which discourage such organizations from undertaking R&D for the Government are injurious to the nation's best interests. While they may not result in complete unavailability of all contractors, they do deny the Government the advantages of enlisting organizations already knowledgeable in the field and able to bring to the governmental purpose the previously trained personnel, existing technology and support of subcontractors accustomed to team work with the prime organization.

It is quite clear from the responses to Questions #5 and #6 of the Questionnaire that contracting policies, and particularly patent and technical data policies, which are considered by contractors to jeopardize their commercial position, or to demand that they share their technology with others, do in fact discourage competent organizations from dealing with Government. When such organizations undertake such work for the Government, despite reluctance to do so, they are likely to isolate the Government project, place it in a separate division of the organization, or in other ways segregate it from the sections

of the company best able to contribute existing relevant technology and guidance. This is to the detriment of the Government project. Surely this method of contracting, even though some organizations can be found which will accept the terms, is not in the nation's interest. Certainly the policies which lead to this method of operation should be reviewed to determine whether alternative procedures can provide adequate protection of legitimate public interests at the same time that they enlist the enthusiastic support of desirable contractors. Only in this way will first things come first—the best, prompt and effective solutions to the genuine and pressing problems of Government and their rapid implementation into functional systems—rather than the efforts of organizations of no background with nothing to lose which must first acquire the necessary basic understanding at Government expense.

(b) *Maximizing Secondary Benefits*

Now that the Nation faces problems of continuing unemployment, and it is possible that these difficulties may arise in part from diversion of R&D effort from civilian purposes, attention is being given to methods by which technology or other useful results could be derived from Government-sponsored research and transmitted to the private sector. If it is sought to have the private sector utilize the results of military and similar technology, it would seem preferable to have this technology arise within the private sector. Under these conditions there would be fewer problems of communication and transfer and only the difficulties inherent in utilization. Accordingly, these considerations should influence procurement policies, including the decision whether or not to perform the work inhouse in a Government establishment and who should own inventions and data arising from Government-sponsored R&D.

(c) *Assurance of Competitive Supply and Multiple Sources of Procurement*

A proper concern of all Government procurement, and especially that performed upon a cost reimbursement basis, is the need to secure the benefits of competition in keeping costs at a reasonable minimum. Some Government administrators believe that the greatest assurance of such competition lies in the use of multiple sources of supply. Price competition is the normal mode of operation in the private sector. However, normal competition is competition of concept as well as price. Seldom does it involve use of an organization's own data by a competitor. Even this form of competition, if incurred only in serving the Government, would be acceptable if such operation did not threaten



the civilian and proprietary business of the original contractor. Accepting the desirability of competition in supply to the Government, it is not considered necessary that the enlistment of second sources should require the adoption of undesirable patent and technical data policies. Reasons for these conclusions are indicated below.

(d) *Government's Dependence on Private Proprietary Rights and Technology*

The extent to which defense and other undertaking by the Government rely on private technology for their early, efficient, and satisfactory performance has been indicated above in the statement of Assistant Secretary Bannerman. The answers to Question #2 of the Questionnaire confirm this. DOD has explicitly stated that in its quest for contractors to develop weapons and other items, it turns whenever it can to contractors already possessing know-how applicable to the Government's needs. This is as it should be. The same can be said in almost all areas. Enlistment of existing sources with know-how will both accelerate progress and will reduce costs by not requiring the creation, staffing and training of new teams.

The Department of Defense and the Services have been engaged in dealing with contractors on a larger scale and for a longer period than any other agency of the Government. They have accordingly had opportunity to sense the reactions of organizations in their relations with the Government. It is believed that their experience and conclusions provide very relevant guidance in this complex field. Continuing his testimony before the Subcommittee on Patents, Trademarks and Copyrights on April 18, 1961, Mr. Bannerman, Deputy Assistant Secretary of Defense for Procurement, stated as follows:

The end products of most defense contracts are developed weapons or components thereof. It is not usual for these end products, themselves, to have any commercial utility, or patentability. When patentable inventions do occur during the course of such contracts, it is likely to be with respect to small segments of the complete contract involving specific components frequently at the subcontract level. It is normally not possible to segregate and evaluate either that portion of the Government's cost which pertains to the specific invention or the specific background work previously performed by the contractor at his own expense which led to the invention.

In selecting contractors for research and development work, it is the expressed policy of the Department of Defense to make awards to those organizations which have the highest competence in the specific field of science or technology involved. This is done because, by seeking the organization which is most advanced in the field, we avoid repetition of effort and thereby get our weapons developed on a quicker and less costly basis. It should be recognized that this

means that we seek out our development contractors and subcontractors because of their specialized skills and backgrounds which were normally acquired at their own expense for use in their own commercial pursuits. It is essential to the national defense that these specialized firms and their best background ideas and prior investment be freely available for weapons development.

We move in on these laboratories. We select these laboratories for work because of the advanced work that they have done. That is our basis for selection. That advanced work was done for commercial purposes; and if we thereafter take the fruits of that work, added, perhaps, to a minor extent, perhaps, by our contract, and make it available with free, patent title, I think it is fair to say that that work will not be devoted to our contract in many cases.

. . . . .

Some companies see the potentials of follow-on production programs as a real factor and inducement. Economic necessity may drive others to accept our contracts. There are many firms which would be glad to have us finance their entry into new fields in which they have no prior experience on any terms they can get. It is readily apparent that there are substantial motivations, exclusive of patent fallout, in undertaking research and development work for the Department.

However, many of the most competent industrial laboratories which have done the most advanced work in fields of interest to us are not normally for hire to develop products for others to make commercially. Our goal is not the mere placement of research and development contracts but the placement of those contracts with firms currently developing the most advanced technology. It is vital, in our considered view, that such firms freely accept DOD contracts and put their best technical effort and background ideas wholeheartedly in problem solutions for national defense. The Government has no power to compete with this. It is a matter of mutually agreeable terms which appear to offer advantages to both parties.

The motivations and incentives involved in contracting for military research and development work are complex, subtle, and varied and the division of patent rights is a significant consideration. We need the understanding and support of Congress to discharge effectively our responsibility, cooperating as we are in a free enterprise economy which includes a patent system. We feel that the national interest would not be served by a policy of taking title in all inventions resulting from the performance of defense research and development contracts.

As stated so explicitly by the Department of Defense, the Government in placing contracts for R&D is not seeking patents or even inventions. Its interest is in effective systems, services and tangible items. As acknowledged before, the Government must have the right to use developments and to be assured of the benefits of competition in procurement. But ownership of patents, involvement in their exploitation and further development and use, is a diversion from the proper pur-

poses and concern of DOD, AEC, NASA and nearly all agencies of the Government.

*(e) Patents and Technology as Incentives to Seek Government Contracts*

While it is clearly in the Government's own interest to place its work with organizations which are already established in fields related to the Government work, this in no sense denies that organizations frequently perform creditable services for the Government while undertaking work in fields new to the organization. Nor, is it necessarily bad faith on a contractor's part to undertake such work. Providing the organization exercises diligence, good judgment and devotes or acquires real competence in the fields, the interests of both the Government and the contractor can be served. Moreover, some fields of interest to the Government will, in fact, be novel to almost all contractors.

As indicated in the response to the Question #12 of the Questionnaire, the opportunity to acquire new fields of technology and, hopefully, new patent rights does comprise an incentive to contractors to undertake work for the Government. For this incentive to be effective, it is imperative that Government patent policies reward pioneering service. To provide such motivation, the Government should require of contractors only minimum rights necessary in the direct interest of the Government.

*(f) Requirements for Widespread Public Use*

As indicated in the response to the Question #12 of the Question-Patent Memorandum, it is desirable that Government patent policy promote widespread secondary use of development flowing from Government-sponsored R&D. Accordingly, it is relevant to examine the extent to which proposed policy assists or deters widespread public use of inventions and technology. To provide employment opportunities, and to keep U. S. products and services competitive through advances in concept and cost reduction, it is desirable that applicable inventions and technology derivable from Government-sponsored work be put into use by the private sector to the maximum extent. For this to occur, it is necessary that (a) the new developments be communicated as promptly and as effectively as possible, to potential users; and likewise (b) that there be incentive for further effort and expenditure by the private sector to adapt the technology and make the product or service, plant and distribution investment necessary to achieve widespread use for nongovernmental purposes.

It is obvious that communication will be facilitated if the new technological developments are made within the private sector rather than in Government establishments, educational institutions or non-profit organizations not regularly engaged in commercial production or distribution. Likewise, it is evident that incentive to make further investment and to devote the necessary effort to adapt or use the new development will be greatest if the new data or inventions are owned by the private developers and potential users. When this is so, their use is the normal sequence for private R&D and constitutes logical opportunity for investment by the developing organization and its backers. To the extent that proprietary rights are precluded or diluted, this incentive is reduced and negated.

(g) *Likelihood of Commercial Use as Affected by Ownership*

Although as yet not a common practice, there is beginning to be an affirmative effort on the part of competitive organizations to review the results of their R&D and patent efforts to see whether secondary benefits can be derived from them. Sometimes the motive is primarily economic; at other times it is intended to provide recognition and stimulus to their personnel. Under programs of this kind, companies periodically examine patents and other proprietary data owned by them to see whether any of these could be utilized outside the organization's fields of primary interest. Checks with companies engaging in this practice make it quite clear that it is only development owned by them which receives this type of review and effort. Accordingly, if title has been taken by the government, the patents and other developments will not be included in material which receives review and further effort at utilization. In consequence, likelihood of use will be reduced.

#### THE RESPECTIVE CONTRIBUTIONS OF THE INVENTOR AND THE ENTREPRENEUR

(a) *The Separate Roles of Inventor and Entrepreneur*

In discussions by Government representatives of the value of inventions and of policies relating to their ownership, it is altogether too common to overlook the fact that very seldom is the inventor by himself able to bring his new concepts into use. The personality and interests of inventors which provide them with curiosity and special insight into the phenomena of nature, or the ability to make comprehensive analyses of industrial or technical problems, is frequently quite foreign to the requirements for creating a production organization and establishing a distribution and marketing system. This is no

criticism of the inventor. Without his creative concept, following from insight into the problem, or his interest in analyzing complex situations, there would be no novelty. But equally, without organization genius and the promotional drive of the entrepreneur, there would not come into being the human, material, and economic resources required to put inventions to use. Without this team effort of inventor and entrepreneur, there would not be the goods and services which are the only means by which new inventions actually reach and benefit the public.

*(b) The Requirements and Comparative Investments and Risks of Each*

It is necessary to recognize the respective roles and requirements of inventor and entrepreneur even when these functions are carried out within a single organization. The requirements of each differ but must be met if inventions are not to be mere library or laboratory curiosities and are to be carried forward into new or improved commodities or services.

Although the costs of invention, development and exploitation vary greatly with each concept, it has been generalized that the relative costs experienced in each stage of providing a new product or service fall in approximately the following proportions:

(a) For each \$1 spent for invention, approximately (b) \$10 is required to reduce the invention to an effective working form and (c) \$100 is required for creating the productive facilities, the inventory, and the distribution and acceptance necessary for development of the market.<sup>1</sup>

This gives some conception of the comparative contribution, investment and risk assumed by the inventor and by those who undertake to promote his invention.

The classic stories of inventions made in garrets or basements illustrate the relatively low direct cost of creating new concepts or reducing them to a form in which they can be communicated. In modern establishments, the "inventive cost" may be considered the costs of the laboratory and patent effort. There then follows the long process of developing and "debugging" an acceptable, reasonably reliable and "foolproof" commodity or service to be used by the general public. Then must come the assembly of the tools and facilities and the crea-

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<sup>1</sup> See *Machine Design* August 22, 1957; "Using Ideas from Outside Inventors" by George S. Hastings; *Dun's Review* June 1958; "Building Profits on Outside Inventions" George S. Hastings; and presentations of William Davidson and Robert Olson to American University Patent Institute November 21, 1963.

tion of the inventory needed to provide the item in sufficient quantity to test the market reaction. This may show need for redevelopment and modification. Ultimately the item, if acceptable to the user, must be produced in quantity and distributed to wholesalers and retailers in order that it can come within reach of the buying public.

It is altogether too easy for those not familiar with the many and demanding requirements for launching new products and services to think only of the rights or requirements of the inventor, or even of the inventor and his sponsor. However, it is fatal to overlook the needs and risks of the many other parties including managers, producers, marketers and investors, in making possible the actual creation and distribution of useful items actually available in the hands of the public. Sound patent policy must meet all these requirements if its results are to be successful.

(c) *Function of the Patent in Attracting and Protecting the Entrepreneur*

As has been suggested, in addition to the inventor, many others must devote their time and savings to the promotion of new concepts if they are actually to be transformed into useful products and services. When it is realized that the proportion of inventions which prove to be successful is extremely small—evidence indicates less than 5 percent—it must be realized that there are substantial risks of loss of time, effort and funds involved in each attempt to launch a new product or service. That inventors continue to invent, and sponsors can be found to back at least a portion of these inventions, is tribute to the observation that “hope springs eternal.”

In addition to all the normal hazards to new developments, including failure of the invention to prove workable, or producible at economic cost, human resistance to change and fickleness of fashion, there is a further major and ever-present risk to which any new product or service is subject. Should the concept prove to be good and gain acceptance, it is certain that others will seek to copy it and try to gain as much of the market as possible. If the inventor and his backers have incurred substantial costs for the initial inventive effort and its development, production, and distribution, it is essential to their survival that they be given opportunity to recoup these costs. This is mere equity to those involved. It is also necessary to encourage others to promote other new developments.

The normal way in which inventors and their backers are given protection in our competitive system is for the inventor and his sponsors to obtain a patent to assure the originator and his associates of a limited,

clearly defined right to exclude others from using the patented invention. This protection is granted in exchange for a disclosure and publication of the essentials of the invention in such terms that they can be understood and used by others upon the expiration of the patent. It should be noted that the patent disclosure permits others to understand the invention immediately, not upon the expiration of the patent. The patent system, therefore, encourages openness and disclosure as contrasted to reliance upon secrecy. In doing so, they permit immediate, informed stimulation of competitors who are shown the basis of the novelty and the limits of protection around which they must invent.

In the U. S., it is still possible for an inventor and his sponsors not to seek patent protection but to rely upon "trade secrets"—that is, their ability to conceal the methods and principles upon which the new service, product or process depends. To date, however, the nation has followed a tradition of resort to patent protection and open competition rather than secrecy. The patent system and the private ownership of patents, in providing recognition and reward to the originators of new and useful inventions, at the same time has encouraged legitimate, keen competition through enabling others to learn the principles of the new invention and the limits around which others would have to design in order to escape the limited exclusivity of the patent. It is now open to serious question whether present Government patent policies are fostering a trend away from open disclosure.

Experience in financing new developments clearly reveals that banks and stock brokerage houses are more inclined to provide funds to an individual or organization which possesses patent protection for the concepts to be financed, than they are willing to support unpatented inventions. The history of many well-recognized organizations in the country attests to this fact. The history of the Polaroid Corporation is clearly illustrative—they were refused financing before obtaining patents because of this lack, and secured it after patents were granted. Examples can be multiplied. They all demonstrate that it is the small inventor and new business which benefits most from patents since they still lack general credit and must rely on patents for the necessary financing to launch the business or make it grow. It is only the large organizations, whose general assets can provide the credit, or whose advertising and selling strength can perhaps move their commodities without reference to patented advantages, who are perhaps less dependent on patents, although still using them to recoup development and introductory costs or in trading for exchange of rights.

## EXPERIENCE IN GETTING INVENTIONS AND TECHNOLOGY USED

Part of the concern of the nation over the development of Government patent policies is directed to assure that as far as possible any useful results obtainable from Government-sponsored R&D will in fact be put to use in the public interest. This was evident before but is explicitly stated in the National Aeronautics and Space Act and in the President's Patent Memorandum of October 10, 1963. In this concern, it is evident that the Government, represented by various executive agencies, undertakes to represent the public. From their attitudes and dealings, it is clear that some of these agencies consider that contractor retention of ownership of inventions or technical data resulting from Government-sponsored work is somehow adverse to the public interest. This is a strange attitude in a country which assertedly relies upon private enterprise and from its outset proposed that there should be a minimum of Government. It is contrary to the concept that all responsibility not specifically granted to the Government should remain with the people. Despite this premise in our constitutional history that maximum reliance should be placed on private responsibility and initiative as the primary resource and strength of the nation, it is a fact that an increasing number of legislative acts in this field accept the assumption that private interests, and expressly those represented by contractors, are in some way in opposition to the public interest and that it is therefore incumbent on the Government to protect and promote "the public interest." Government retention of title to patents and the acquisition of rights in technology by the Government are frequently asserted to be necessary for this purpose. Ironically, most foreign governments take a contrary attitude.

*(a) Government Experience*

In view of this position of the U. S. Government, it is of particular interest to analyze the success of the Government in promoting the use of inventions and technology. Inventions and technology even if owned by the Government, do not in fact convey any benefit and thereby promote the public interest unless put to use and made widely available in tangible form as products and services. Mere availability for license, or "dedication to the public" is of little utility to any one and experience to date indicates that such a policy actually militates against use and development.

Insight into the Government's effectiveness or lack of effectiveness in securing the use of Government owned and licensed inventions can be seen from the available statistics. Although the data is not easy to obtain because of its many sources, it is now reported that the Govern-



ment owns approximately 12,000 patents. Of these only 1,487 have been licensed, and of those licensed, only relatively few are considered to be in actual use.<sup>2</sup> While there are many reasons for this, including the essentially military or other specialized nature of many of the inventions owned by the Government, it would nevertheless appear that with so many patents and related technology owned by the Government, a larger number should be in use. Since this is not the case—for whatever reason—ownership of patents and technology by the Government cannot be taken as assurance that this will result in utilization. As a matter of fact, this has been the experience of both the United Kingdom and of Canada where Government agencies have sought to promote civilian application of Government-owned inventions. In both of these countries, utilization has been minimal and the costs incurred by the Governments for the purpose has substantially exceeded revenues received from the effort.

To date it has not been seriously suggested that the Government itself should engage in production or distribution of civilian type goods or services. Accordingly, it is not seen how Government agencies could themselves effectively promote the public good in this way. Rather, it must depend on private and for the most part industrial and commercial interests to produce, distribute and provide the goods and services. For the private sector to perform this function is quite natural since it is the manner in which our economy operates. It is likewise consistent with the basic precept that it is the business of Government to govern but not to engage in the promotion of private goods or services and certainly not in their direct production, distribution or sale.

*(b) Experience Under Private Ownership and Exploitation*

In contrast to the failure of Government-owned inventions to be put to civilian use is the widely accepted assertion that a very much higher proportion of privately owned patents and inventions are put to use. Here again statistics are difficult to obtain but such information as is available (see *The Patent, Trademark, & Copyright Journal of Research and Education* (IDEA), Volume 4, Number 4, Winter 1960) indicates that the percentage of patents privately owned which are put to use is four or five times higher than for Government-owned patents. Again, this result could follow from many causes, beginning with the fact that the patents which are privately owned are undoubtedly more

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<sup>2</sup> Mary A. Holman, "The Utilization of Government-Owned Patented Inventions", *PTC J. Res. & Ed.* (IDEA), Volume 7, No. 2 (Summer 1963).

frequently directed at commercial objectives. They are therefore, inherently more likely to be useful for commercial products and services. However, it seems inevitable that there is an incentive on the part of the private owner to derive value from costs incurred which is absent under Government ownership, particularly when the private sector use is an aside from the military, space or other primary Government purpose. The fundamental motivations of Government and the private sector are quite dissimilar and each is suited to its primary purpose and unsuited to perform the functions of the other.

A further factor, and one which is commonly accepted in private practice and is certainly material in securing private use of patented inventions and technology, is the employment of "exclusive use" as a basis for incentive and protection to the individual or the organization which will run the risks and costs of launching a new development. It would seem to be difficult if not politically infeasible for a public official in dealing with public property to give a single private party the sole right to exploit a development. Especially if the organization seeking the right to use is large, the grant of exclusive rights by the Government may be difficult indeed. And yet in the absence of a suitable user and incentive to it to make the further investments required, it is almost certain that a large number of new and unproved developments will not receive the experimentation and further development and adaptation required, and will therefore lie fallow or fail through lack of expertise or strength in their promotion.

#### SOME BASIC PROBLEMS IN SECURING USE OF GOVERNMENT PATENTS AND TECHNOLOGY

It is universally agreed that it is desirable that as much benefit as possible be obtained for the general economy from the R&D conducted initially for Government purposes. To achieve this end, however, it is essential that the problems and obstacles be evaluated with utter realism. In no other way will it be possible to distinguish meaningfully between the results sought and the steps required to achieve them, and to develop sound public policy for this purpose.

As suggested in Section VII, to carry any concept from vision to reality requires much effort, much added cost and considerable knowledge and persistence in the field to which the invention relates. Without devotion of dedicated energies, seldom will the inertia to change, as well as general lack of ability to visualize in advance new and different courses, produce new ways or ready acceptance of those offered.

To help evaluate the problems of getting new concepts, and new technology used, this section examines some of the major problem areas.

*(a) Inherent Difficulty of Subject Matter and Communication*

As is immediately apparent on giving any serious consideration to the subject, there are many and difficult problems involved in obtaining widespread use of technology developed in the course of work for the Government. From the outset, it will be recognized that the end items sought by the Government are usually weapons systems, space craft and the like, rather than civilian commodities. Accordingly, it is only in some specialized fields that the complete military or space package will have acceptance in the civilian market. Rather, it must be expected that it will be the technology, and possibly components of the Government end items which can be applied and find use for the general public.

Moreover, there are enormous problems in communicating the subject matter of technology and end products developed for Government agencies to organizations and members of the public in such a way as to lead to their utilization. At present, many efforts are under way to improve this communication. The Scientific-Technical Abstract Reports and other publications of NASA are an effort in this direction. The activities of the Office of Technical Services of the Department of Commerce and the Defense Documentation Center are both intended to disseminate reports and information developed on programs for the Government to proper recipients and thereby encourage their use. Considerable attention is being paid to determining how the dissemination of publications can be supplemented by people-to-people communication in the form of seminars, rotation of personnel, and by other means. Difficulties of transmission and acceptance of knowledge, even within the organization which performs work for the Government, are under study and all disclose formidable obstacles to the efficient use of possible helpful by-products of work undertaken for the Government which, from the outset, was not aimed at producing civilian commodities or services.

*(b) Required Further Know-How, Effort and Cost*

Experience has clearly shown that the mere availability of useful information will not of itself produce new products and services. The information must be recognized as useful to meet a need or serve a purpose. But even then utilization will require very considerable know-how and effort for its application. Between concept and product stands a great gulf that can only be filled by multi-faceted, expertise

and dedicated effort. The types of know-how required may be quite unrelated to the problems of the inventor. For example, it is necessary to know what is the civilian need or opportunity which can be served with the new information. What is the size of the market. In what form, price range, degree of complexity, styling and the like should the product or services be offered. How much will it cost to advance the concept or data from generalization or concept to a tangible, acceptable product. What plant and production force, what distribution arrangements and what inventory is needed and how can they be financed. The expertise required includes knowledge of the specific kind of market, type of product, competitive situation, and ability to bring together the resources required for development, production, distribution and financing. All of these are formidable in managerial as well as financial requirements.

*(c) High Mortality of New Concepts and Products*

In the light of the many difficulties inherent in proceeding from new concept to finished product, it is not surprising that new ideas have a high mortality. Statistics in this field are so discouraging that little novelty would be offered but for the fact that hope springs eternal and the rewards can be high. Previous studies suggest that on the order of one concept per thousand proves to be a successful product or service. Other data dealing with the utilization of patents, as distinguished from mere ideas, indicate that only between 2 and 8 per cent of patents actually produce successful products or services and significant income. This data should be distinguished from other findings which suggest that patents are "utilized," i.e., employed for trading purposes, mentioned on labels, or otherwise. We are here concerned with the production of useful end items which generate jobs and revenue and the available information indicates that, even when a concept has received the further attention necessary to secure a patent, its chances of significant success are few, hardly more than 5 per cent.

As can be judged from the preceding section, and as is known to those experienced in the field, many products and services of inherently good value languish and do not succeed despite inherent merit because of failures of production, distribution or inability to bring inventor and financing together in an effective team. While such failures may not be the fault of the original concept, they nevertheless prevent the materialization of the new idea into anything useful to the public. The end result of all these factors is a high mortality rate for new concepts and attendant substantial losses of effort and expenditure devoted to the launching of new products and processes.

*(d) Necessity for Favorable Terms and High Rates on Successful Few*

In the light of the large number of ideas, and even patents, which fail, it is evident that, if the economic system is to move forward, those few concepts which do prove successful must yield a return high enough to cover the costs of the many which required expenditures but which produced no significant income. Happily, this has been the experience of a number of glamor products, nylon being a striking example. As a result, inventors are inspired by the hope that their brainchild will prove to be one of the successful few.

If, in fact, 5 per cent of patents or 1 per cent of ideas must recoup the costs of all the others, it is evident that favorable terms must be secured through licensing or as the purchase price. In view of the requirement of significant invention for developing the concept and getting it into wide-scale production and distribution, it is essential that the economic risks be compensated by adequate return. This, too, speaks for favorable terms, whether as price or royalty arrangement. In the free economic enterprise system, such terms are obtained or the concepts do not secure backing. It is questionable, however, whether under Government Administration terms would be permitted that would realistically deal with the uncertainties and losses inherent in the introduction of new products and services.

Statistics of business failures likewise reveal how many new and small organizations fail each year. Under these circumstances, it is clear that to compensate the owners and the backers of new products and processes, it is essential that successful instances be allowed to earn rates of return which can compensate for the more numerous instances of failure and fruitless expense. Here again it would seem evident that it is better for the effort to promote new developments to rest with private interests and thereby derive the personal interest, understanding and drive of the inventor, entrepreneur or other venture promoter. And likewise that the failure and loss, if any, fall on these private interests rather than become a public expense. In turn, it would seem preferable for the high rates of earning in the few instances in which they will occur to take place through private arrangements rather than under licenses or other arrangements negotiated by Government agencies with private interests. In other words, it is essential that successful inventions provide high return to compensate for the failures of other concepts, but it is probably politically better that the Government not be a party to assisting private interests in securing these high rates of return.

*(e) Problems in Selecting Concepts to Promote and License*

As has been indicated under (c) above, experience shows that a very small proportion of concepts, and even of patents, will in fact prove successful. This means that an incredibly large proportion of concepts and patents, running perhaps as high as 95 per cent of the latter, are doomed to failure and should not receive serious expenditure and promotional effort. But no one can tell in advance which concepts will be successful. Every inventor hopes that his will make it. Nevertheless, experience shows that a large part of effort and cost will in fact come to nothing. Under such circumstances, and particularly since it requires unlimited and dedicated effort to make the difference between success and failure, it is most desirable that the selection, early development and promotion of concepts be left to the inventors and their associates for initial cultivation or elimination. Were a public agency to enter these functions at this stage, it would be extremely difficult to decide whose concepts should be given attention and support and whose eliminated and at what point. Indeed, to require a public agency to make such decisions would seem to be placing it in an impossible position.

*(f) Difficulties of a Centralized Every-Subject Promotion Agency*

As indicated above, in addition to financial support and dedicated effort, to be efficient and successful new concepts and technology must be promoted by individuals possessing the appropriate expertise and contacts. This means that they should be familiar with the field in which the concept or technology can be utilized. Unless they possess realistic familiarity with these areas, they will either fail to realize the possibilities for use of the concept and technology or will be quite inefficient and ineffective in seeking to advance it to utilization. When inventors and their backers undertake promotion, it is of only indirect concern to the public whether such activities are efficient or effective. Failure and loss falls primarily on the inventor and his associates. However, if the promotional agency is supported at the direct expense of the public, it becomes essential that its costs be as reasonable as possible and that therefore its operations be efficient and effective. It seems almost inconceivable that any centralized agency of reasonable size could possess the required range of know-how and familiarity with industrial, commercial and financial operations to handle the full range of technological markets, potential sponsors and financial interests required to deal effectively with the developments which are generated by the programs of the large Government agencies such as DOD or NASA.

## SOME UNOBVIOUS BENEFITS TO THE GOVERNMENT AND THE PUBLIC FROM WIDESPREAD USE

### *(a) Lower Costs, Availability of Parts and Service, and Continued Development*

It is believed that some of the Government's attitudes toward contractor retention of ownership of inventions and technology arise through a failure to appreciate the direct benefits to the Government and to the public which follow from active and continued use of developments by the contractor. It is clear that if equipment developed for Government purposes can be put into general use, the larger volume produced will result in lower production costs while reliability will undoubtedly increase. Moreover, widespread use and distribution will require the stocking of parts and provision of maintenance services. This will greatly enhance the utility of such equipment to the Government as well as to the general public. This is the history of all standard parts and catalog items. Automobiles, electric motors, and a host of items used by the Government and the public illustrate the benefits to all parties of large volume production and wide distribution.

But there are other less obvious but nevertheless real benefits. If items become a regular part of a contractor's business, they will receive the benefit of continued development and the cumulative experience of the organization based on use under a variety of circumstances and operators. This will require increased ruggedness and reliability. Thus, it is of direct benefit to the Government. In contrast can be seen the harmful effects to the Government if equipment remains so low in volume or so specialized in characteristics that it undergoes no continuing development, no exposure to varied circumstances and users, and cannot be serviced by regular suppliers and maintenance personnel. Under these circumstances, the equipment and its servicing remain special, all costs must be borne by the Government, and even then, in the absence of extensive and continuing experience, the equipment and service are not as efficient.

### *(b) General Contribution to the Economy*

The above benefits to the Government are mentioned first because they comprise direct contributions to the interest of the Government itself resulting from wide-scale and public use of equipment or services initially desired for direct Governmental functions. Of course, no evaluation of the interest of the Government in inventions and technology is sound unless it takes into account the interests of the general public. Thus, it is clear that new products and processes, if

put to extensive use, confer at least the following additional benefits on the public and the Government:

1. They create job opportunities with resulting income to individuals;
2. They result in plant construction and the provision of required tools and other facilities, thereby further extending work opportunities and benefits;
3. Both the foregoing produce tax revenue for Federal, State and local governments from both income and property taxes;
4. They raise the general standard of living by providing improved goods and services in general use.

Certainly, secondary or indirect benefits of the above types are greatly sought by all. They are mentioned after the foregoing only because to some extent they are less directly of concern to the Government than the obtainment of superior weapons, systems and services for direct use by the Government, and the continuous betterment of such items and their ready maintenance on a widely available and reduced cost basis.



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## STUDENT PAPERS

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By making available student papers, students will receive an incentive and our readers will appreciate the evidence of scholarly development in the fields of interest. These papers are carefully reviewed by the Editorial Committee and other specialists, and helpful suggestions are made to the students as part of the educational function of *IDEA*. The Research Institute invites educational and research institutions to submit informative student manuscripts on the patent, trademark, copyright, and related systems.

### Interrelational Aspects of the Presumption of Validity and The Mechanized Search

WM. CARTER REYNOLDS\*

#### SUMMARY

**H**EREIN PRESENTED IS A VIEW of the presumption that is attended the grant of a United States patent that the rights thereunder are properly conferred and legally deserved. This presumption of validity owes its existence and strength to the examination form of patent system, but has had little efficacy in some circuits in the last few decades. Some views of why this has occurred are set forth, but the overriding principle to be remembered is that these changes are in reality indicative of the health of the examination form of system in the United States. Therefore, it is herein argued that unless the respect shown by judges for the work done by the Examiners of the Patent Office shows some increase, the examination system as such becomes a burdensome luxury. What many consider to be the great hope for this

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\*Mr. Reynolds, while a senior in The George Washington University Law School in 1964, submitted this paper in partial fulfillment of the requirements for the Seminar and Lecture Series given by The PTC Research Institute in conjunction with The George Washington University Law School.

system, the mechanized search, has been studied. Since the application of machinery to patent retrieval is so new that it is almost totally research territory, some of the problems to arise in the future and presently confronting the researchers have been brought to light. In view of these problems this writer herein concludes that the mechanized search will not be of substantial aid to the Patent Office Examiners for years to come, but that the research in this field should be increased for reasons transcending in general importance that of the patent system. Since it appears that strength will not be flowing into the examination form of system and thus the presumption of validity in the near future, certain alternative strengthening measures have been suggested for study. For, in this writer's present opinion the examination system merits retention.

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#### THE PRESUMPTION OF VALIDITY AS COURT-MADE LAW

**A**PPELLATE TRIBUNALS AS A MATTER OF PRACTICE will usually affirm a lower court ruling unless it is clearly in error. To some degree this practice has been adopted by courts reviewing administrative agency decisions.<sup>1</sup> Patent Office rulings began enjoying a presumption of correctness in the last century.<sup>2</sup> This well-settled doctrine began to show signs of decay more than a decade<sup>3</sup> before the passage of the present Patent Act of 1952.

When it was decided to completely revise the patent laws the

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<sup>1</sup> See for example, *U.S. v. I.C.C.*, 221 F Supp. 584 (1963) at 587 where Judge Alexander Holtzoff commented:

It is well settled that the scope of judicial review of final decisions of administrative agencies is narrow. It is limited and restricted to determining whether the agency committed any errors of law, or transcended the legal limitations on its authority; whether there is substantial evidence to sustain its findings of fact; and whether the result reached was arbitrary or capricious. The Courts are not empowered to consider and weigh the evidence *de novo* and reach an independent conclusion.

<sup>2</sup> In 1873 the Supreme Court in the case of *Coffin v. Ogden*, 18 Wall. 120 at 124 stated:

The burden of proof rests upon him (defendant attempting to invalidate patent), and every reasonable doubt should be resolved against him. (parenthetical matter added).

<sup>3</sup> See Judge C. G. Galtson's commentary in 13 Fed. Rules Decisions 463 at 469. See also, "The New Patent Act and the Presumption of Validity", 21 *Geo. Wash. Law Review* 575 (1953), which notes that the presumption was suffering from mere "lip service."

opportunity arose to strengthen the presumption of validity.<sup>4</sup> The first<sup>5</sup> and second<sup>6</sup> drafts were comprehensive and positive in their treatments. However, the drafters believed the need for new legislation to be immediate and therefore moved away from highly controversial issues in the final stages.<sup>7</sup>

Just how controversial an attempted enactment of a presumption of validity of wide scope was considered is not clear, but the Section included in the Bill passed by Congress<sup>8</sup> does show some effects of this spirit of compromise. However, there can be little doubt that the proponents of the Bill intended the statutory enactment to put vitality in the presumption.<sup>9</sup>

#### SUBSEQUENT TO 1952

No new trend has appeared since the passage of the present Patent Act. Generally, the various circuits approach the presumption of validity as they always have, sometimes referring to Section 282, other times not. This is not really surprising. Judges became dubious

<sup>4</sup>The Patent Act in force at the time had been enacted in 1870 and made no mention of the presumption of validity.

<sup>5</sup>The preliminary draft was authored by Mr. P. J. Federico of the United States Patent Office. Beginning at line 8 of Section 79 of that draft:

A patent shall be presumed to be valid unless and until it has been held invalid by the final judgment of a court of competent jurisdiction from which no appeal is or can be taken and the burden of establishing invalidity by convincing proof shall rest of any person asserting the invalidity of the patent.

<sup>6</sup>The first redraft was prepared by Mr. Giles S. Rich of the New York Patent Law Association (present Court of Customs and Patent Appeals Judge) and Mr. Paul A. Rose of the American Patent Law Association for the Coordinating Committee of the National Council of Patent Law Associations. The latter portion of Section 79 read:

The action of the Patent Office in granting a patent with respect to *all matters lawfully passed upon* by it shall be presumed to be correct and the burden of establishing the contrary by convincing proof shall rest on any person asserting the contrary.

The note accompanying this section states in part:

. . . the provisions on presumptions have been extended to other matters passed on by the Patent Office.

<sup>7</sup>Mr. Henry R. Ashton, Chairman of the National Council of Patent Law Associations made the necessity of this clear in a meeting on codification Feb. 8, 1950:

It has been suggested that if codification is to be undertaken it would not be possible to go into radical changes in the law in connection with that codification and still get a codification enacted at the present session of Congress. It is possible that the House Committee might be interested in codifying the patent laws without including radical changes or controversial changes. That matter should be born in mind in connection with our further deliberations today.

in the past not because the presumption was court-made law rather than statutory, but because the judges have come to believe that they have a particular insight into the problems and shortcomings of the Patent Office and that any patent coming before them must be viewed with all such problems in mind.<sup>10</sup> The internal workings of the Patent Office which at times are considered to affect the presumption are legion.<sup>11</sup> But there are two considerations which would appear to be the ones most frequently referred to when judges hold the presumption to be *de minimus*; pertinent prior art not cited by the Patent Office and test of invention applied. The latter will be discussed first.

#### STANDARD OF INVENTION

It has been pointed out that the presumption of validity is in many ways synonymous with a "presumption of invention"<sup>12</sup> The test of invention in the courts is generally considered to be rising due at least in part to the view of patents taken by the Supreme

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<sup>8</sup>Section 282 of H.R. 7794 enacted into law July 19, 1952 by the 82d Congress, 2d Session reads in part:

A patent shall be presumed valid. The burden of establishing invalidity shall rest on a party asserting it.

<sup>9</sup>Mr. Rose in a report to the American Patent Law Association on H.R. 3760 as introduced to the 82d Congress, 1st Session (this Bill was changed in a few minor areas and introduced as H.R. 7794 in the next Session, *supra* note 8) commented:

In view of the growing tendency in the recent past for courts to ignore or pay little more than lip service to the doctrine of presumption of validity, it is hoped that this positive declaration by Congress will be of real value in strengthening the patent system.

<sup>10</sup>District Judge Morgan in *Mohasco Industries, Inc. v. E. T. Barwick Mills, Inc.*, 139 U.S.P.Q. 148, 1963, summed it up this way:

To be sure, the issuance of a patent carries with it a presumption of validity (35 USC, Sec. 282) but the Courts recognize the problems which inhere in an immense administrative operation such as is carried on by the Patent Office and have minimized the presumption accordingly.

<sup>11</sup>To note a few:

Lack of explanation in the record as to discussion had during attorney-examiner conference resulting in allowance of claims held to weaken presumption—*Technograph Printed Circuits, Ltd. v. Bendix Corp.*, 137 U.S.P.Q. 725 (1963).

Settlement of an interference by the parties thereto held to diminish presumption—*Mohasco Industries, Inc. v. E. T. Barwick Mills, Inc.*, *supra* note 10.

Presumption held to be weakened because the Examiner rejected the application three times but held to be strengthened because the Board of Appeals passed on same—*Lake v. Columbia Pen and Pencil Co., Inc., et al*, 139 U.S.P.Q. 334 (1963).

<sup>12</sup>See, "Some Aspects of the Underlying Legislative Intent of the Patent Act of 1952" by Prof. L. J. Harris, *Geo. Wash. Law Review*, Vol. 23, No. 658 at 680.

Court.<sup>13</sup> The sophisticated developments presently being patented by some corporations may have some effect also.<sup>14</sup>

On the other hand, the Court of Customs and Patent Appeals appears to be moving toward a more liberal interpretation of 35 U.S.C. Section 103.<sup>15</sup> This may be due in part to the addition of judges who were formerly patent attorneys.<sup>16</sup> The Patent Office is bound by the decisions of the Court of Customs and Patent Appeals<sup>17</sup> and therefore in most instances would strive to determine inventiveness according to the tests therein promulgated. Most attempts in the Patent Office to raise the standard of invention would not appear well received by this appellate tribunal.

#### PRIOR ART

If the defense in an infringement suit comes forward with prior art superior, as it relates to the invention at issue, than the art cited by the Examiner the presumption is in the least weakened and usually fully dispelled.<sup>18</sup> If the art relied upon is not as pertinent as that considered by the Patent Office, the presumption may remain unaffected or be considered to gain in strength. However, in the area between these two extremes lie the prior art patents or publications which are approximately equivalent to those of record in the patent

<sup>13</sup>In study No. 25 of The Subcommittee on Patents, Trademarks, and Copyrights of the Committee on the Judiciary (1960) it is noted that the Supreme Court's admonition in *Great A & P Tea Co. v. Supermarket Equipment Corp.*, 340 U.S. 147 (1950), as to careful scrutiny of combination patent claims may be interpreted as a presumption of invalidity of such claims. It appears to this writer that the A & P case is cited most frequently in circuits where the presumption of validity is the weakest.

<sup>14</sup>This point is made in "The Value of the American Patent System" PTC J. *Res. and Ed. (IDEA)*, Vol. 1, No. 1 (1957).

<sup>15</sup>In fiscal 1953 the C.C.P.A. affirmed the Patent Office in 85 percent of the cases appealed; in fiscal '63 affirmances were made in only 67 percent of the cases. These are not isolated differences, there has been a definite change in outlook; the average affirmation rate for the four years from 1950 to '53 was 81 percent while from 1960 to '63 averages but 64 percent.

<sup>16</sup>Until 1956 no judge on the C.C.P.A. had been a patent attorney. Judge Giles S. Rich was appointed in 1956 and Judge Arthur M. Smith appointed in 1959.

See the discussion by Mr. George E. Frost in the Materials from the Eighth General Patent Law Conference (1964), The John Marshall Law School.

<sup>17</sup>This is stated in an unqualified manner by the Board of Appeals of the Patent Office in *Ex parte Packard*, 140 U.S.P.Q. 27 (Sept. 1963).

<sup>18</sup>This point is made so frequently by the courts that citations do not really appear necessary. The statement by the Court of Appeals of the 9th Circuit in *Dresser Industries v. Smith Blair Inc.*, 139 U.S.P.Q. 1 (1963) is quite exemplary:

Even one prior art reference which has not been considered by the Patent Office, may overthrow the presumption of validity.

and which the judge may hold to eradicate the presumption or strengthen it. It is doubtful that there will ever be accurate figures on how many of these borderline situations arise because the pertinence of the reference is largely a matter of opinion. Which side the judges generally favor, if any, this writer would not want to attempt to state.<sup>19</sup> But any casual reading of recent patent decisions gives quick indication that uncited prior art is the biggest menace to the presumptive status a patentee hopes to enjoy in court.

### NECESSITY

The prior discussion is thought to point up the relative lack of finality accorded Patent Office findings of invention. Is this necessarily detrimental to the patent system and thus the national economy? Surprisingly, little has been written on the necessity or justification of a presumption of validity<sup>20</sup> although there is an obvious general awareness of its supposed existence. Perhaps the patent world considers this doctrine to be so clearly justified<sup>21</sup> that it requires little

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<sup>19</sup>Others have not hesitated. Mr. Joshua J. Ward in his work entitled, "The United States Patent System" (1952) stated at page 53:

It is only in comparatively recent times that the courts have taken it upon themselves to declare patents invalid on the basis of the same evidence as was considered by the Patent Office in issuing the patent. Previously, an issued patent was presumed valid.

In a recent lecture entitled "Current Problems in Patent Prosecution in the Patent Office" at the first annual Institute on Patent Law in March 1963 at Dallas, Texas, Mr. Ralph R. Brown stated:

. . . the well established rule is that if the art cited by a defendant in an infringement suit is better than or *even substantially different* from that cited by the Examiner against a patent in suit the presumption of validity is destroyed and the defendant's burden is much easier than if he urges prior art that the Patent Office considered. (emphasis supplied).

Mr. Eugene W. Geniesse, the author of Patent Study No. 29 (1961) of the Subcommittee on Patents, Trademarks, and Copyrights of the Committee of the Judiciary, states at page 53:

It is the writer's opinion that the number of patents held *obviously* invalid by reason of a reference that escaped the Examiner is relatively small. . . . (emphasis supplied).

<sup>20</sup>Mr. Chief Justice Taft in one sentence related the presumption of validity to the worth of a patent in *Westinghouse Co. v. Formica Co.*, 266 U.S. 342 at 348:

It is not conclusive but the presumption gives the grant substance and value.

<sup>21</sup>In an address to the Philadelphia Patent Law Association on Jan. 24, 1952, the sponsor of the present Patent Act, Representative Bryson of South Carolina, discussed the strong stand made by the Justice Dept. against incorporating the presumption in the Act. Justice considered it a "qualified rule of evidence" which should hold only on points (including prior art) specifically considered and decided by the Patent Office on the record.

debate. Unfortunately many judges do not. If the propriety of the presumption cannot be supported, the necessity of the present large examining mechanism comes into question. Absent a presumption or in view of one of little strength, how would the public and each patentee benefit from an examination for novelty prior to suit? Any public benefit due to the obviously non-inventive applications not maturing into patents would seem to be outweighed by the cost of maintaining the Patent Office and the immeasurable loss of incentive by inventors in the realization of the costly toil through the Patent Office only to encounter *de novo* consideration in the courts. The benefits to the patentee would be practically non-existent.<sup>22</sup> In fact, the patentee may suffer considerable loss thru novelty examination. First, there is the cost of prosecuting an application to issuance in the Patent Office. Second, and perhaps most damaging, the patentee has disclosed his invention to the competition when his patent is published and has little in return.<sup>23</sup>

The absence of a presumption or the existence of one which is weak would seem to indicate that a registration system, which would not be purported to issue a patent with an attendant validity presumption, might be the preferred approach.<sup>24</sup> But, with a presumption of some strength, the novelty examination system would seem preferable to any version of registration system. The advantages of

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<sup>22</sup>The patentee would receive some benefit in seeing at least what the patent Examiner considers the art most limiting to the invention at issue.

<sup>23</sup>See an excellent discussion of this inequity subtitled, "Parameters of the Cost of Disclosure," in a Research Project Report entitled, "The Value of the American Patent System," *PTC J. Res. & Ed.*, (*IDEA*), Vol. 1, No. 1, (1957). *Supra*, note 14.

See also the proceedings of The Fourth Annual Public Conference of The Patent, Trademark, and Copyright Foundation (Institute) reported in *PTC J. Res. & Ed.*, (*IDEA*), Vol. 4, 1960 where at page 89 comments by Dr. Joseph Rossman, Philadelphia patent attorney are recorded:

—I would suggest that the Patent Office print on each document a simple statement like this:

"This patent is granted without guarantee of validity or commercial value."

The reason I suggest this—and I am doing it seriously—is because as you gentlemen know about 40 percent or almost half of our patents are granted today to individual inventors, men who are on their own, and only 60 percent or possibly less goes to companies. But the individual inventor should certainly be alerted when he gets this beautiful document with the red seal.

<sup>24</sup>The opposers of the registration form of patent system hold that a heavy burden is added to the courts by such a system. This is questionable, as spurious patentees would seem to rarely be willing to risk the expense of suit (the renewal fee system of 60 countries is based on the fact that moneys will not be spent on inventions of less than some merit) and experienced judges could quickly dispose of those which are brought through the Summary Judgment Rule.

having the initial patentability decisions made by men highly competent in each respective art involved are obvious.<sup>25</sup> If more of the resulting patents were to stand the test of litigation than others have in the past, patentees would be receiving what they probably, to a great degree, have always believed they received.

#### MEASURES TO STRENGTHEN THE PRESUMPTION

If the proposition be accepted that the presumption of validity is a necessary element of a novelty examined patent, one naturally turns to possible measures which will affect it positively. As aforementioned, pertinent prior art not cited by the Patent Office is the most consistent neutralizer of the presumption.<sup>26</sup> The remedy most cited by writers which attempts to attack the prior art problem is the adoption of opposition proceedings.<sup>27</sup> However, it must be noted that the presence of such proceedings abroad has not always resulted in a presumptively valid patent.<sup>28</sup> In addition, it would seem evident that extended Patent Office proceedings are inherently bad for the individual or small business of limited resources, especially when confronted by opposition of questionable propriety instituted by large concerns. The added work load to the Patent Office cannot be overlooked.<sup>29</sup> This writer does not favor such an approach at this time.

What appears to be the simplest line of attack is to ease the search work for the Examiners of the Patent Office. This would presumably require no legislative changes in the patent system itself. There will always be a small percentage of judges who will brush aside the

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<sup>25</sup>Mr. William C. Robinson in his treatise on patents Vol. 1, made this interesting observation at page 83:

. . . if the opinion of a judge upon the bench, who however skilled in law must seldom be profoundly versed in the chemical or mechanical arts, can outweigh the deliberate judgment of trained experts in the Patent Office on the question of the presence of inventive as distinguished from mechanical skill, and that upon his mere inspection without evidence as certain cases hold, . . . the value of a patent is too precarious to warrant large investments on the faith of its validity.

<sup>26</sup>*Supra* at 6.

<sup>27</sup>Judge C. G. Galston made this suggestion in his paper, see *supra*, note 3.

Patent Study No. 4 (1957) made for the Committee on the Judiciary has a good discussion of potential benefits which might result from the institution of an opposition procedure in the U.S.

<sup>28</sup>Rene D. Zentner concludes in "Opposition and the Validity of Patents in the English Speaking Countries," *JPOS*, Vol. XL, No. 1 (1958), that opposition proceedings have no effect on the presumption of validity in Britain or Australia. There may be some strengthening of the presumption in the Union of South Africa.

<sup>29</sup>See pages 52 and 53 of Mr. Eugene W. Geniesse's Study No. 29, *Supra*, note 19.



presumption of 35 U.S.C. Section 282 in view of a reference equivalent to or inferior to the art applied by the Patent Office,<sup>30</sup> but perhaps, in the face of a rising tide of respect for the searching ability of the Office, this number will become negligible.

#### THE SEARCH LOAD

To study the Patent Office search load is quite revealing. The sheer volume in numbers of the domestic and foreign patents<sup>31</sup> and technical literature in being dictates a certain number of overlooked references. In the recent few decades research has been increasing at what approaches an exponential rate, naturally resulting in substantially equivalent increases in technical publication output alone. The patents issued each year tend toward greater numbers the world around, although due to novelty requirements and other considerations in the United States the rate does not follow lineally that of research and development. Thus the technology the United States patent system is designed to foster and has fostered is proving to be a threat to its very existence. This problem is considered to be at the root of many difficulties the patent system is now experiencing, in addition to the weakened presumption of validity. Further, this problem is perhaps the one most feared by advocates of the continuance of our present system for its potential long term effects.

There appears to be only two possible solutions which require no changes in the system itself. One is to meet numbers with numbers, double the present staff of the Patent Office. The second is to plan on an eventual complete reliance on electronic machinery to do the culling through the vast material to be searched.

#### Increase in Examining Staff

This approach is a stop-gap solution at most which will continually require further implementation, i.e., more examiners as the search load continues its expansion. Also realizing the state of mind in Congress toward appropriations allotted to agencies which are rarely front page news and accordingly not much of an election aid, it is extremely doubtful that such a proposal would become reality. But,

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<sup>30</sup>Mr. Ford Harris in his "Commentaries" in *JPOS*, Vol. XXXII, No. 12, page 946, has this to say:

What is needed as far as the Judiciary is concerned, is a statute which discourages the judges from reversing the Patent Office on the question of whether or not a claim defines an invention on the same evidence that was before the Patent Office or on no more conclusive evidence than that so considered.

<sup>31</sup>Over 3,100,000 domestic and over 7,000,000 foreign.

this aside, merely increasing the examining staff<sup>32</sup> would simply not be meeting the problem in its context. The wealth of the information in the Patent Office files should be accessible to all branches of industry. This is becoming absolutely essential to save time and decrease duplication of effort in all fields of science and technology.<sup>33</sup> Interestingly enough, the Russians, in their crash program for technological advance, have come to realize that in addition to the incentive features of a patent system the published knowledge made available by such a system becomes an absolute necessity.<sup>34</sup>

Although the presumption of validity should be strengthened until the search load again outstrips the examining force, the addition of Examiners will not meet these information dissemination needs of industry. The solution which offers the most advantages must be chosen, and this would appear to be the use of the "mechanized search" throughout at least a substantial portion of the Patent Office.

### The Mechanized Search\*

Those who have fears for the future of our present system have

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<sup>32</sup>In 1939 the Committee on Patent Law Revision of the Patent, Trademark, and Copyright Law Section of the American Bar Association went on record (Committee Reports No. 35) as advocating:

. . . a substantial increase in the Patent Office Examining Corps and the provision of such additional facilities as may be needed to effect more deliberate and thorough examination of patent applications to the end that the presumption of validity arising from the grant of a patent may be strengthened.

The resolution was not approved by the A.B.A. House of Delegates.

<sup>33</sup>The King Committee formed to study Patent Office search problems in their Report of March, 1961, to the Commissioner of Patents stated:

It could very well be true that *more than half* the effort of the scientific and technological personnel of the world is now being spent in a duplication of previous effort. If this estimate is correct, then an efficient method of making knowledge available would double the effectiveness of the scientific community.

<sup>34</sup>See for example, the address by the former Commissioner of Patents, David L. Ladd, in Seattle, Washington, August 15, 1962.

\*The presumption of validity can to a large extent be considered the bell-weather of the examination system in general, thus factors affecting one will frequently affect the other in the same manner. Since the impact of the mechanized search should be noticeable not only in the presumption of validity, but also in the totality of the examination system, it is thought preferable to approach this modernized search process in its broad relation to the system in addition to its relation to the presumption.

frequently seized on the computer as that which will "rescue" it.<sup>85</sup> It seems relatively clear to this writer that there is little choice. Machines must take over the majority of the searching done in the Patent Office and this transition must occur in the not too distant future if we are to retain the present system.

#### IMPACT ON THE PRESUMPTION OF VALIDITY

It is difficult to say exactly how much the court room status of patents would be enhanced by the use of electronic search machinery in the Patent Office. There are so many factors which weigh on the presumption of validity of each patent,<sup>86</sup> not the least of these being the judge's personal estimate of the quality of Patent Office work,<sup>87</sup> that an extremely positive statement would be but a guess. The court might find the fact of a machine search very impressive, a machine never tires nor has lapse of memory, and consequently would require the defense to introduce prior art references clearly superior to those cited in the Patent Office in order for the presumption to be overcome. A positive side effect might be an increased propensity to accept the decision of each patent Examiner as to obviousness under 35 U.S.C. Section 103. But, there is at present no real indi-

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<sup>85</sup>In a Staff Report of the *Subcommittee on Patents, Trademarks, and Copyrights* of the Committee on the Judiciary on the "U.S. Patent Office Research and Development Program" (1963) Senator John L. McClellan states in the Foreword:

It is too early to tell whether the research and development program of the Patent Office will be successful in permitting mechanized searching in most classes of the arts. If, after further research, it should appear that such efforts do not afford reasonable prospects of success, it would then become necessary to consider substantial changes in our present system, before the entire system runs the danger of collapse.

As a result of a recommendation of a committee headed by Dr. Mervin J. Kelly of Int. Bus. Mach. Co., convened at the request of the Secretary of Commerce to study the changing role of the Dept. of Commerce in science, a committee was formed under the chairmanship of Dr. Gilbert W. King to study information retrieval in general and with reference to the Patent Office. (*Supra*, note 33) The King Committee Report to the Commissioner dated March 1961, in discussing the Examiner error rate in failure to uncover art that definitely should be considered when determining novelty of an application for patent concluded:

As time goes on, it is quite likely that the rate will go up because the search problem is becoming intrinsically more difficult, although the introduction of information retrieval systems may reverse the trend. If the error rate increases sufficiently and it becomes impossible to reduce it, then our present patent system will have to be abandoned or seriously modified.

<sup>86</sup>*Supra*, note 11.

<sup>87</sup>*Supra*, note 10.

cation how the court will view this development and the Patent Office has no record of machine searched patents which have been litigated nor of any decisions which may have discussed some facet of this question pro or con.<sup>38</sup> The majority of the learned people who have studied the application of the computer and similar equipment to the Patent Office search load problem have concluded that the presumption of validity would be strengthened through this means.<sup>39</sup>

Without further study it would appear that the answer to many problems lie within the console of a computer. The presumption of validity will be strengthened to former status in all circuits. But this sunny outlook is unfortunately not shared by this writer. A look at what has been done in actually applying a computer or similar electronic aid to the gargantuan task inherent in the files of the Patent Office may result in a dreary realization in the minds of many that this may not be "the answer" for our present system.

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<sup>38</sup>This writer canvassed the following Patent Office personnel in an effort to get some indication of court approach to the machine search: Messrs. Spencer Koller, and Leibowitz of Research and Development; Messrs. Schimmel and Cochran, Solicitor's Office; Mr. Federico, Examiner in Chief; and Mr. Gotts, Mechanized Division A. Only Mr. Leibowitz mentioned that he thought he had seen something on this in a decision reported in an issue of the Official Gazette, reported in 1962. This writer searched the last few 1961 Gazettes, all 1962 editions, and the first few of 1963 Gazettes with no success.

<sup>39</sup>In 1954 at the request of Secretary of Commerce Sinclair Weeks, Dr. Vannevar Bush of M.I.T. formed a committee to study the possible modernization of the Patent Office. In the Bush Committee report submitted to the Secretary Dec. 22, 1954, the point was made that:

An improvement of the search process will enhance the usefulness and status of the patent system in general. If the search process is made more thorough, there will be fewer patents issued which are later found by courts to be invalid. Thus the cost to society of expensive litigation will be reduced by the load thus taken off the courts.

The Kelly Committee (see *Supra*, note 35, as to the origin of this committee), Report of March, 1960, in discussing search mechanization stated:

It should also result in a more complete search, thereby raising the level of integrity of issued patents which should decrease the volume of patent litigation. The Panel concurs in this evaluation of values from mechanization of search.

Former Commissioner of Patents, David L. Ladd, at a Section luncheon of the A.B.A. (Section of Patent, Trademark and Copyright Law) on August 9, 1961, made this point:

If we are eventually able to achieve general mechanized searching in the Office, this will not only improve our chances of maintaining an examining system and avoiding having it break down under us, but should also greatly strengthen the patents that do issue. It should reduce instances in which the Patent Office does not

## BACKGROUND

The personnel of the Patent Office has been well aware of this growing search load menace and first took action some fifteen years ago. A group from the Chemical Classification Division in 1949 chose some patents from the class of medicines, analyzed them, developed a coding scheme, and coded each patent into a card by way of punched holes.<sup>40</sup> However, in January 1951 this experiment was terminated due to the lack of funds and also an apparent lack of confidence in the propriety of the venture. Confidence blossomed when the Senate Appropriations Committee directed in a publication of 1954 that the Department of Commerce "make an aggressive and thorough investigation as to the possibility of mechanizing the searching operations and installation of up-to-date types of equipment in order to modernize, insofar as practicable, the Patent Office operations." Both the Commerce Department<sup>41</sup> and the Commissioner of Patents<sup>42</sup> appointed committees to study the situation. As an out-

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find relevant prior art. It should enhance the legal presumption of validity and, consequently, it should re-enforce public and judicial confidence in the patent system.

Mr. Ladd has stressed this point (see the Seattle address, *Supra*, note 34):

Now the validity of any given patent and ultimately the soundness of the examination system depends upon how thoroughly these files (Patent Office files) are searched for each application. The question is now squarely before us: Can we continue to search this literature to determine novelty in patent applications with such thoroughness as to justify the legal presumption of validity which arises because of the examination and issuance of the patent? We think the answer is 'Yes,' but we know that the answer would have to be 'No' if we assume that we will be continuing to search in the same manner as we always have.

That is why the Patent Office is deeply concerned with documentation. That is why the Patent Office has established a research and development program whose objective is to assist the Examiner in his search of the technical literature by using computer technology, high-speed filing and display devices, and related equipment and methods for assuring rapid and complete search.

October 23, 1961, at a session of the International Patent Office Workshop on Information Retrieval former Commissioner of Patents Robert C. Watson commented:

You gentlemen are all here because you know that the success of the effort to mechanize patent searching must succeed if we are to maintain our examination systems.

<sup>40</sup>See, "Patent Examining-Past, Present and Future," a paper by Don D. Andrews, former Director of Research and Development, U.S. Patent Office for presentation before The American Chemical Society, April 14, 1958.

<sup>41</sup>The Bush Committee, *Supra*, note 39.

<sup>42</sup>A Committee on Mechanized Searching, internal to the Patent Office. Don D. Andrews was made Chairman.

growth of a recommendation from the committee formed by the Commerce Department the "Office of Research and Development" was formed March 2, 1956, in the Patent Office, solely to mechanize searching. Soon after the formation of this office an extremely active chemical art, steroids, lost the two experts who had been examining applications in this field. With some study it became evident that though the steroid molecule is complex all distinctions within it are relational and therefore adaptable to a coding system. The 1600 steroid patents in the art at that time were analyzed and coded into punched cards. A check was made of machine searches against manual searches and the accuracy of the machine proved out well. With the completion of this work the first mechanized examining division was formed in August of 1957 and the steroid art transferred to this division. Some literature has been coded into this file but foreign patents have not.

Next Research and Development turned its attention to the organophosphorus and organometallics files. By the end of 1962 these files were systematized and coded and were made operational in 1963. However, neither foreign patents nor literature have been coded into either file.

Thus, to date there are three operational files totaling approximately 8,000<sup>43</sup> patents. A Multicolumn Sorter<sup>44</sup> is presently being used to search all three files. However, each file required the development of a new system and unfortunately none of these systems possesses broad applicability to other arts.<sup>45</sup>

Work has been done on the pesticide art<sup>46</sup> consisting of a number in the area of 4,000 patents. Presently this work is suspended for lack of a proper method of evaluating the system designed<sup>47</sup> and because the machine originally intended for use<sup>48</sup> with this system was found to lack the necessary capacity. A resins project has been suspended for the same reasons.

The projects presently working are the miscellaneous transistor cir-

<sup>43</sup>The organophosphorus file totals about 2300 patents and the organometallics file about 3700.

<sup>44</sup>A machine developed by the Census Bureau similar to an I.B.M. 101.

<sup>45</sup>See "Semi-automatic Encoding of Chemicals for Information Retrieval," a paper presented at the 141st Meeting of the American Chemical Society at Washington, D. C., March 20, 1962, by J. Frome and P. T. O'Day, U.S. Patent Office.

<sup>46</sup>See for example, "Current Research and Development in Scientific Documentation," published by the *National Science Foundation*, Vol. 11.

<sup>47</sup>Communicated orally to this writer by Mr. J. Leibowitz, U.S. Patent Office.

<sup>48</sup>I.B.M. 305 RAMAC.

cuit file<sup>49</sup> and a general chemical file.<sup>50</sup> At this time systems are still in the design and evaluation stage and little can be prophesied as to their success. It definitely looks as though the miscellaneous transistor circuit searches will not be made on the Multicolumn Sorter, Batten punch cards currently envisioned.

Preliminary work is being done in the hydraulic systems field, a predominantly mechanical art, and some answers to questions as to the applicability of machine searching to mechanical arts may be indicated as a result of this work.<sup>51</sup>

## SOME PROBLEMS INVOLVED

### *Financial*

Realizing the nature of the task and the resources at its disposal, the consensus is that the Patent Office has done an excellent job. However, these two qualifying factors, (1) the lack of adequate funds and (2) the complexity and size of this heretofore unresearched field of patent information retrieval give rise to much doubt that this project will, in the not too distant future, strengthen the patent system. The first factor is of obvious importance. It has been estimated that at the very minimum \$14,000,000 will be required to mechanize the Patent Office Search Procedure.<sup>52</sup> According to this standard, at the present appropriation rate<sup>53</sup> it will take between 20 and 30 years to effect substantial mechanization. The need for a patent with the full attendant presumption is current, a 25 year wait will be in the least very harmful. It has been recommended that a proper yearly appropriation for research and development in the Patent Office would be \$3,000,000,<sup>54</sup> five times the present per year appropriation.

<sup>49</sup>Approximately 3500 patents.

<sup>50</sup>Approximately 30,000 patents in heterocyclic classes.

<sup>51</sup>After submission.—Unfortunately this study was discontinued at the end of the fiscal year 1965.

<sup>52</sup>The Kelly Committee (see *Supra*, notes 35 and 39) presented it in this manner:

A very large expenditure, whether or not a large and dynamic research effort is made, will be required for the research and development effort before mechanization of the search operation is realized. The \$1.4 million already expended is perhaps less than one-tenth of the minimum expenditure that will be required.

<sup>53</sup>For fiscal year ending June 1963—\$638,000. For fiscal year ending June 1964—\$643,000. The 1965 proposed budget contained a \$986,000 appropriation for the Office of Research and Development but as of this writing the House had reduced this to \$661,000.

<sup>54</sup>This recommendation was made in a report dated July, 1961, to the Commissioner of Patents by a two man committee headed by Mr. A. V. Astin, Director, National Bureau of Standards. \$1,000,000 of this was to be allocated to N.B.S. for research.

As one small example of the need for increased funds, patents are being issued as quickly as old patents are analyzed and coded in the transistor circuit art presently being mechanized so that small inroads can be made into the bare number of patents in this art. To even begin to attack the overall Patent Office mechanization project on the scale necessary requires money, much more than the Congress has to date been willing to allocate.

### *Machinery*

A number of aspects contribute to the overall complexity of information retrieval in the Patent Office noted above as factor (2). Perhaps the brightest aspect is the memory mechanism necessary, apparently it is in being. The Bush Committee (see *supra*, notes 41 and 39) guesstimated that the average patent contains the equivalent of 60,000 bits.<sup>55</sup> Thus roughly, storage for 600 billion bits would be required for today's United States and foreign patents. Perhaps 150 billion bits would be the necessary storage capacity for other technical publications. Commercial magnetic tape reels can store in excess of 100 million bits of information. Accordingly, 7,500 reels of tape would be required to store the information presently available. Today, there are digital computer installations with libraries of several thousand reels; so the storage problem is solvable.

### *Systems*

The next aspect to be considered is the systems requirement. How can the information in the patents of each art be compiled into a readily storable and usable language? This is basic research territory with little or no past experience or writings to guide the researchers.<sup>56</sup> A system usable in one art is quite likely to not be usable in another.<sup>57</sup> As aforementioned, there is no doubt that the steroid system and organo-

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<sup>55</sup>A "bit" is used to designate a unit of information.

<sup>56</sup>The Bush Committee, for example, has made this point:

There must be an intensive program of research and development within the Patent Office working toward the adaptation of machines to its specific unique problems, which are not exactly the same as those found elsewhere.

<sup>57</sup>The Patent Office has since 1956 been doing objective forward looking research in certain specific areas of information retrieval in a project entitled *HAYSTAG* (*Have You Stored Answers to Questions*). Much of this project is devoted to information input problems. One of the other areas upon which the project is focusing and in which a study is presently being made is that of basic comprehensive systems theory. Perhaps this will provide a large step toward the development of a system which encompasses at least all chemical arts. After submission.—This study was discontinued at the end of the fiscal year 1965.



phosphorus system both presently operational are effectively limited in use to the art for which each was respectively designed.<sup>58</sup> The mere thought that a new system may be necessary for each related group of subclasses,<sup>59</sup> perhaps a compilation of these subclass groups forming each of the 308 odd art classes in the Patent Office is staggering indeed. The Patent Office personnel have found that due to the approach of the various systems they design, all systems do not lend themselves well to the same type machine.<sup>60</sup> Although there would seem to be no objections to this in the immediate future, as more and more of the arts are systematized and mechanized the problem of searching in analogous arts arises.<sup>61</sup>

### *Linguistics*

Another problem the researchers have found difficult of solution is that of linguistics. Numerous synonyms frequently inhere in an art. Further, the present accepted practice in the Patent Office is to allow an applicant to be his own lexicographer as long as claim terminology is defined in the specification.<sup>62</sup> To properly orient all patent disclosures despite the peculiar language used by the patentee in each particular patent takes an extremely deep knowledge of the art involved, plus a great attention to detail on the part of the analyst.

Another phase. Should generic terminology be ignored in favor of specifics and if so, how can closely related areas be grouped together in a generic sense absent generic terminology? Further, if generic terminology is enlarged by use in the field over a period of time to include other new and/or old specifics, should all coded patents be recoded to reflect the change in scope of the generic? Another burden added. However, if this recoding procedure is not followed, the effectiveness of the use of the generic in searching is obviously curtailed. All specifics may not be returned by the search

<sup>58</sup>See page 19 and *supra*, note 45.

<sup>59</sup>There are approximately 59,300 subclasses.

<sup>60</sup>As an example, this paper does not mention all machines systematized for one time or another, and three have been mentioned: the Multicolumn Sorter (*supra* at 18 and note 44), the RAMAC 305 (*supra*, note 48), and the Batten card system (*supra* at 19) which utilizes no computer as such.

A study in project HAYSTACQ, *supra*, note 57, envisions the use of a single machine for a system of wide scope.

<sup>61</sup>The first operational system has given rise to a great deal of enthusiasm for the mechanized search in general. However, it must be noted that the art there systematized (*supra* at 18) was a distinctive class of chemicals, steroids, and very little searching need be done outside the art itself. Contrast this with the gear art, for example.

<sup>62</sup>See, for example, Ex parte Klager, 773 O.G. 909 (1959).

when approached through the generic term and some of these unreturned specifics might be quite equivalent to the invention at issue.

Somewhat allied with this is the treatment to be given trade names, which may expand or contract with the times.

The problem gets even more subtle in that specific or subgeneric terminology can change in meaning with time.<sup>63</sup>

In translation of foreign patents or literature language inaccuracies may arise.

There has been discussion and some realization of the possible depth of this problem, but little to nothing has been accomplished which is concrete and can be pointed to as something of an answer. The Office of Research and Development of the Patent Office in working with miscellaneous transistor circuits has made up a dictionary after studying some of the patents. Thus, the dictionary definitions are drawn solely from usage in the patents and these definitions are constantly enlarged and modified as analyzation of patents continues. Such an approach obviously is flexible but it is another arduous task requiring men highly skilled in the art and the standard of patentability. Also, with continued modifications, terms may lose the meaning ascribed to them in the initially analyzed patents and these patents then become "lost" to the searcher. Another approach which is a compromise between accuracy in retrieval and cost of coding is to analyze the meanings most frequently attributed to terminology and to compile a synonym dictionary from these.<sup>64</sup> Practicality is stressed here but the net result might be searches of less effectiveness than those performed manually, not of help to the presumption of validity which is the interest of this paper.

A thesaurus similar to Roget's Thesaurus is generally considered the way to deal with synonyms in the information retrieval field. Perhaps some compilation of thesauri in related arts would aid the analogous art search. It would seem that to achieve retrieval in depth more rigidity is required in language definition than is offered by the suggested solutions noted above. However, the pressure of time and lack of funds may dictate a compromise in this area.

This difficulty with future patents would be greatly lessened if

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<sup>63</sup>At a session of the International Patent Office Workshop on Information Retrieval, Oct. 24, 1961, Mr. Harold Pfeffer of the U.S. Patent Office indicated that in 120 years the term "anilido" has changed in meaning from being considered an aniline derivative to the present use of the term as an acid condensation product of aniline, two entirely different meanings.

<sup>64</sup>This approach was mentioned by Mr. Tore Oredsson, Bureau Director of the Swedish Patent Office, on Oct. 24, 1961, at the Proceedings of the International Patent Office Workshop on Information Retrieval at Wash., D. C.

applications were required to be prepared with terminology in its known context and with its accepted meaning. No hardship would be worked on inventors by their receiving only the patent rights conferred by statute, not the right to innovate language also.

### *Patent Analysis*

The analyst who reads a patent, decides exactly what it discloses, and codes it into the system accordingly is an important part of an information retrieval system. The person who performs the task must be highly capable for the effectiveness of searching in the art will depend upon the quality of his work. This situation does not arise with manual searching where the burden is more on the searcher to divine matter from a patent; and if the first Examiner to search for a feature misses it, the second or certainly the third Examiner to search that feature will properly interpret or notice the anticipatory disclosure. To insure accuracy in the past the Office of Research and Development has cross-checked analyses. But this can only be considered a temporary measure because in the task at hand as little duplication of effort as possible is necessary. Spot checking is probably the most that can be hoped for. Unfortunately there is evidence which tends to show that each analyst finds features another would not in any specified patent.<sup>65</sup> And as is expected, some analysts are very effective; others are not. Thus many crumbs of information, and at times rather hefty segments of disclosure will go unnoticed and uncoded. The analyst must be capable of detecting concepts or other information latent in the document, but not specifically expressed. Also, he should not allow his opinion of what should be coded from a disclosure affect his work, for he has no idea what subject matter will be searched for 20 years from the present. Then there is the repetitive, boorish nature of the work. Tension rises, tempers flare. The people performing the work cannot be expected to emulate machines. The point at which obvious errors begin occurring in an analyst's work is after the surprisingly short period of two hours of work.<sup>66</sup> Further, for peace of mind of the analyst no more than five eight hour consecutive days seems tolerable.<sup>67</sup> Other work must be interspersed with analysis at short intervals.

Although not always appreciated as such, the difficulty of finding

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<sup>65</sup>Mr. P. van Waasbergen of the International Patent Institute, Netherlands, related these findings on October 25, 1961 at the International Patent Office Workshop on Information Retrieval.

<sup>66</sup>This statistic was brought forward by Mr. Harold Pfeffer at the International Patent Office Workshop on Information Retrieval, *supra*, note 61.

<sup>67</sup>Mr. van Waasbergen, *supra*, note 65, reported this also.

competent analysts suited to the tensions of the work is great. And those that are found should not be required to put all their working hours into analysis due to the fatigue factor which in turn gives rise to a rapidly increasing error rate, and for their own mental balance.

Another disheartening aspect creeps in when the subject of patent and publication analysis arises. The cross-checking of two analyses of the same patent to strive for accuracy in the research and development approach has resulted in approximately six man hours expended per analysed document.<sup>68</sup> Considering, as above noted, that the economics of the situation will require that the less accurate spot check replace the present research and development analysis, and being most generous to the positive outlook by estimating that a total of two man hours will be expended per patent,<sup>69</sup> it would take better than 7,000 man years to analyse the *present* United States and foreign patents. That is, if the present total examining did *nothing* but perform analyses it would entail between six and seven<sup>70</sup> years of work despite the fact that no applications would be processed. These figures do not even consider the scientific publication problem.

### Classification

Much thought should be given to classification in the near future. The Patent Office Research and Development group, partially due to the specialized areas systematized so far, has worked within the confines of the existing manual search classifications. It may be that

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<sup>68</sup>Two de novo analyses are made by two different analysts. A third analysis reconciles the two into a single analysis which is the one used. A de novo analysis by one man takes an average of two hours.

<sup>69</sup>The lowest reported single analysis time per patent in an art has been near 48 minutes, see "Analysis of an Indexing and Retrieval Experiment for the Organometallic File of the United States Patent Office," Aug. 1963. However, Mr. J. Leibowitz who directs the chemical operation of Research and Development told this writer that in his estimation as an overall average of all arts it will be unlikely that the per patent analysis time will be less than 2 hours.

<sup>70</sup>The most recent experiment conducted to learn more about analyses and the time and error factors involved was reported in Aug. 1963 (*supra*, note 68). The recently mechanized organometallics file was chosen for the experimentation. The average time required for a single experienced analyst to index one patent was in the area of 48 minutes and that for two independent analysts to index the same patent approximately 94 minutes. The difference in accuracy of the two modes was found to be significant. The conclusion drawn from this phase of the experiment:

Under the current Patent Office examining system the number of missed documents is so important as to lead one to choose the double-analyst mode.

Thus, perhaps the proper figure to use here is not two but four hours per patent.

the only reasonable approach to a long term full scale information retrieval program is a new, from the ground up, classification system. One great advantage of a good system of mechanical patent retrieval is the many avenues which can be taken to secure information. The manual classification system is much more limited in such avenues and when adapted to a machine system does not open as many of these avenues as is desirable.

### *Unresearched Area*

Another of the many aspects without present-day solution harkens back to the systems problem.<sup>71</sup> Present concepts just cannot deal with most mechanical and electrical arts. Many patents in the chemical field possess no drawings and frequently those with drawings can be adequately comprehended by reading only the specification. However, this is not usually the situation in the mechanical and electrical patents where proper comprehension requires an interplay of reference to specification, then to drawing, then back to specification, a number of times. How to record by way of a coded system the understanding accomplished by a reader of the document during this interplay of areas referred to is not presently known, and is difficult of solution. Further, nature orients chemical structure in a somewhat methodical, rational manner. But man's structures are frequently made up of components quite arbitrarily placed and thus not lending themselves to a system dependent upon relational aspects for effect.

### *The Examiner*

Interestingly enough, although Examiners continually deal in the latest industrial developments, there is some indication that they are conservative in their approach to their work.<sup>72</sup> Whether each Examiner will accept machine searching in his art and allow it to perform as well as it may be capable of so doing is a question unanswered at this time. If each Examiner aided in the design of the system for his art perhaps there would be more incentive for its proper use.

### SOME CONCLUSIONS

Although the enthusiastic, highly competent work of the Patent Office Research and Development Office in the field of mechanized

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<sup>71</sup>See this text, pp. 2.

<sup>72</sup>See, for example, the discussion among Messrs. W. E. Rubach, Director, Technical Section, German Patent Office, P. van Waasbergen, International Patent Institute, and L. F. W. Knight, Superintending Examiner, Patent Office, United Kingdom at the International Patent Office Workshop on Information Retrieval, Oct. 1961, Washington, D. C.

information retrieval continues, the barriers presently being encountered and those to show themselves in the future are many. Perhaps some of these difficulties will not be overcome for many years, but this is not a reason for stopping or decreasing the size of the present program. The work being done now is truly research and necessary not only from a patent standpoint but for the health of the United States industrial community. Our defense program is in no small manner dependent upon the research work done in the Patent Office and in other Government and private areas. The U.S.S.R. is fully aware of its importance. Nor will the effects of this work be necessarily limited to scientific areas for the literary field in general may prove to be an obvious area for the use of mechanized memory type reproduction systems.<sup>78</sup> Information must be mechanized to make it accessible, but this necessitates the conquering of many of the aforementioned problems.

The problems of the patentee continue despite long-term mechanization efforts. Can the present system be defended until mechanization comes to the rescue? It is doubtful. There is little fair dealing with a patentee when he must run the gamut of the Patent Office and then suffer a *de novo* consideration in the courts. How can an examination system be defended absent a presumption of validity?

#### POSSIBLE ALTERNATIVES

Study is required of alternative solutions which retain the examination system but ease the search load problem and show the realization that mechanization will not be an immediate aid. If each Examiner had the time really required to search an application to his satisfaction there is little doubt in this writer's mind that missed references would be a much rarer occurrence and the presumption of validity would have to be strengthened. The Examiner today does not enjoy unrestricted searching time in the United States Patent Office primarily due to the large number of applications to be ex-

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<sup>78</sup>Professor Melville B. Nimmer in his treatise on the Law of Copyright, 1963, states at 654:

... the day may not be far off when no one need purchase books since by merely borrowing a copy from a library any individual will be able to make his own copy through photocopying or other reproduction devices which technological advances may soon easily and economically make available.

To move one step further, perhaps a computer tape will be borrowed from the library for home reproduction into readable form.

amined.<sup>74</sup> The Patent Office in the Netherlands suffers from this problem and after much discussion and opposition to change, a modification of their examination system was proposed and passed by Parliament. This system became effective on January 1, 1964 and thus the degree of its success is not yet known. Its prime feature of interest is deferred examination. No application is searched unless requested by the applicant,<sup>75</sup> and a fee must accompany this request. It is hoped by the Dutch that the number of applicants requesting a search will be but a fraction of the total filings. To date ten percent of the applicants have requested searches, but this may not be indicative, since a period of seven years is allowed for this first request to be tendered.<sup>76</sup>

Although in its infancy, this approach to patent examination in the Netherlands has been noticed in this country with both favorable<sup>77</sup> and unfavorable<sup>78</sup> comment. The major principle this system utilizes, that of deferred examination, warrants serious study.

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<sup>74</sup>Testimony of former Commissioner of Patents, Robert C. Watson, in "Hearings before the Subcommittee on Patents, Trademarks, and Copyrights of the Senate Committee on the Judiciary pursuant to Senate Res. 92," 84th Cong. 1st Sess. (1955), 172.

... we have this enormous load, we must make some showing of production, and we must, without saying so, limit the time which an examiner can spend in his examination of the cases placed on his desk.

<sup>75</sup>A third party can also request the action. The Patent Office had also favored a provision allowing that Office to initiate searching of applications if they appear spurious in nature. However, industry vehemently opposed this provision and it was not incorporated.

<sup>76</sup>If at the end of the seven year period there is no presently active prosecution of the application it is considered abandoned.

<sup>77</sup>B. L. Zangwill in his article, "Suggested Outline of New Patent System," *JPOS*, Vol. XXXIX, No. 9 (Sept. 1957), incorporates some of the principles of the Dutch system in a system of his own.

See also, "Final Report of the 1961-1962 Management Survey of the United States Patent Office" compiled by Earl W. Kintner, March 12, 1962.

<sup>78</sup>The Section of Patent, Trademark, and Copyright Law of the American Bar Association has a Subcommittee studying the Proposed EEC-Dutch Patent Examination. (The European Economic Community is considering a plan similar to that in force in the Netherlands). In the 1963 Committee Reports, the Subcommittee took their stand:

It is the consensus of this subcommittee that the proposed Dutch examining practice is not a satisfactory solution to the problem of examination now facing the United States Patent Office. Moreover, the majority feel that this proposed practice includes many features which in and of themselves are entirely foreign to the United States patent system and should not in any event be adopted. One subcommittee member, however, is not basically opposed to this type of system, but rather proposes modification thereof to require a showing of real need before a thorough novelty examination would be carried

out. . . . In conclusion, this subcommittee appreciates the difficulty now confronting the examining corps of the United States Patent Office, particularly in the rapidly growing scientific fields, but a complete revamping of our present patent system which has so successfully proven itself in the past is not in order. On the contrary, until all possible attempts have been made to operate within the present framework, particularly by the use of improved examination techniques (i.e., mechanized searching), any further study of other basically different patent systems should be curtailed. (Parenthetical matter added.)



# Late Claiming\*

PAUL L. GARDNER

## SUMMARY

**A**LMOST A QUARTER OF A CENTURY has passed since the United States Supreme Court decided *Muncie Gear Works, Inc., v. Outboard Marine and Manufacturing Co.*<sup>1</sup> Yet, there is still disagreement among the courts, attorneys and writers as to the holding of the case. According to some, the decision merely restated the settled proposition that matter not disclosed in a patent application as filed may not be added to the application and claimed after the claimed invention has been in public use.<sup>2</sup> According to others the decision announced a new doctrine, hereinafter referred to as the "late claiming doctrine", which would hold that claims directed to an invention disclosed but not claimed in the application as filed may not be added to the application more than the statutory period after public use.<sup>3</sup>

It is the purpose of this note to examine the *Muncie* decision in detail in an attempt to determine its holding, to review the effect that the *Muncie* decision and the "late claiming doctrine" have had in subsequent litigation, and to analyze the justifications for the doctrine.<sup>4</sup>

The term "new matter" as it is used in this article must be defined at the outset since the term has been used more liberally by some of the courts and writers than by the Patent Office. The term will be used herein in its stricter sense as employed by the Patent Office: mat-

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\* This paper was submitted in fulfillment of the requirements for Research in Patent, Trademark and Copyright Law, a course conducted by L. James Harris in The Graduate School of Public Law of The George Washington University.

<sup>1</sup> 315 U. S. 759 (1942).

<sup>2</sup> See *Railway Co. v. Sayles*, 97 U. S. 554 (1878); *Powers-Kennedy Corp. v. Concrete Co.* 282 U. S. 175 (1930); *Schriber-Schroth Co. v. Cleveland Trust Co.*, 305 U. S. 47 (1938).

<sup>3</sup> Still another interpretation of the *Muncie* decision is expressed by Mr. Edmund H. O'Brien in "New Matter and Total Invalidity" in 25 *JPOS* 176-177:

... where a patent issues with a specification enlarged after original filing to contain a material addition to or variance from the disclosure as filed, the *Muncie* decision announces the invalidity of the entire patent, both as to claims containing the new matter and those not infused with the illegal amplification.

Mr. O'Brien criticizes this proposition in the article.

<sup>4</sup> In a note entitled "Intervening Rights in Patent Reissues" in 30 *Geo. Wash. L. Rev.* 603, at 637, Mr. P. J. Federico suggested that the "particular situation of the late-filed claim is in need of thorough and critical study."

ter not found in the specification, claims or drawings of a patent application as filed, involving a departure from or an addition to the original disclosure.<sup>5</sup>

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### THE MUNCIE DECISION

**B**EFORE REVIEWING THE *Muncie* DECISION, four cases decided prior to it by the Supreme Court should be considered.

In 1924, in the case of *Webster Electric Co. v. Splittdorf Electric Co.*,<sup>6</sup> the Court held invalid claims in a divisional patent presented to the Patent Office by an amendment more than eight years after the parent application had been filed, more than five years after a patent disclosing the claimed invention had issued, and more than three years after the patent owner had instituted suit for infringement of the parent patent. The Court clearly indicated that its reason for holding the claims invalid was the patentee's delay in submitting the claims.

. . . the patentee did not originally intend to assert these amended claims, because he considered their subject matter one merely of design and not of invention; and the inference is fully warranted that the intention to do so was not entertained prior to 1918. During all of this time their subject matter was disclosed and in general use; and the inventor and his assignee . . . simply stood by and awaited developments. We are not here dealing, therefore, with the simple case of division of a single application for several separate inventions . . . but with a case of unreasonable delay and neglect on the part of the applicant and his assignee in bringing forward claims broader than those originally sought. . . . We have no hesitation in saying the delay was unreasonable, and, under the circumstances shown by the record, constitutes laches, by which the petitioner lost whatever rights it might otherwise have been entitled to.<sup>7</sup>

Recognizing that at that time, by analogy to the law of public use,<sup>8</sup> an unjustified delay of more than two years in submitting claims for reissue to enlarge the scope of patent coverage would invalidate those claims, the Court concluded:

. . . in cases involving laches, equitable estoppel or intervening private or public rights, the two-year time limit prima facie applies to divisional applications and can only be avoided by proof of special

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<sup>5</sup> See Rule 118 of *The Rules of Practice of the United States Patent Office* (June 1960, 4th ed.); and §608. 04 (a), p. 60 of *The Manual of Patent Examining Procedure* (3rd ed. 1961).

<sup>6</sup> 264 U. S. 463 (1924).

<sup>7</sup> *Id.* at 465-466.

<sup>8</sup> 35 U. S. C. §102 (b) now provides:

A person shall be entitled to a patent unless . . . the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States . . . .

Prior to 1939, however, the period was two years.

circumstances justifying a longer delay. In other words, we follow in that respect the analogy furnished by the patent reissue case.<sup>9</sup>

In two cases decided in 1938, *Crown Cork and Seal v. Gutman Co.*<sup>10</sup> and *General Talking Pictures v. Western Electric Co.*,<sup>11</sup> the Court was asked to determine the validity of claims presented for the first time in divisional applications more than two years after the patentees had put the claimed inventions in public use. In each of these cases, however, there were no intervening adverse rights, and the Court concluded that in the absence of such rights, the two-year delay would not invalidate the claims.<sup>12</sup>

Later in 1938, in the case of *Schriber-Schroth Co. v. Cleveland Trust Co.*,<sup>13</sup> the Supreme Court held invalid claims in a patent added to an application by amendment five years after the application had been filed and the newly claimed invention had been in commercial use. The decision hinged on the finding that the application as filed did not support one of the structural limitations recited in the newly added claims.<sup>14</sup> This decision, along with the 1878 Supreme Court decision in *Railway Co. v. Sayles*,<sup>15</sup> has been widely cited for the proposition that new matter may not be added to an application.<sup>16</sup>

It was against this background that the *Muncie* case was presented to the Supreme Court in 1942. The respondents, patentees,<sup>17</sup> had brought suit and recovered judgment for infringement of four claims in a patent directed to an outboard motor. The Supreme Court reversed, however, holding the four claims in suit invalid.

The application as originally filed was directed to the concept of providing an outboard motor with a deflection plate to counteract

<sup>9</sup> *Supra*, note 6 at 471.

<sup>10</sup> 304 U. S. 159 (1938).

<sup>11</sup> 304 U. S. 175 (1938).

<sup>12</sup> Justice Black dissented in both of these decisions on the ground that they permitted an inventor, by filing divisional or continuation applications, to extend the 17-year monopoly period.

<sup>13</sup> *Supra*, note 2.

<sup>14</sup> The original application described the connecting web between the head and skirt portions of a piston as being rigid. The newly added claims, however, recited that the web was flexible.

<sup>15</sup> *Supra*, note 2.

<sup>16</sup> This proposition has been codified in 35 U. S. C. 134 (1952) which provides in part:

No amendment shall introduce new matter into the disclosure of the invention.

Also see *supra*, note 5.

<sup>17</sup> The term "patentee" is used throughout this article to designate the current holder of the patent rights, whether he be the inventor, assignee or exclusive licensee.

pivotal movement of the motor created by the propeller rotating in the water. The claims in suit, however, were not directed to that feature, but rather to structure including an anti-cavitation plate. The anti-cavitation plate was shown in the drawing and mentioned in the specification of the application as originally filed. However, no claims directed to the anti-cavitation structure per se were presented in the application until March 30, 1929, more than two and one-half years after the application was filed, and more than two years after outboard motors which were covered by the claims in suit were put on the market by one of respondent's predecessors and by a competitor. At this time the specification was also amended to describe the propeller housing as having "smooth and unbroken exterior surfaces both below and above [the] anti-cavitation plate," and to assert that one of the objects of the invention was to provide the motor with structure to prevent cavitation.

There is little doubt that the Court invalidated two of the claims on the ground of new matter. They held that in the amendment submitted on March 30, 1929, the inventor for the first time presented claims relating to the exterior surface of the housing. The Court then specified the two portions of the two claims presented with that amendment, Claims 12 and 14, which recited structure not theretofore shown or described in the application.<sup>18</sup>

The Court did not spell out its reasons, however, for holding the other two claims, 11 and 13, invalid. Since the Court specifically held that these claims were "silent on the subject"<sup>19</sup> of the exterior surface of the housing, it seems that these claims were not held invalid on the ground of new matter. Moreover, while the Court specifically mentioned structure recited in Claims 12 and 14 as not disclosed in the patent application as filed, it did not mention any unsupported recitations in Claims 11 and 13.

Further evidence for the conclusion that Claims 11 and 13 were not held invalid on the ground of new matter appears from an examination of the file history of the patent in suit. Claims 11 and 13 did not recite any structure which was not clearly shown in the drawing

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<sup>18</sup> At 315 U. S. 762, 763 the Court found:

Claim 12 described the housing as having "unbroken outer wall surfaces at each side," and claim 14, as having "smooth and unbroken walls." Claims 11 and 13 were silent on the subject. The amendment also set forth an addition to the description which was incorporated in the description of the patent as issued. Here we find the expression "relatively smooth and substantially stream-line surfaces." Other than these, no indication of the nature of the surface or cross-section of the housing was given at any time during the prosecution of the application.

<sup>19</sup> *Ibid.*

or described in the specification of the patent application as originally filed.<sup>20</sup>

It has been suggested that these two claims were held invalid because they were directed to structure not *claimed* before their introduction by amendment into the application, and were not presented until more than the public-use statutory period (then two years)<sup>21</sup> after the invention which they claimed had been put in public use by an adverse party—one not claiming under the patent. Thus, it has been suggested, the Court in *Muncie* held claims invalid under a “late claiming doctrine,” perhaps under reasoning similar to that spelled out in the *Webster*<sup>22</sup> case where divisional applications were involved.

Unfortunately, the Court did not explain adequately the basis for holding Claims 11 and 13 invalid; indeed the opinion makes no mention of the expression “late claiming.” A careful examination of the opinion, however, supports the conclusion that these claims were held invalid under some unannounced “late claiming doctrine.” Thus, the Court found:

The specifications and drawings both indicated an anti-cavitation plate which the specifications said “prevents cavitation,” but it was in no way asserted that the cavitation plate was new, or that it was being employed in any novel cooperative relation to the other elements.”<sup>23</sup>

The Court also called attention to the fact that the claims in suit were directed to an invention not *claimed* prior to their presentation, when, in referring to the amendment of March 30, 1929, it stated:

The effect of those changes were aptly described by the patent examiner: “The amendments have been such that the claims now emphasize the anti-cavitation plate rather than the anti-torque plate.”<sup>24</sup>

Further support for this conclusion comes from the fact that the Court specifically held the claims invalid under the public-use section of the patent statutes because “there was public use, or sale, of devices embodying the asserted invention, more than two years before it was first presented to the Patent Office.”<sup>25</sup> The patentee had urged that the invention asserted by the claims in suit had also been asserted in claims filed on December 8, 1928, and that, therefore, March 30, 1929 was not the earliest date on which the patentee had claimed the specific

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<sup>20</sup> The four claims in this suit are reprinted in Appendix A.

<sup>21</sup> *Supra*, note 9.

<sup>22</sup> *Supra*, note 6.

<sup>23</sup> 315 U. S. 759 at 761, 762.

<sup>24</sup> *Id.* at 762.

<sup>25</sup> *Id.* at 768.

invention in controversy. Although the earlier date was still more than two years after one of the patentee's predecessors had put the claimed invention in public use, it was less than two years after a competitor had done the same.<sup>26</sup> Before holding the claims invalid the Court adopted the patentee's assertion that:

The difference in date is critical because the record shows that the only manufacture of devices embodying the invention which had occurred more than two years prior to December 8, 1928 was licensed manufacture by . . . the exclusive licensee of Respondent. . . .<sup>27</sup>

It then determined, however, that "the amendments of December 8, 1928, like the original application, wholly failed to disclose the invention now asserted,"<sup>28</sup> Had the Court been holding the claims invalid on the ground of new matter it would not have been necessary for it to go to the lengths it did to find a two-year period between adverse public use and the first presentation of the claims in suit to the Patent Office.

An examination of the briefs filed with the Court discloses that the late claiming argument was before the Court, although, ironically, it was put into issue by the patentees in their brief.<sup>29</sup> Moreover, the accused infringer refused to assert specifically a defense based on late claiming in its reply brief, even after the patentees had put it in issue. Thus, although the accused infringers never specifically argued the late claiming defense, the issue was before the Court.

The Court's determination that the claims submitted on December 8, 1928 did not disclose the claimed invention and its adoption of the patentees' assertion that the difference between the December, 1928 and March, 1929 dates was critical is important for another reason. Since the December 8, 1928 date was less than two years after the date of the first competitive use of the claimed invention in January, 1927, but more than two years after the patentee's exclusive licensee had put the claimed invention on the market, the Court intimated that, had it determined that the claimed invention was first disclosed in the amendment of December 8, 1928, and not in the amendment of March 29,

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<sup>26</sup> One of the patentee's predecessors had put an outboard motor on the market, which was covered by the claims in suit, in January or February, 1926—more than two years prior to both the amendments of Dec. 8, 1928 and March 30, 1929. The competitor put out a substantially similar motor approximately one year later—less than two years prior to the Dec. 8, 1928 amendment, but more than two years prior to the March 30, 1929 amendment. See the testimony reprinted in footnote 5 of the Court's opinion at 315 U. S. at 764, 765.

<sup>27</sup> 315 U. S. at 767.

<sup>28</sup> *Id.* at 768.

<sup>29</sup> See Appendix B for portions of the parties' briefs which indicate their contentions with respect to late-claiming issues.

1930, it would not have held the claims invalid. Thus, the Court apparently restricted its holding to late-claiming situations where the claims have been submitted more than two years after public use of the invention by an *adverse* party.

Summarizing, the holding of the *Muncie* case, with respect to Claims 11 and 13 appears to be: Claims submitted in an amendment to a patent application are invalid if (1) they are directed to an invention which had not theretofore been claimed in the application, and (2) the claimed invention had been in use by an adverse party more than the public-use statutory period before the claims were presented, notwithstanding the fact that the patent application as filed disclosed the later-claimed invention and was filed less than the public-use statutory period after such use by such adverse party.

#### SUBSEQUENT DECISIONS

The decisions of the Federal Circuit Courts since the *Muncie* case will now be considered with a view toward determining the extent to which they have recognized and adopted the late-claiming doctrine. It will be noted that in the majority of the cases adopting the late-claiming doctrine, the late claims in suit were directed to the same subject matter as, but were broader than the earlier submitted claims, rather than being directed to a portion of the disclosure not theretofore claimed, as were the late claims in *Muncie*. To this extent they present extensions of, or departures from the *Muncie* decision.

##### *First Circuit*

The Court of Appeals in the First Circuit passed up an opportunity to discuss the late-claiming doctrine when, in 1961, in the case of *Shu-Conditioner, Inc. v. Bixley Box Toe Co.*,<sup>80</sup> it reviewed a decision of a District Court<sup>81</sup> which held the claims in a machine patent invalid "because of public use and sale more than one year prior to their presentation to the Patent Office."<sup>82</sup> After determining that the invention claimed was disclosed in the application as filed, but not claimed until more than one year after the claimed machines had been sold to the defendant, the District Court held, on the authority of *Muncie*,

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<sup>80</sup> 294 F. 2d 819 (1st Cir. 1961).

<sup>81</sup> *Shu-Conditioner, Inc. v. Bixley Box Toe Co.*, 185 F. Supp. 662 (D. Mass. 1960).

<sup>82</sup> *Id.* at 664, 665.

that the patent was invalid for prior public use and sale.<sup>33</sup> The District Court, however, also held the claims invalid for lack of invention, and it was on this ground that the Circuit Court affirmed the invalidity holding. Thus, the First Circuit Court of Appeals has not indicated its interpretation of the *Muncie* case and the late-claiming doctrine.

### *Second Circuit*

Between 1944 and 1948 the Circuit Court of Appeals for the Second Circuit had several occasions to determine the validity of claims submitted in applications more than the public-use statutory period after the patentee's competitors had used the claimed inventions. In the 1944 case of *Interchemical Corp. v. Sinclair and Carroll Co.*,<sup>34</sup> the Court rejected the accused infringers' contention that the claims in suit were invalid because the claims covering the printing ink were first presented in an amendment to the application submitted more than two years after public use of the patentee's ink. Although the claims were broader than the claims theretofore presented, the court held the claims valid since the amendment "did not alter the invention and was different from introducing claims not previously described as was done in *Muncie*."<sup>35</sup>

Then, in 1946, in the case of *Engineering Development Laboratories v. R. C. A.*,<sup>36</sup> the Court reversed a District Court decision which had granted a motion for summary judgment in a patent infringement suit "because the subject matter of the claims in suit had been in public use for more than two years prior to their first presentation to the Patent Office," citing *Muncie* as authority.<sup>37</sup> The Court of Appeals held that the motion for summary judgment was improperly granted because it did not give the patentee the opportunity to show whether the claims recited only elements which were equivalent to what the original claims recited, and it could not, therefore, be said that the amendment enlarged the scope of the claims. The Court then, in what

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<sup>33</sup> The District Court decision was criticized in a note in 29 *Geo. Wash. L. Rev.* 805 (1961). The author suggested that an examination of the file history of the patent in suit showed a full disclosure of the claimed machine in the patent application as filed, and concluded, therefore, that the Court did not properly apply the *Muncie* holding.

<sup>34</sup> 144 F. 2d 842 (2d Cir. 1944).

<sup>35</sup> *Id.* at 846.

<sup>36</sup> 153 F. 2d 523 (2d Cir. 1946).

<sup>37</sup> *Engineering Development Laboratories v. R. C. A.*, 62 F. Supp. 464, 467-468 (S. D. N. Y. 1945).



has been termed "a searching analysis of the Muncie Gear Case,"<sup>38</sup> distinguished the case at bar from the *Muncie* and *Schriber-Schroth*<sup>39</sup> cases "for in each case there had been 'intervening rights,' . . . the new claims were for 'new inventions,' . . . and the claims contained new elements—not by way of limitation only—which made the combinations quite different from any originally claimed."<sup>40</sup>

Later in 1946, in *Benz v. Celeste Fur Dyeing and Dressing Corp.*,<sup>41</sup> the court affirmed a District Court holding that certain method claims in a patent relating to a method for chemically treating sheepskins were invalid.<sup>42</sup> The claims had failed to recite the use of one ingredient, cresol, in the treating process; and after determining "that in the original application there was nothing in the specifications or claims properly construed, which disclosed that the use of cresol was not mandatory,"<sup>43</sup> the court posed and answered what it believed to be the issue:

When nothing in an original application reveals an asserted invention, is an amendment valid which claims that invention, if that amendment is filed within two years but only after an intervening successful public use by an independent third person? We think not.<sup>44</sup>

Thus, although the claims were held invalid when the claimed process had been in public use for less than the public-use statutory period before the claims in suit had been presented, it appears that the decision does not represent an extension of the *Muncie* case, but merely a determination that the claims were invalid because they were directed to new matter.

Similarly, in the 1948 case of *R. U. V. Engineering Corp. v. Borden Co.*,<sup>45</sup> the court held certain method claims invalid because they were first presented to the Patent Office by an amendment filed more than two years after public use by the accused infringer, despite the fact

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<sup>38</sup> Kramer, "Delayed Claiming," copy of a talk delivered at the Sixth Annual Conference on Selected Subjects in Patent Law, the Lawyers Institute, held in Chicago, in February 1962, at p. 16. Mr. Kramer reviewed the *Muncie* decision and several lower-court decisions decided since then, and concluded, at p. 24:

The Courts for the most part have held that the filing date of the application tells the running of the statutory bars as to all subject matter originally disclosed. However, we should not a caveat that the present trend forecast for Patent Office Procedure indicates the possible imposition of a requirement for continuity of claimed subject matter.

<sup>39</sup> *Supra*, note 13.

<sup>40</sup> *Supra*, note 36 at 526.

<sup>41</sup> 156 F. 2d 510 (2d Cir. 1946).

<sup>42</sup> *Benz v. Celeste Fur Dyeing and Dressing Corp.*, 57 F. Supp. 895 (S. D. N. Y. 1944).

<sup>43</sup> *Supra*, note 41 at 512.

<sup>44</sup> *Ibid.*

<sup>45</sup> 170 F. 2d 688 (2d Cir. 1948).

that the claims were broad enough to read on the original disclosure in the application. The claims were directed to a method of increasing the vitamin D content of milk by exposing the milk to ultraviolet radiation, and although the specification stated that the milk must be exposed to the radiation several times, the claims were broad enough to read on the defendant's single-exposure method. The Court, citing *Muncie*, held the claims invalid as an attempt to introduce "a new and unexpressed invention two years after the art had already made the advance."<sup>46</sup>

Thus, the Second Circuit Court of Appeals, while it has not specifically held claims invalid solely because they were first presented in the application "late," has indicated an awareness of a late-claiming doctrine.

### *Third Circuit*

Although no Circuit Court of Appeals decisions from the Third Circuit discussing the *Muncie* case or the late-claiming doctrine were found, the District Court for the District of Pennsylvania, situated in the Third Circuit, discussed both in the case of *Nachtman v. Jones and Laughlin Steel Corp.*,<sup>47</sup> decided in 1955. There the court held two claims in suit invalid, because they were added to the patent application more than a year after public use of the claimed invention by the accused infringer, 19 months after the filing of the original case in that suit, and 13 months after the patentee had inspected the accused operations of the defendant.<sup>48</sup> Citing *Muncie* as authority,<sup>49</sup> the court held the claims "void as a matter of law" as "an endeavor to blanket adverse public uses."<sup>50</sup>

### *Fourth Circuit*

In 1943, one year after the *Muncie* decision, in the case of *Procter and Gamble Mfg. Co. v. Refining, Inc.*,<sup>51</sup> the Court of Appeals of the Fourth Circuit held valid, claims to a process which it found was disclosed in the patent application as filed, but was not claimed until an amendment filed more than six years later. The claims in suit were

<sup>46</sup> *Id.*, at 689.

<sup>47</sup> 134 F. Supp. 392 (W. D. Pa. 1955).

<sup>48</sup> The claims were also held invalid as lacking patentable invention.

<sup>49</sup> See *Dole Refrigerating Co. v. Amerio Contact Pl. Freezers*, 160 F. Supp. 281 (D. N. J. 1958), where claims were held invalid because of public use of the claimed device more than two years before the claims were presented to the Patent Office; but the claims apparently recited new matter.

<sup>50</sup> *Id.* at 406.

<sup>51</sup> 135 F. 2d 900 (4th Cir. 1943).

also broad enough to cover a process which had been claimed in the application as filed. The Court rejected the defendant infringer's contention that the claims were invalid "because the defendant had made public use of the patented process as disclosed by the amendment more than two years before it was filed"<sup>52</sup> on the ground that the defendant did not adopt the process until after the claims in suit had been presented, "and the defendant in no sense acquired an intervening right,"<sup>53</sup> citing, among other cases, the *Crown Cork* and *General Talking Pictures* cases. Thus, although the court held the claims valid, it indicated an awareness that the claims might not have been valid had there been an intervening use by the defendant.

Then, in the 1961 case of *Chicopee Manufacturing Corp. v. Kendall Co.*,<sup>54</sup> the Court of Appeals handed down a decision which appears to be an extension of the late-claiming doctrine. The patent in issue<sup>55</sup> in that case was directed to the discovery that in material such as that used for diapers, if certain of the yarns are twisted in opposite directions, the fabric will not corrugate or wrinkle when laundered. The original claims recited a fabric comprising "twisted cross-woven yarns, the twist in one out of every two to four yarns running in one direction in the fabric being reversed with respect to the twist in the remainder of the yarns disposed in the fabric."<sup>56</sup> It was subsequently discovered that it was less expensive to manufacture the material with the oppositely twisted yarns randomly distributed, and the resulting fabric still resisted the objectionable corrugation. Fabric manufactured according to this random distribution pattern was then put on the market by the patentee, and sometime thereafter, but before the issuance of the patent in suit, the accused infringer copied the fabric made by the patentee and also put it on the market.

More than one year after it had put the fabric on the market, the patentee, realizing that the claims in the application would not cover such fabric and that an addition to the specification would be new matter,<sup>57</sup> submitted new claims which recited a fabric having "25 to 50

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<sup>52</sup> *Id.* at 903.

<sup>53</sup> *Id.* at 905.

<sup>54</sup> 288 F. 2d 719 (4th Cir. 1961).

<sup>55</sup> U. S. Patent No. 2,691,391, later reissued as Reissue Patent No. 24,139. The Court also held the claims added by the reissue patent invalid.

<sup>56</sup> *Supra*, note 54 at 721.

<sup>57</sup> *Id.* at 724 the Court referred to a confidential inter-office communication from one of the patentee's attorneys to another:

Under the caption "Breadth of Claim and Public Use" the writer refers to the fact that, during the pendency of the original patent in the Patent Office, the diaper fabric sold by Chicopee the patentee was outside the scope of the specifications and the claims of the original patent as then being prosecuted, and then adds that "since public sale barred the addition of new matter we were forced to broaden the claims without adding to the specification."

per cent of its dominant yarns possessing a twist reverse from that of the remainder of the dominant yarns and distributed throughout the fabric in a manner sufficiently regular to prevent corrugation when the fabric is laundered,"<sup>58</sup> and the single claim which issued in the patent recited this broader limitation. Citing *Muncie* as authority, the Court held the claim invalid as "an attempt . . . to broaden a claim to include matter not described in the specification which had become public property through public sale."<sup>59</sup>

The *Chicopee* decision represents an extension of the *Muncie* decision in at least two respects. In the first place the later-submitted claim in *Chicopee* was directed to the same subject matter as the claims originally submitted in the application, but was broader. In the *Muncie* case the later-submitted claims were directed to theretofore unclaimed matter. Secondly, the Court in *Chicopee* held the claim invalid where the public sale more than one year prior to the submission of the late claim was made by the *patentee*. In the *Muncie* case, not only had the critical public sale been made by a *competitor* of the patentee, but the Court suggested that the claims would not have been invalid if the public use had been that of the patentee itself.<sup>60</sup>

The *Chicopee* case may also be distinguished from the *Benz*<sup>61</sup> and *R.U.V.*<sup>62</sup> cases on two grounds. Both of those cases concerned chemical-process claims broadened to cover processes which had eliminated one or more steps of the processes described in the specifications. Since it is well settled that the omission of a step in a process may itself be patentable,<sup>63</sup> it is arguable that in *Benz* and *R.U.V.* the late claims were directed to inventions not claimed in the application as filed. In *Chicopee*, however, the claim was of the mechanical type, and it has been held that generally mechanical claims may be as broad as the prior art will allow.<sup>64</sup> Moreover, in *Benz*<sup>65</sup> and *R.U.V.*<sup>66</sup> the claims were broadened to cover processes which the *patentees' competitors* had developed, while in *Chicopee* the claim was broadened to cover goods which the *patentee itself* had developed. Thus, *Chicopee* does indeed

<sup>58</sup> *Supra*, note 54 at 721.

<sup>59</sup> *Id.* at 724.

<sup>60</sup> See note 27, *supra*.

<sup>61</sup> *Supra*, note 41.

<sup>62</sup> *Supra*, note 45.

<sup>63</sup> *Lawther v. Hamilton*, 124 U. S. 1, 5 (1887); *Pacific Contracting Co. v. Bingham*, 62 Fed. 281, 283 (C. C. N. D. Cal. 1894).

<sup>64</sup> *Ex parte Kleinknecht*, 49 U. S. P. Q. 680 (Pat. Off. Bd. of App. 1941).

<sup>65</sup> *Supra*, note 41.

<sup>66</sup> *Supra*, note 45.

<sup>67</sup> 220 F. 2d 27 (5th Cir. 1955).

appear to be the furthest extension of the "late-claiming doctrine" to date.

### *Fifth Circuit*

The Fifth Circuit Court of Appeals indicated its awareness of the "late-claiming doctrine" announced in *Muncie* in the 1955 case of *Tubular Service and Engineering Co. v. Sun Oil Co.*,<sup>67</sup> where in an infringement suit the defenses of prior public use and late claiming were raised. The court cited the *Muncie* and *Webster*<sup>68</sup> decisions and, while conceding

. . . that a delay in claiming for more than the statutory period after adverse public use would ordinarily preclude the existence of a monopoly thus untimely asserted,<sup>69</sup>

it held the claims in suit valid by applying the doctrine of equivalents and finding no material departure between the original claims and those submitted after the alleged public use.

### *Sixth Circuit*

In 1956, in the case of *Coats Loaders and Stackers, Inc. v. Henderson*,<sup>70</sup> the Sixth Circuit Court of Appeals indicated a relatively narrow interpretation of the *Muncie* decision. In answer to the defense that the claims in suit were invalid because they were presented to the Patent Office more than one year after a public use, the Court examined the *Muncie* decision in some detail and concluded:

The Supreme Court's decision in the *Muncie Gear* case established no new principle, but it is the most recent and a particularly lucid exposition of the settled rule that an application for patent cannot be broadened by amendment to embrace an invention not disclosed in the application as filed, when adverse rights of the public have intervened.

The ultimate question is: was the invention which is now claimed disclosed in the original application, or was it not disclosed until the amendment filed in 1949?<sup>71</sup>

The Court then held the claims valid, notwithstanding a finding that the "claims to the subcombination finally allowed were so different from the combination originally advanced that the specification was amended to provide a more direct correspondence between the disclosure and the claims,"<sup>72</sup> since there was a full disclosure in the

<sup>68</sup> *Supra*, note 6.

<sup>69</sup> *Supra*, note 67 at 31.

<sup>70</sup> 233 F. 2d 915 (6th Cir. 1956).

<sup>71</sup> *Id.* at 922.

<sup>72</sup> *Id.* at 923.

original application of the invention finally claimed. Similarly, in 1961, in the case of *Sparton Corp. v. Evans Products Co.*,<sup>73</sup> the accused infringer asserted that the claims in suit were invalid under the *Muncie* doctrine. The Court restated the language from the *Coats*<sup>74</sup> decision quoted above, determined that the subject matter of the claims was disclosed in the original applications, and held the claims valid without considering whether the claims were directed to the subject matter of the original claims in their respective applications.

In the 1959 case of *National Latex Products Co. v. Sun Rubber Co.*,<sup>75</sup> the defendant asserted that the process claim in suit was invalid because the term "non-porous" had been added to describe the mold employed in the process more than one year after public sale by the patentee of goods made according to the claimed process. The Circuit Court of Appeals, however, determined that the claim was valid since the mold was shown to be non-porous in the drawing and in a patent referred to in the original application, the phrase "non-porous" involved only a minor change, and the amended claims were equivalents of the original claims.

Thus, the Sixth Circuit Court of Appeals has apparently refused to recognize the *Muncie* decision as authority for anything more than a prohibition of new matter.<sup>76</sup>

### *Seventh Circuit*

In the case of *Armour and Co. v. Wilson and Co.*,<sup>77</sup> the Seventh Circuit Court of Appeals reversed the decision of a District Court which had held that a continuation-in-part (CIP) patent for a gelatin without certain ingredients was invalid because it was filed more than

<sup>73</sup> 293 F. 2d 699 (6th Cir. 1961).

<sup>74</sup> *Supra*, note 70.

<sup>75</sup> 274 F. 2d 224 (6th Cir. 1959).

<sup>76</sup> Also see *Hazeltine Research, Inc. v. General Motors Corp.*, 170 F. 2d 6 (6th Cir. 1948); *Cold Metal Processes Co. v. Republic Steel Corp.*, 233 F. 2d 828 (6th Cir. 1956); *Hartzell Industries, Inc. v. McCauley Industrial Corp.*, 304 F. 2d 481 (6th Cir. 1961); *Monroe Auto Equip. Co. v. Heckethorn Mfg. and Supply Co.*, 332 F. 2d 406 (6th Cir. 1964). In the *Monroe* case, after holding the claims in suit invalid for lack of invention and lack of novelty, the Court indicated that it still interprets the *Muncie* case as just a prohibition of new matter:

The District Court also held, and defendant has argued in this Court, that the pertinent claims of both patents were also invalid under *Muncie*. . . . The so-called *Muncie* Gear doctrine is that a claim which adds new matter to the original application is invalid if filed more than one year after public use of the device. If the later claim is only a clarification or refinement of matter which has been sufficiently disclosed in the original application or drawing then it is allowable. As a practical matter, new claims are constantly being added to an application, sometimes more than one year after the device has gone into public use. Thus the question is whether there is anything in the prior disclosures which will support the subsequent claim, or does the claim broaden or change the original invention.

<sup>77</sup> 274 F. 2d 143 (7th Cir. 1960).

one year after a public sale of the gelatin claimed therein, and because there was no teaching in the original application that the gelatin could be made without the certain ingredients.<sup>78</sup> The Circuit Court of Appeals held the CIP was entitled to the filing date of the original and was valid since one of the claims in the original application recited the gelatin without the certain ingredients.<sup>79</sup>

Later in 1960, in the case of *Binks Mfg. Co. v. Ransburg Electro-Coating Corp.*,<sup>80</sup> the Court rejected defendant infringer's contention that one of the claims in suit was invalid because of an amendment thereto more than one year after public use of the claimed apparatus. Without discussing whether the feature referred to in the amendment to the claim had theretofore been claimed, the Court concluded that the *Muncie* case was inapplicable because "the original application disclosed the basis for the amended claim and there is no evidence of public use more than one year before the invention was first presented to the Patent Office."<sup>81</sup>

Thus, there is no evidence that the Seventh Circuit has recognized the *Muncie* case as holding anything more than that new matter may not be added to an application more than a year after public use.

#### *Eighth Circuit*

As in the case of the Third Circuit, no Court of Appeals cases relating to the *Muncie* decision and late claiming were found. In the 1961 case of *Trico Products Corp. v. Delman Co.*,<sup>82</sup> however, the District Court for the Southern District of Iowa, situated in the Eighth Circuit, refused to hold invalid a claim in a patent which was added to the patent application by amendment more than one year after the claimed invention had been offered to a customer for sale. The Court determined that the subject matter of the claim was fully supported by the original disclosure and that the claim did not represent an improper enlargement of the scope of the patent, and distinguished the *Muncie*, *Schriber-Schroth*<sup>83</sup> and *Railway Co. v. Sayles*<sup>84</sup> cases on the ground that in "those cases the Court was referring to instances in which the disclosures were added to."<sup>85</sup>

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<sup>78</sup> *Armour and Co. v. Wilson and Co.*, 168 F. Supp. 353, 359 (N.D. Ill. E.D. 1958).

<sup>79</sup> The claims were held invalid on other grounds, however.

<sup>80</sup> 281 F. 2d 252 (7th Cir. 1960).

<sup>81</sup> *Id.* at 257.

<sup>82</sup> 199 F. Supp. 231 (S.D. Iowa 1961).

<sup>83</sup> *Supra*, note 2.

<sup>84</sup> *Ibid.*

<sup>85</sup> *Supra*, note 82 at 254.

### Ninth Circuit

In the case of *Locklin v. Surtzer Bros., Inc.*,<sup>86</sup> decided in 1961, the Court of Appeals for the Ninth Circuit held the claims in suit valid, rejecting the accused infringer's assertion that the claims were invalid because they were amended to recite a feature not present in the original claims more than one year after the claimed resin had been commercially adopted by the patentee. The Court explained that the feature added by the amendment had been disclosed in the original application, and that the amendment "amounted to no more than a narrowing of the claims to articulate a limitation implicit in the specifications but not explicit in the claims themselves,"<sup>87</sup> thus refusing to extend the "late-claiming doctrine," to invalidate narrowed claims.

The court clearly indicated that *Muncie* stood for the "late-claiming doctrine," however in the 1962 case of *Pursche v. Altas Scraper and Engineering Co.*,<sup>88</sup> when it explained:

Under the doctrine of "late claiming" as exemplified in . . . *Muncie* . . . , a supplemental claim adding new matter to a pending application is invalid where intervening use or sale of a device described in the supplemental claim occurred more than one year prior to the filing of that claim.<sup>89</sup>

Although the Court held the claim valid, it did so only after determining that the *scope* of the claims in the original application "extended to and included the matter covered" in the claim. While the court used the term "new matter" in the above quotation, it appears that it was using the term in its broad sense<sup>91</sup> since it referred to the *scope* of the original and late claims when comparing the two.<sup>92</sup>

### Tenth Circuit

In the case of *Chicago Pneumatic Tool Co. v. Hughes Tool Co.*,<sup>93</sup> the Tenth Circuit Court of Appeals held invalid claims of the patent in suit which were amended to recite a feature for the first time more than two years after the accused infringer had begun manufacture and marketing of cutters covered by the claims, and after the patentee had

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<sup>86</sup> 299 F. 2d 160 (9th Cir. 1961).

<sup>87</sup> *Id.* at 167.

<sup>88</sup> 300 F. 2d 467 (9th Cir. 1962).

<sup>89</sup> *Id.* at 476.

<sup>90</sup> *Id.* at 477.

<sup>91</sup> *Supra*, note 5.

<sup>92</sup> Also see *Aetna Steel Prods. Corp. v. Southwest Prods. Co.*, 282 F. 2d 323 (9th Cir. 1960).

<sup>93</sup> 192 F. 2d 620 (10th Cir. 1951).

<sup>94</sup> 308 F. 2d 705 (10th Cir. 1962).



seen the cutters of the accused infringer. Since the feature added by amendment to the claims had not been described prior to the amendment, it appears that the invalidity holding was grounded on the addition of new matter, rather than late claiming.

In the 1962 case of *Sears, Roebuck and Co. v. Jones*,<sup>94</sup> the Court applied the doctrine of equivalents and found a claim in the patent in suit valid, notwithstanding the fact that it was added to the application more than one year after a wrench covered by the claim had been commercially marked by a third party. The court distinguished the *Muncie* and *Schriber-Schroth*<sup>95</sup> cases by finding that the wrench structure recited by the claim was equivalent to the patent-application structure filed long before the use and sale of the third party's wrench, and the later submitted claim was not directed to some "new invention." Thus, the court indicated an awareness of the "late-claiming doctrine," and intimated, at least, that had the claim been directed to some "new invention" it would not have been held valid.

#### ANALYSIS OF THE LATE-CLAIMING DOCTRINE

In examining the advantages and disadvantages of the late-claiming doctrine, two types of late claims must be distinguished: claims which recite an invention fully supported by the application as originally filed, and claims which recite an invention not so supported. The former enlarges the scope of the *claims* to the extent that the invention claimed therein had not theretofore been claimed. The latter, however, enlarges the scope of the *application*.

Claims which enlarge the scope of the application constitute new matter and may be held invalid under 35 U.S.C. 132<sup>96</sup> and the cases which forbid new matter,<sup>97</sup> without regard to the public-use statutory period. Thus, there appears to be no need for the late-claiming doctrine where late claims which enlarge the scope of the *application* are concerned.

Two types of late claims enlarge the scope of the *claims*: (1) claims which are broader than claims theretofore presented; and (2) claims which are directed to subject matter disclosed in the application but not claimed previously.

To the extent that courts have alluded to the late-claiming doctrine to hold invalid late claims which are broader than, but directed to the same invention as, the original claims, their decisions are analogous to the decisions in the patent-reissue cases rendered in the late 1800's. In

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<sup>94</sup> *Supra*, note 2.

<sup>96</sup> See note 16, *supra*.

<sup>97</sup> See the cases cited in note 2, *supra*.

the reissue cases the courts reasoned that one who had, before the reissue application was filed, begun to make or use an invention not claimed in the original patent but claimed in the reissue, acquired intervening rights; and they held reissue patents invalid when they found that such intervening rights existed. When a patentee waited more than two years to apply for a reissue, intervening rights were presumed, and the reissue patents were held invalid by analogy to the then two-year statutory period for public use.<sup>98</sup>

These decisions were motivated by the belief that protection should be afforded those who had relied on the absence of broader claims in the original patent to exercise their apparent rights to make or use an invention disclosed but not claimed therein. The courts later came to realize, however, that this protection could be given without holding the reissue patent invalid by merely holding it unenforceable against those who had acquired intervening rights.<sup>99</sup>

Similarly, in late-claiming cases, it appears that adequate protection would be afforded one who, before the submission of the late claims, makes or uses an invention which is covered only by the late claims, by holding the patent unenforceable against him. Where such protection is granted, it should be done without regard to the public-use statutory period. There is no reason for protecting one who uses the later-claimed invention more than one year prior to the submission of the late claims, while denying him such protection if he uses it less than one year prior thereto. In neither situation is the user aware of the original or later-submitted claims since the application is not available to him.

Moreover, there is a distinction between the reissue cases and late-claim cases which suggests that in the late-claim cases the intervening user should not be protected even to the extent of holding the late claims unenforceable against him. In the reissue cases, unlike the late-claiming cases, the invention and the noninfringed claims have been disclosed to the public in the original patent. It was for this reason that the courts felt it necessary to protect the intervening users who may have relied on the presence of unclaimed subject matter to make or sell an invention covered only by the reissue claims. In late-claiming cases, however, the intervening user is not misled as to his rights. He is in no different position than he would be in the case of an ordinary application where no late claims are presented, since in neither case is he aware of the invention disclosed or claimed, the patent application being in the secret files of the Patent Office.

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<sup>98</sup> See Federico, *supra*, note 4 at 611-618.

<sup>99</sup> *Id.* at 618-619.

Where, as in the *Chicopee*<sup>100</sup> case, there has been no *adverse* intervening use before the submission of late claims, but only a public use by the patentee himself, the considerations against holding the claims invalid are even more persuasive since no one is injured by the late presentation of claims. Furthermore, as noted above,<sup>101</sup> the Supreme Court in the *Muncie* case indicated that the time between *adverse* intervening use and the first presentation of the late claims to the Patent Office was critical, thus implying that had there been no *adverse* intervening use the claims would not have been held invalid.

One situation which would seem to justify application of the late-claiming doctrine arises when broadened claims are submitted late in the prosecution of a patent application to cover independent developments made by a competitor of the patentee. While there is certainly something offensive about permitting such a patentee to enforce those claims against the advances made by the competitor, holding the claims *invalid* seems to be a stricter remedy than is required. And again, the public-use statutory period is inapposite. If a patentee is deemed to be acting unfairly when he broadens claims upon seeing a competitor's development, why give him a year during which he may do so? A more equitable result would be reached by holding the broad, late claims unenforceable against the competitor (but not invalid), without regard to the length of the period between his use and the submission of the late claims by the patentee.

One objection to permitting claims presented late in the prosecution of the application which broaden or shift the earlier claimed invention is that additional searching and correspondence by the Patent Office may be required, and thus the time delay before the issuance of the patent is increased. Under Rule 112, which provides in part:

. . . any amendments after the second Office action must ordinarily be restricted to the rejection or to the objections or requirements made, and the application will be again considered,<sup>102</sup>

the Patent Office may refuse to consider such late claims. Moreover, under current Patent Office practice it appears that the Office is requiring an applicant to present all of his claims before the second Office action.<sup>103</sup> It is within the discretion of the Patent Office, however, to enforce or waive this provision; and even if the rule is enforced, the applicant could file a continuation application which would delay

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<sup>100</sup> *Supra*, note 54.

<sup>101</sup> See note 27, *supra*.

<sup>102</sup> Rule 112 of *The Rules of Practice of the United States Patent Office* (June 1960, 4th ed.).

<sup>103</sup> See Appendix C for notice appearing in 781 O.G. 1 (1962).

Patent Office proceedings to an even greater extent. Thus, the late-claiming doctrine does aid in preventing delay in the Patent Office proceedings. This appears to be the only tenable argument in support of the late-claiming doctrine, however, and it must be weighed against the extent to which the doctrine would tend to discourage invention.

### CONCLUSION

Whether or not the Supreme Court in the *Muncie* case did, in fact, intend to announce a late-claiming doctrine, it is apparent from a review of the foregoing decisions that at least some of the circuits have so interpreted it, that others have extended the doctrine, while still others have refused to recognize the decision as authority for anything more than a restatement of the rule forbidding new matter. In view of this confusion and disagreement among courts and attorneys, and in view of the fact that there are considerations for and against such a doctrine, it appears that legislation in this area would be desirable.<sup>104</sup>

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<sup>104</sup> See Appendix D for proposed resolution submitted by Subcommittee No. 3 on the Patent, Trademark, and Copyright Section of the American Bar Association.

### APPENDIX

#### A. The four claims mentioned in footnote 20 read as follows:

11. A propulsion device for water craft comprising a stationary support carrying a bearing, a drive shaft casing mounted to turn in said bearing, a motor mounted on the upper end of said drive shaft casing with its drive shaft disposed within the drive shaft casing and said shaft passing downwardly therethrough, a housing mounted on the lower portion of the drive shaft casing and turning therewith, said housing including a substantially horizontal barrel-like portion, a propeller shaft mounted within said barrel-like portion and having a driving connection with the motor drive shaft, a propeller on said propeller shaft, said housing extending upwardly from said barrel-like portion and provided well below its top with an anti-cavitation plate extending rearwardly therefrom overlying the path of forward travel of the propeller blades and said housing having a substantially vertical internal passage leading to the water jacket of the engine, said passage opening at a point below normal water level.

12. A propulsion device for water craft having a stationary support carrying a bearing, a drive shaft casing mounted to turn in said bearing, a motor mounted on the upper end of said drive shaft casing with its drive shaft disposed within the drive shaft casing and said shaft passing downwardly therethrough, a housing mounted on the lower portion of the drive shaft casing and turnable therewith for steering, said housing being formed with a substantially horizontal barrel-like portion, a propeller shaft mounted within said barrel-like portion and having a driving connection with the motor drive shaft, a propeller on said propeller shaft, said housing having an anti-cavitation plate extending rearwardly therefrom overlying the path of forward travel of the propeller blades, said housing having unbroken outer wall surfaces at each side extending upwardly from the said barrel-like portion to said plate and from said plate upwardly a substantial distance to the top of the housing, and said housing having a substantially vertical internal passage leading to the water jacket of the engine, said passage opening below the normal water level.

13. The combination of a water propulsion device having a vertically extending turnable propeller shaft casing provided with an internal water passage, opening below normal water level, a propeller mounted thereon, means for turning said casing for steering, said casing having an anti-cavitation plate cast integral therewith and located in a plane above the propeller.

14. The combination of a water propulsion device having a vertically extending turnable propeller shaft casing provided with an internal water passage opening, below normal water level, a propeller mounted thereon, means for turning said casing for steering, said casing having smooth and unbroken walls extending upwardly and provided with an integrally cast anti-cavitation plate substantially midway of its height and in a plane above the propeller blades.

The following portions of the application as originally filed show that the anti-cavitation feature was at least mentioned:

A further object is . . . Also to provide the casting adjacent the upper side of the propeller with an anti-cavitation plate, and which plate is preferably formed integral with the casting, and additionally braces the portion of the casting arching the upper side of the propeller.

Port 12 extends upwardly through the arched portion 16 of the casing 17 and formed integral with said arched portion 16 and casing 17, and located adjacent the upper side of the propeller is an anti-cavitation plate, which plate prevents cavitation and at the same time forms a brace for the arched portion 16 . . .

B. The following portions of the parties' briefs indicate their contentions with respect to the new matter and late-claiming issues. In their Petition for Writ of Certiorari, filed July 31, 1941, the accused infringers alleged:

The Court of Appeals for the Seventh Circuit has sustained as valid claims which define an invention different from that disclosed in or claimed by the patent application as filed, and which claims, as well as the subject matter thereof, were inserted by amendment into the application for patent more than two years after commercial adoption by the industry of the alleged invention defined thereby. (p. 14)

The Johnson patent is an outstanding example of a patent applicant for one invention modifying and changing his statement of invention, years after his application was filed, for the apparent purpose of appropriating and claiming what had been developed or commercially adopted in the interim to thereby dominate the art. (p. 18)

In every instance Petitioners' cases are those in which there was an attempt to claim new matter—matter not in any way disclosed in the original application. In most of the Petitioners' cases it was further expressly held by this Court that the matter was not only new matter but inconsistent with the original disclosures. Even under such circumstances, the cases upon which Petitioners rely held that the claims to such new and inconsistent matter are objectionable only (or primarily) when the rights of others intervene.

No such fact situation exists here. Even Petitioners have nowhere contended that the subject matter of the claims in suit is "new matter." (p. 23)

The Crown Cork and Seal . . . case . . . is highly important on this issue since this Court expressly held that in the absence of intervening rights it was not even necessary to excuse a lapse of more than two years in presenting a divisional application.

\* \* \* In all cases where this Court has applied the two year limitation by analogy there has, in every instance, been some form of dedication to the public, followed by intervening rights for the two year period before the invention was asserted.

In their Reply Brief for Petitioners filed on February 9, 1942, however, the accused infringers answered:

It is asserted . . . that our point of argument involves merely a charge of "delay" on the part of Johnson in claiming this subject matter, based on the assertion (subsequently made) that Johnson did disclose streamlining in the drawing filed with his application. Thus do Respondents seek to change our first point of argument from what it is to something which Respondents would prefer to have it. We raise no question of mere "delay." We make the flat assertion that Johnson never disclosed in his application as filed on Aug. 25, 1926, the "invention" which Respondents now assert the Johnson patent to cover; and that no disclosure, or claims directed thereto, was made until March 30, 1929—more than 2½ years thereafter, and is more than 2 years after devices embodying the alleged invention had been on the commercial market. These facts are not and cannot be denied. (pp. 4 and 5)

The patentee answered in its Response to the Petition for Certiorari, filed Sept. 8, 1941:

The fact is that no changes were made in the specification of the patent in suit except such as were completely and fully supported by the drawing. There is no element in any claim in suit which does not find full and complete support in the original application.

In so far as the record of this case elaborates upon the results and advantages of the invention, it is dealing with properties inherent in the structure as originally shown in the drawings and described in the specification of the patent application. (pp. 8 and 9)

. . . the loss cited by Petitioner is inapplicable. In every case in which this Court has held claims void for belated introduction (including all the cases relied upon by Petitioners), this Court made findings; first, that the subject matter of the added claims was new to the records; secondly, that the matter added was inconsistent with the original disclosure; and thirdly, that there were intervening adverse rights. In the present case, Petitioners have not shown the addition of any structural matter not present in the original disclosure; they have not shown the introduction of any matter inconsistent with the original disclosure; and they have not shown any intervening adverse right. (p. 10)

The accused infringers alleged in their Reply of Petitioners on Petition for Writ of Certiorari, filed on Sept. 12, 1941:

... section 4886 of the Revised Statutes prescribes as a condition to a valid patent grant that the invention thereof shall not have been "in public use or on sale in this country for more than two years prior" to the application for patent. The statute, neither by language nor by implication, excuses the inventor from its effect. Two years public use by anyone prior to application for patent claims therefor invalidates any patent that may be inadvertently granted in the face thereof. (p. 4)

Then, in their Brief for Petitioners, filed Nov. 12, 1941, the accused infringers claimed:

Claims 11, 12, 13 and 14 of the Johnson patent are invalid because of the illegal insertion thereof (and of the subject matter to which they are directed) into the application for patent more than two years after such subject matter had become commercially adopted.

It has been shown by the foregoing review of the history of the Johnson application that the four claims of the Johnson patent, as well as the subject matter to which they are directed, were inserted into the application on March 30, 1929, more than two years and seven months after the application was filed on August 25, 1926. It has likewise been shown that these claims, and their subject matter are radically different, in every respect, from what was described and claimed as Johnson's invention when he filed his application for patent. (p. 14)

In their Brief for Respondents, filed Dec. 29, 1941, the patentees clearly put the late-claiming issue before the Court:

More delay in presenting claims based on the original disclosure of an application does not invalidate such claims, particularly in the absence of intervening rights creating estoppel available to a defendant. (p. 17)

It is not contended by Petitioners and cannot be so contended that Petitioners acquired any intervening right or were in any manner prejudiced by the alleged delay in introducing claims to the subject matter in controversy. Petitioners were not even in the outboard motor business at the time such claims were introduced. (p. 20)

There is a clear distinction between the present case in which the claims in issue were included while the application was still in the secret files of the Patent Office, and the ordinary case of intervening rights as against a reissue application or the belated introduction of claims into a divisional application for interference or otherwise, where the parent patent, or the competitive patent, has issued without the claims in controversy.

... At no time did Respondent take any position from which any member of the public could understand an intent to dedicate or relinquish the subject matter of the claims now asserted. (pp. 21 and 22)

C. In a notice appearing in 781 O.G. 1 (1962), the following appears:

To the few attorneys who take more than their fair share of Examiner time by delaying prosecution until after final rejection, during or after appeal, or after allowance, Rule 112 and Rule 116(b) are rigorously applied. . . .

This notice is issued in order that all attorneys and applicants may be fully aware of the urgency under the improved procedure of consolidating the planning and prosecution of all claims of any desired wording and scope into the original application and the first response.

In an address delivered before the New York Patent Association on Jan. 29, 1963, Mr. H. B. Whitmore, then Superintendent of the Examining Corps, said:

... examining the statutes, we failed to find any general direction that people should file a disclosure of what they had done, and then over the course of years try to find out by continuing negotiation with the Patent Office what possible areas of invention there might be in the disclosure. There is no statutory basis for establishing the Patent Office as a limitless hunting and fishing preserve.

On the contrary, the statutes are very specific. They require, Section 112, that the inventor define what he "regards as his invention." Rule 112 is the basis for enforcing these provisions of the statutes. . . .

By adhering firmly to Sections 112 and 131 of the Statutes and Rule 112, by dropping the time-consuming hunting-and-fishing practice of the past, by restricting our consideration to what the applicant upon filing declared that he regarded as his invention, we believe we have a solution which is both workable and fair.

D. Subcommittee No. 3 of the Patent, Trademark and Copyright Section of the American Bar Association submitted the following proposed resolution in its committee report for the annual meeting held in August, 1963:

RESOLVED, that the American Bar Association favors legislation which will expressly provide that no claim shall be rejected, and if patented shall be held invalid, solely on the grounds that said claim or one of the same scope was first introduced into the application more than one year after public use, publication, sale, or prior patenting of the claimed invention, provided said claim is amply supported by an application having a filing date as to which such public use, publication, sale or prior patenting would not be a bar.

It was not adopted, however.

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## SELECTED TRANSLATIONS

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In view of the international situation we plan to make available to our readers, from time to time, translations of original, distinctive or outstanding articles, reports or notes relating to The PTC Research Institute's fields of interest.

# The Doctrine Of Territoriality In Patent Law And The European Common Market\*

DR. NORBERT KOCH and DR. FRANZ FROSCHMAIER\*\*

**T**HIS PAPER TRIES TO STRIKE A BALANCE among the interests and necessities of patent law, antitrust law and the functioning of the European Common Market. It reflects the merely personal opinions of the authors.

The problems discussed in this article could possibly be solved by changing certain concepts in the field of patent law or in the field of antitrust law, or again by establishing a different relation between patent and antitrust law. Such alternative solutions may merit further examination. It may be useful, however, to present an approach which avoids conflicts between patent law and antitrust law.

The special problems of patent pooling, exclusive cross-licensing or parallel licensing, where the emphasis lies on antitrust considerations, are not dealt with in detail.

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When the Treaty creating the European Economic Community (Rome Treaty) entered into force, a common super-structure for the economic policy of the six Member States was established. Its essential function is to balance and harmonize national interests

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\* This study was first published in German by Gewerblicher Rechtsschutz und Urheberrecht, Auslandsund Internationaler Teil, 1965, pp. 121-127.

\*\* Both authors are staff members of the EEC Commission, General Directorate for Competition.

EDITOR'S NOTE: *In view of the special capacities in the EEC Commission of these internationally known authors, this translation is made available to our readers for purposes of information, discussion and study. The positions of the authors are, of course, not to be taken as those of the Institute or any of its associates.*

in order to promote the general welfare of the six integrated national economies.

The evolution of constitutional and public law toward a new common political structure is lagging behind the economic integration at the moment. However, the revolutionary idea of replacing the nationalist and protectionist policies of the six Member States by community considerations produces immediate and direct effects on public affairs of the Member States.

In so far as the internal law in the Member States implements a legal philosophy which is inconsistent with a community, the consequences of such conflict have to be examined. This raises the question of the interpretation or application of national law under the Rome Treaty in areas where Community law applies directly. This is the situation which exists with regard to patent law.

### I.

The purpose of patent law is to reserve the possibility for the patentee to profit from his invention. Normally this profit is realized when the patentee puts the protected product into commerce by sale or in exchange for other remuneration. For this reason, as soon as profit has been realized from the introduction of the product into commerce, the patent laws of most countries exclude the exercise of the patentee's monopoly against further utilization of the product in question. By introducing the protected product into commerce, the rights conferred by the patent are deemed to be "consumed."

A general principle of patent law, accepted also in the countries of the Community, is the so-called principle of territoriality, i.e. the exclusive right conferred by the patent is legally valid only within the state that granted the patent and all legal dealings with such patent are determined by the law of such state.

The principle of territoriality is a result of the territorial limitation of sovereignty. This principle has the effect that not only the grant and the extinction of patent protection, but also the consumption of the rights conferred by the patent are limited to the territory to which the law, under which the patent was granted, extends.

If a patentee owns patents for the same invention in several EEC Member States (parallel patents), the consumption of the patent protection is limited to the territory of the state where such consumption actually intervenes. The patent rights are consumed only in the state

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<sup>1</sup> Edward Patentgents, Reimer, Anm. 87 zu § 6 Pat.G.



where the patentee or his licensee puts the protected product into domestic commerce.<sup>1</sup>

The coming into force of the EEC Treaty raises the question whether the aforesaid doctrine of consumption of protective rights, based on the nationally oriented principle of territoriality, should continue to be respected in cases of parallel patents. This view has the effect of enabling the holder of parallel patents to partition the Common Market along national boundaries; he can stop the inter-Member-State exchange of the protected product on various economic levels, such as from the plant to the retailer, by claiming an infringement. Every importation into the territory where one of the parallel patents is valid constitutes an infringement of the patent, whether or not the inventive idea is also protected by a patent in the country of export, whether or not the importer acts as manufacturer, exporter, importer, wholesale or retail dealer or industrial user of the product, and no matter if such product has been put into commerce in the country of origin by the patentee or by any other person acting under authority of the patentee or economically tied to him.

The use of parallel protective rights to prevent interstate circulation of goods through all levels of trade seems to be inconsistent with the very idea of patent law. It is certainly inconsistent with the purpose of a Common Market, in which goods and services, labor and capital are to be freely exchanged between Member States, according to the rules of economic competition and without any national trade obstacles.

## II.

In specific cases, the application of the principle of territoriality to the conditions of consumption leads to an extension of the legal monopoly granted to the patentee.

The primary purpose of the exclusive right to manufacture or to use the protected product or to put it into commerce is not to reward the inventor for his accomplishment, but rather to promote technical progress by creating the possibility of monopolistic profits as a stimulus and in consideration for the disclosure of inventive ideas and the risk of capital required for their exploration.<sup>2</sup>

This main objective of patent law establishes the criterion for a balance of interests between the inventor on one side and the public on the other. If the patentee or his licensee has put the protected

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<sup>2</sup> See Machlup, *An Economic Review of the Patent System, Study of the Subcommittee on Patents, Trademarks and Copyrights of the Committee on the Judiciary*. United States Senate, Washington 1958, p. 20 seq.

product into commerce, the profit possibility has been realized in the form of sales, license fees or other compensation. Thus, it is reasonably in the public interest and not unfair to the patentee that the protection conferred by the patent should be deemed consumed when a product has been put into commerce.

For one and the same invention, that is for a single inventive performance, the holder of parallel patents obtains an exploitation monopoly for each of the jurisdictions in which patent protection is separately granted.

The multiple patenting of an invention certainly already raises problems from the point of view of patent law. Further (parallel) applications for patents add nothing new to the state of the art after a patent has been granted in one country. The positive effects of the grant of the patent, the contribution toward promoting technical progress through the disclosure of the invention, have no territorial limitations.

Nevertheless, it does not appear to be unjustified to grant a reward to an inventor wherever his invention may be used, thanks to disclosure. In this way, the spur and the reward for inventive activity are increased, and weighing the interests of the public against those of the inventor, it would be unfair to the patentee if he were to suffer from the territorial limitations of his patent rights in such a way that his patented invention could be exploited freely and without protection in other countries.

A similar situation arises if two unrelated inventors obtain patent protection for the same invention under different legal systems, resulting in two independent and mutually exclusive monopoly rights which are intended to reward identical inventive performances, which have been realized independently.

No territorial obstacle stands in the way of the holder of parallel patents who raises claims against infringement in the whole of the territory where his protection rights are valid; he has at his disposal a bundle of patents from which he can choose the proper basis for his claims in each territory in which infringement has actually taken place. The same applies when infringement has been started in a territory where one of the several parallel patents is valid and is continued in the territory of another such patent. The continuation of the infringement does not basically affect the claims against infringement, but for the legal origin, the "nationality" of the claim. A bundle of patents entitles the holder, as a practical matter, to raise claims against infringement in the whole of the territory where patent

protection exists. If, on the other hand, protected products legally put into commerce in the territory where one of several parallel rights is valid are then imported into the territory where another of those rights is valid, the consumption resulting from the first introduction into commerce does not affect the infringing quality of the subsequent introduction into commerce in the importing territory. The application of the principle of territoriality therefore results in a revival under a different flag of infringement claims which were properly invalidated by consumption in another country. While such a bundle of patents enables the patentee to treat the total territory as a single jurisdiction, for practical means, acting against infringers, no compensation to protect the interests of the public is provided, with regard to the exploitation of the rights, since the patent rights are not considered "consumed" throughout the territory when introduced into commerce anywhere within it.

This result is in itself contradictory. The recognition of parallel claims against infringement with regard to the product which has become "free" from patent protection amounts to enabling the holder of parallel patents to block the sales of the protected product altogether, and thereby to influence its distribution on the market although the chance of deriving a profit granted by the patent monopoly has already been turned into money.

This application of the principle of territoriality, which can hardly be justified if one considers the purpose of patent law, can only be accounted for by the concept of sovereignty of the States. The grant of a patent is a sovereign act of the State. The revocation of the extinction of a patent right, annulling the effects of such sovereign act, must be in accordance with the legal prescriptions of the State concerned. Consequently, it is impossible to attach any legal significance to the consumption of a patent right in another State—unless the legislator would expressly so provide. Otherwise the effect of a sovereign act would be eliminated because of extra-territorial circumstances and without intervention of the sovereign power of the State concerned.

It may be left undecided whether this way of thinking in terms of sovereignty and the resulting unlimited application of the principle of territoriality is still compatible with modern economic and technical developments. However, whether the coming into force of the Rome Treaty will entail any alteration of the principle of territoriality for the Member States of the EEC should be examined.

## III.

If consumption is limited to the territory in which the patent right extends in the case of parallel patents in the Common Market, it would lead to conflicts with the basic principles of competition of the EEC Treaty.

Articles 85 and 86 forbid restrictions of competition likely to affect commerce between Member States. These provisions are directly applicable rules of Community law. They limit freedom of contract in order to protect freedom of competition. They manifest the legislator's basic politico-economic choice favoring an economic constitution of the Community directed towards competition and the integration of the economies of the six Member States.

On the other hand, patent law grants monopoly rights, limited in time, not subject to antitrust law, yet compatible with the concept of an economy based on competition. The monopoly-oriented patent protection contributes toward technical and economic progress no less than antitrust law. The primary object of patent law is not to enrich the inventor. The temporary limitation of competition created by the patent monopoly can be tolerated from the point of view of public interest because, as an incentive and a reward for inventive activity, it promotes technical knowledge and further development of inventive ideas.

Conflicts between patent protection and protection of competition will in the first place occur in the field of contractual exploitation of the patent, i.e., the patentee, instead of exploiting his right himself, leaves exploitation to third persons. The question of consumption, on the other hand, concerns the maintenance of an exclusive right against third persons who do not regularly have any contractual connections with the patentee.

It would be a mistake to assume that the scope of protection offered by patent law could be considered independently from the area where antitrust prohibitions apply. It is a widely accepted view that antitrust law should adjust its field of application so as not to impinge upon the scope of patent protection. On the other hand, the regulating functions of antitrust law must be taken into consideration when patent exclusion rights are granted. Consequently, a mutual delimitation of patent protection and protection of competition has to be considered, no matter whether one is concerned with the validity of an infringement claim resulting from patent law in the case of consumption outside the territory where the protection is valid, or with the evaluation in the context of antitrust law of a licensee's obligation

to desist from or to prevent the sales of a product into a territory reserved to the licensor.

The patent law of the Member States of the EEC is based on the principle that the right conferred by the patent can be transferred with restrictions as to time or object of exploitation. It is true that the patent as such can only be transferred as a whole, but the permission to use may be transferred to others in part only. If a patentee grants a licensee a right of exploitation limited as to time, place, quantity, object, or manner of exploitation (manufacture, use, sale), the doctrine of divisibility of the right would empower the patentee to sue the licensee for infringement if the latter trespasses the limits of the field withheld from him. That is why, according to jurisprudence and texts, contractual restrictions of the rights granted to the licensee have significance not only under the law of contracts but also under patent law.

. . . A licensee, who trespasses the limitations imposed on him by manufacturing, using, introducing into commerce or offering a product for sale makes himself guilty not only of a breach of contract, but also of patent infringement. Moreover, any person who uses for business purposes the object unlawfully put into commerce by the licensee is also guilty of patent infringement.<sup>3</sup>

The rules of competition of the EEC Treaty limit the freedom of contracts in order to protect competition. Contractual obligations under which an enterprise is limited in its freedom of action or decision are prohibited by the rules of Article 85 (1). Contractual restrictions of a licensee's freedom of action fall under antitrust prohibitions when they go beyond the limits of the patentee's lawful use of his rights. On the other hand it should be possible to prevent a licensee, but contractual obligation, from doing anything that the patentee could halt through an infringement action.

This is the approach of Section 20 (1) of the German Act against Restrictions of Competition of 1957 (GWB), which prohibits only such restrictions imposed upon a licensee that exceed the monopoly conferred by the patent; restrictions as to manner, extent, quantity, territory or time of exploitation of a patent do not exceed the legal monopoly according to legal definition. Consequently, in the opinion of the German legislator, no illegal restriction of competition exists within these limits.

An indiscriminate adoption of these criteria for the proper definition of the field of application of Articles 85 and 86 of the EEC Treaty would lead to questionable generalizations. They result from

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<sup>3</sup> Reimer Anm. 15 zu § 9 Pat.G.

a distinction between contract and patent law restrictions, developed long ago by jurisprudence dominated by the patent protectionist viewpoint.<sup>4</sup>

If the application of Article 85 (1) to restrictive covenants in licensing agreements would be determined in this way, the contents of antitrust prohibitions would be determined by patent law. This must bring about unintended results, particularly so when the legislator sets up rules to protect inter-Member-State competition at a time when policies are diverted toward superseding or replacing nationalistic, political and legal aims by supranational concepts. Such rules, in certain circumstances, must necessarily conflict with the territorial application of industrial property rights. One would further assume that the reach of antitrust could be delineated in a generalizing way, that is without considering the merits of each particular case. If it is correct to draw a boundary line between patent protection and antitrust guarantees taking into account the legal and political objectives of each law, one should also respect one special characteristic of antitrust law, i.e., that the situation must be considered in relation to all relevant circumstances, since a particular covenant which may be harmless in one context might have a strong anti-competitive effect in another.

Consequently, the boundary line between patent and antitrust law can on principle only be drawn on the merits of each particular case and after striking a balance between the inventor's reward and the protection of competition.

One might attempt to avoid this problem when drafting licensing agreements limiting the grant of express rights to the licensee, without imposing direct or indirect prohibitions with respect to the field reserved to the licensor, as proprietor of the industrial property rights. If the licensee should exceed his authority, the licensor would then exclusively depend on patent claims and could not rely upon breach of contract. In such case, the questions to be raised would not concern antitrust limitations to freedom of contract, but rather the compatibility of infringement claims with the principles set forth to protect competition.

The tracing of this dividing line would be oversimplified, however, if the licensor's protection were limited to only the attempted enforce-

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<sup>4</sup> See Buxbaum, "Restrictions Inherent in the Patent Monopoly: a Comparative Critique," Vol. 113, *University of Pennsylvania Law Review* (March 1965), who justly disapproves of the antitrust relevance of a distinction between "dinglichen" (in rem) and "obligatorischen" (contractual) restrictions and critically analyzes the concept of "inherent rights" as deduced therefrom.

ment of patent claims and if every contractual direction or prohibition limiting the licensee's freedom of action or decision were considered a restriction of competition, irrespective of any balance between inventor's reward and protection of competition.

The relation between industrial property and Articles 85 and 86 cannot be construed in such a way as to grant infringement claims against certain conduct of the licensee on the one hand, while on the other the contractual obligation to abstain from such conduct is considered a prohibited restriction of competition—though possibly qualified for exemption under Article 85 (3). The left hand would then ignore what the right one is doing.

A judge examining claims against patent infringement as well as a civil servant charged with the application of Articles 85 and 86 to restraints of competition in licensing agreements are administering policies directed toward an exchange of goods based on competition within the Common Market. The results of this examination must be consistent in the two cases; the dividing line between patent and antitrust law cannot be drawn subject to a distinction between contractual and in rem obligations, but only under mutual consideration of the two objects of legal protection.

The preliminary conclusion to be drawn from the foregoing with respect to the consumption of the patent right in the case of parallel patents is the following:

- (a) A claim based on infringement of the patent and directed against the sale of a product originating in another Member State of the EEC with parallel patent protection must be examined with regard to its compatibility with the rules of competition of the Rome Treaty in like manner as an express contractual obligation designed to prevent sales outside the territory in which the patent is valid (export prohibition).
- (b) Further, the contents and the scope of the rules of competition of the Rome Treaty and their application to individual cases must not depend upon the extent to which legislation or jurisprudence in the Member State concerned acknowledge or refuse claims based upon patent infringement.

#### IV.

Unlimited application of the principle of territoriality would enable the holder of parallel patents to use his prohibitory rights to restrain (by submission to conditions like payment of an additional royalty), or to completely bar the importation into Member State B of a product manufactured in Member State A under parallel patent

protection, introduced legally into commerce in A and thus thereafter unprotected. The monopoly right inherent in a patent grant aims to guarantee a chance to make profits, therefore, the unlimited application of the principle of territoriality could be considered justified only if each of the parallel patents were to be considered justified to provide additional compensation to the inventor.

It cannot be the object of patent law to grant the holder of parallel patents as many possibilities of compensation with respect to one and the same article as there are parallel patent rights registered in his name. Moreover, it could not be argued in favor of this conclusion that the inventor ought to be in a position to derive the maximum profit achievable in each of the different Member States under particular national market conditions. The exploitation of an invention in isolation in different markets is incompatible with the objects of patent legislation as well as with the rules of competition of the Treaty of Rome.

Admittedly, the patent grants the patentee a basically unlimited possibility for profit, eventually subject to correction under the aspect of abuse of a monopoly position or compulsory licensing, and thus it affords the possibility of maximum financial exploitation. It follows from this that in the presence of regional differences of supply and demand the patentee may strive to take the greatest advantage of verging conditions in the respective regional markets, in exchange for the patented product or for a license. Different prices or royalties resulting from different conditions in regional markets are subject, however, to the levelling influence of offered products that have lost their patent protection. The consumption of the rights attached to the patent with respect to products legally introduced into commerce and the free circulation of such products on the following levels of distribution resulting from consumption put a limit to the patentee's possibilities to differentiate prices or royalties in such markets.

If a national patent, by itself, does not permit the patentee to maximize profits through separate exploitation of regional markets, then this should also be accepted, in view of the objectives of patent legislation with respect to the relation of parallel patents toward each other. The interest of the inventor in a maximum exploitation of his profit possibility must give way to the public interest in a distribution of products legally put into commerce in a way favorable to consumers.

Apart from the traditional purposes of national patent laws, the award of a monopoly of exploitation more extensive than that in



isolated single patents to the holder of parallel patents within the territory of the Common Market conflicts with the Rome Treaty's principles of competition, according to which the free play of competition is to guarantee the optimum allocation of resources and distribution of goods. These objects can fully coincide with the patentee's interests. The utilization of all natural cost advantages in production and distribution guarantees greater profit. Interests will conflict when the licensor endeavors to isolate regional markets by means of his rights of exclusion or by agreement with the licensee, expecting that total profits will rise through separate exploitation.

The unlimited recognition of export prohibitions protecting licensees under parallel patents would bring about complete partitioning of national markets on all economic levels, just as much as the application of the principle of territoriality to the consumption of such rights. The holder of parallel patents would thus obtain a sales monopoly running counter to the very nature of patent law, which would submit to his approval not only every transaction across Member State borders, but also any sale of protected products stemming from such commerce. This would make it possible for such patentee to exercise control over sales at every stage of distribution. He could thereby create isolated regional markets with different policies and conditions of sale, could influence or even hinder the access of enterprises to the market and exclude buyers from access to the product. Such private interference with the automatic functioning of competition will be considered a serious disturbance even to national markets; it runs absolutely counter to the idea of a Common Market, especially of a Common Market in the state of being established and engaged in the removal of distortions of competition in the Member States. Any such application of patent grants would exceed the limits of the inventor's reasonable reward.

As far as national patent laws have been interpreted in this sense, such interpretations must be revised in the light of the Rome Treaty's antitrust principles which constitute a newer law. Such modification of the concept of consumption, of the territorial effects of patent law, is brought about by application of a general principle which is stringent in its effect upon patent law. This follows from the decision of the authors of the Rome Treaty and the legislator to foster a competitive free enterprise economy within the Community. Article 85 which is one of the manifestations of this decision with respect to private contractual or concerted behavior must apply in accordance with this general principle.

Consequently, the competitive concept of economic policy under the Rome Treaty requires a new definition of the principle of territoriality. The fiction of independence of parallel patents cannot be maintained to the same extent as has been done thus far. Articles 36 and 222 of the Rome Treaty would in no way be inconsistent with this. Article 36 is only to be understood in its context with the other provisions of the chapter dealing with the removal of quantitative restrictions between Member States. Article 36, paragraph 2, makes quite plain that this provision claims no priority over the other objects of economic policy of the Treaty.<sup>5</sup> The guarantee of property as set forth in Article 222 can also be understood only in the sense of a concept of property integrated into the whole body of law, with the contents and limits determined by law.

The above conclusions only serve for a basic clarification; the particulars under which consumption is to come about and Article 85 (1) is to apply to contractual export prohibitions require detailed definition.

#### V.

The substantive criteria of a concept of consumption not subjected to the territory of validity of the patent, such as is advocated here, need qualification by factors relating to the place of consumption, to the act which brings about consumption and to the holder of the protective right. (In the following text, the right at the place where the act is committed which brings about consumption will be referred to as the "parallel patent," and the right the simultaneous consumption of which is the subject matter of this study will be referred to as the "patent.")

1. By the very nature of this problem, the place of consumption lies necessarily outside the territory where the patent is valid. This involves the question of whether there must exist patent protection for the invention protected by the patent at the place of consumption. This question has to be answered in the affirmative because it is the existence of the patent right which makes it possible to derive additional profit. If no such right exists, the producer can only charge the competitive price.
2. Consumption comes about through the introduction of the protected product into commerce. Introduction into commerce is the first transfer of the power of disposal founded on fact. This can be done by the holder of the protective right, by his

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<sup>5</sup> Verhoren van Themaat, in *Gewerblicher Rechtsschutz und Urheberrecht, Auslands-und Internationaler Teil*, 1964, p. 71.

authorized licensee or otherwise in agreement with him. If the holder of the protective right puts it into commerce, his profit will materialize through the proceeds of the sale. If the product is put into commerce in agreement with him—in the first place by a licensee—his profit will materialize through license fees or by other means of compensation.

3. The right which exists at the place of consumption and the patent itself must be related to each other by parallelism. Parallel protective rights exist when patents for the same invention are granted to the same patentee under different national legislations. The identity of the invention can be ascertained by means of the request for priority provided for by the Paris Union as raised in the various States. A criterion of strict personal identity of the patentee, however, would disregard important matters of fact of equal economic interest.

In order to better delineate the scope of (3), a description follows of the various cases that may arise in that respect (see chart).

- (a) The protective rights belong to one and the same person A. The protected product is put into commerce in the territory of validity of the parallel patent by A, the latter's authorized licensee or otherwise in agreement with A and is subsequently passed into the territory of validity of the patent.
- (b) The protective rights were originally acquired by one and the same person A; the parallel patent is subsequently transferred to a third party, A's successor. The protected product is put into commerce in the territory of validity of the parallel patent by SA (the successor of A), the latter's authorized licensee or otherwise in agreement with SA and subsequently passed into the territory of validity of the patent.
- (c) The protective rights were originally acquired by one and the same person, A's predecessor; the patent is subsequently transferred to A. The protected product is put into commerce in the territory of validity of the parallel patent by PA (the predecessor of A), the latter's authorized licensee or otherwise in agreement with PA and subsequently passed into the territory of validity of the patent.
- (d) The patent belongs to A, and the parallel patent to a third party economically tied to A. The protected product is put into commerce in the territory of validity of the parallel patent by ETA (the holder of the parallel patent economi-

cally tied to A), the latter's authorized licensee or otherwise in agreement with ETA and subsequently passed into the territory of validity of the patent.

The case described under (a) is simply the basic situation which complies by definition with all of the criteria mentioned in paragraph 3.

The question is whether two patents can still be considered as parallel when both initially belonged to one and the same person, and when the latter subsequently transfers one of the two patents to another person. In theory, this problem has two variants, cases (b) and (c).

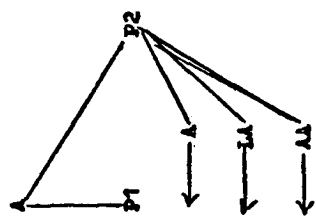
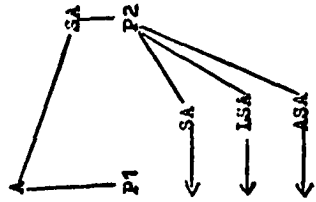
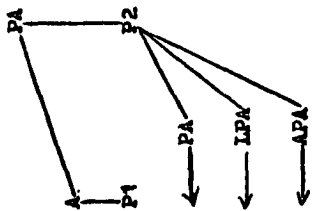
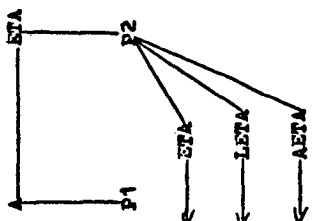
In the case described under (b) where A transfers the parallel patent to a third party, the consumption of the rights attached to the patent could be conceived on the grounds that it makes no difference with respect to the doctrine advocated in this study if the holder of the protective right does not obtain his reward through the sales of the patented product, through license royalties or through other means of compensation for his permission to use the right, but through the remuneration which he receives in exchange for the transfer of the right to a third party. This, however, encounters substantial objections.

They already arise from the mere practical difficulty of satisfactorily determining the price for the parallel patent. The transferror could not foresee to what extent the rights attached to his patent would be consumed by the exploitation of the parallel patent and his possibility of making a profit would be diminished. Under these circumstances any transfer of the parallel patent would be rendered economically impossible.

This result is only a reflection of the fact that the theory of consumption advocated here discards the fictional independence of parallel patents in the context of the field of competition. This can only be justified when the patents belong to the same person. As soon as and as far as one or several parallel patents are transferred, their legal and economic life must be separated from that of the ones which remained in the transferror's possession. Any further extension of the concept of consumption would amount to anticipating a common patent of the Member States such as is contemplated by a Draft Convention on a European Patent Act.

These questions quite clearly also arise in case (c) where A acquires the patent from a third party who is the holder of the parallel patent. Here, the additional problem shows up of how to protect the assignee's

CHART  
Schematic description of cases

<p>A is holder of the patent (P1) and the parallel patent (P2)</p> <p>(a)</p>	
<p>A is holder of P1, his successor (SA) has acquired P2 from A</p> <p>(b)</p>	
<p>A has acquired P1 from his predecessor (PA), PA is holder of P2</p> <p>(c)</p>	
<p>A is holder of P1, P2 belongs to a third party economically tied to a (ETA)</p> <p>(d)</p>	

good faith. He might possibly know nothing of the connection existing between the transferror's parallel patents. One cannot assume, off-hand, that he took into consideration the possibility of infiltration of products into "his" market when he acquired the patent.

To conclude, consumption is not brought about when either the successor (as in case a) or the predecessor (as in case b) has introduced the product into commerce.

On the other hand, in order to eliminate the possibilities of circumvention, it is indispensable to assume consumption in those cases in which the patents are merely held of record by different persons who have economically been controlled from a single source or are otherwise related (as in case d). Trust relations constitute an example, but there also are other situations of economic dependence to which the same evaluation would rightly apply.

The result of the attempt to delimit the rights conferred by a patent may be summed up as follows:

*The rights conferred by a patent do not extend to the use or sale of products which, inside the territorial scope of validity of parallel patents held by the patentee or by a person having economic ties with him, have been put into commerce by the patentee or such persons, by their licensee or otherwise with their consent. The act of introducing into commerce is constituted by the first transfer of the power of disposal founded on fact.*

## VI.

The contractual protection of territorial limitations in license agreements under parallel patents is created by exclusive licenses and export prohibitions. How to appreciate exclusive licenses under anti-trust rules may be left undecided here. In any event, the criteria for applying Article 85 (1) to export prohibitions cannot be different from those which are valid for the definition of consumption under the patent law.

It follows that all direct or indirect obligations to abstain from or to prevent sales after consumption come into the field of application of Article 85 (1). A licensee's obligation to deny his purchasers access to the territory of validity of the licensor's parallel patent by imposing export prohibitions upon them is covered neither by the patent under which the license is granted nor by the licensor's parallel rights.

The legal situation is less unequivocal with regard to contractual export prohibition concerning the initial introduction into commerce

by the licensee himself. Such prohibitions cannot be justified by inferring the rights under the licensed patent; should the export process originate from the territory where the licensed patent is valid the economic results will certainly be realized outside this territory. Prevention of these economic results constitutes an extension of the monopoly conferred by the licensed patent beyond the reasonable reward to which an inventor is entitled. However, the export prohibition may only make a contractual obligation of an abstention which the licensor might eventually enforce by invoking a parallel patent. The question as to whether a licensor can raise infringement claims against his licensee can be answered in the light of the principles which apply to the antitrust-admissibility of territorial licenses. *If it is correct to accept a doctrine according to which the rights conferred by a single patent can be divided in substance within the territory of validity of the same patent as long as part exploitation is justified in view of the inventor's reasonable reward, then nothing else can rule the mutual relationship of two parallel patents from the point of view of protection of competition.*

Thanks to the differentiation between the first introduction into commerce and the subsequent stages of distribution, the territorial limitation of the licensee's authority is of much less significance with regard to the free exchange of goods between Member States; once lawfully put into commerce, a patented product can be sold freely in the whole territory of the Common Market. This may imply a competitive disadvantage for the licensee's products because of the royalties he has to pay, but it should be kept in mind that the patentee usually has developed his invention at certain costs, and that royalties are a contribution to these costs. Under these circumstances, a territorial limitation on the first economic level may, in like manner as the geographical limitation of a license to part of the territory of validity of a single patent, normally be accepted as an effect of the doctrine of divisibility or of limited transferability of the right attached to the patent.

The antitrust examination may, however, result in the applicability of Article 85 (1) if the objects pursued by export limitations exceed the limits of a reasonable regard for the inventor. This applies particularly to export prohibitions in case of multiple parallel licensing, cross-licensing and patent pooling. Here, the export prohibition may not in the first place serve to secure a reasonable reward for the inventor, but rather be directed towards securing territorial protection in favor of the several licensees or holders of rights as between one

another. The creation of isolated regional markets by means of patents could very well replace a market division by means of cartels or trusts among the licensees or holders of patents.

Consequently, the applicability of Article 85 (1) to export impediments is only excluded insofar as the interdiction serves the individual interests of the patentee. It is assumed, however, that the patentee enjoys patent protection in the country into which exports are prohibited, and that this prohibition will in no case result in preventing or rendering more difficult for the committed party to invoke nullity of the patent in the country into which exports are prohibited.



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"... as we struggle to adapt the traditions and institutions of man's oldest discipline to the emerging and evolving miracles of man's intellectual achievements, we must keep in mind that it is not the machines that have changed men's lives but the adaptations that men themselves have made in response to the machines."

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are impressive similarities and these seem to provide the basis for hope of integration and a compatible future development.

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"The role of the not-for-profit corporation in defense and related activities has been the subject of extensive discussion and commentary. In line with contemporary formulations of issues involving the not-for-profit corporations in defense contracting, this article will consider whether or not there is an expanding use of these corporations, how independent they are, what the not-for-profit factor signifies, in what sense they are Federal organizations, and whether research is an adequate descriptive term for their activities."

Santa-Pinter, J. J., "Registration of Trademarks in Puerto Rican Law," *Journal of the Patent Office Society*, Vol. 47, No. 2 (February 1965), pp. 124-135.

Scafuri, A. L., "United States Antitrust Laws in Relation to American Businesses Operating in the Common Market," *Boston College Industrial & Commercial*

*Law Review*, Vol. 6 (Spring 1965), p. 561.

Shnitzer, Paul, "Some Limitations on the Validity of Federal Government Contracts Awarded After Formal Advertising," *Federal Bar Journal*, Vol. 25, No. 2 (Spring 1965), pp. 224-237.

"One who enters into a contract with the Government does not necessarily have a binding commitment enforceable according to its terms. For example, if the appropriation under which a contract is made is inadequate to pay for the work to be done, the contractor cannot recover for work performed in excess of the appropriation. . . . Worse off is the individual awarded a contract inconsistent with the limitations in the authorizing legislation; his contract is illegal and unenforceable. . . . Again, a contract which does not conform to the procedures imposed by statute is invalid and the award of an oral contract in the face of a statutory requirement for a written agreement confers no rights on the contractor; he can be compensated only on *quantum meruit*."

Singer, E., "Structure of Industrial Concentration Indexes," *Antitrust Bulletin*, Vol. 10 (January-April 1965), p. 75.

Sneed, J. T., "Criteria of Federal Income Tax Policy," *Stanford*

*Law Review*, Vol. 17 (April 1965), p. 567.

Sobel, Gerald, "Prior Art and Obviousness," *Journal of the Patent Office Society*, Vol. 47, No. 2 (February 1965), pp. 79-97.

"To summarize the results of this investigation, it is clear that the prior art used in determining obviousness under Section 103 includes acts occurring prior to an applicant's invention date as defined in Sections 102 (a), (e) and (g). The status of Sections 102 (b) and (d) is uncertain. The *Palmquist* holding and the subsequent dictum in *Harry* leaves the position of the C.C.P.A. in doubt, and other courts have not squarely faced the issue. As the only recent *holding* on the question *Palmquist* retains an equivocal position as the leading case governing the Patent Office. It will, therefore, be appropriate to review its implications."

Spector, Louis, "An Analysis of the Standard 'Changes' Clause," *Federal Bar Journal*, Vol. 25, No. 2 (Spring 1965). pp. 177-194.

"This analysis is directed toward a single standard clause ordinarily to be found in a typically voluminous Government contract. But the clause cannot be intelligently analyzed in a vacuum, and any effort to place it in proper context, inevitably involves side excursions into important phases of Government

contract law, and into the still larger field which we characterize as administrative law."

Stokes, John M., "A Few Irreverent Comments About Antitrust, Agency Regulation, and Primary Jurisdiction," *The George Washington Law Review*, Vol. 33, No. 2 (December 1964), pp. 529-562.

"The application of antitrust laws to regulated industries has produced a maelstrom whose center is the vacuous 'doctrine of primary jurisdiction.' The limitations of this doctrine should be recognized, and court and agency should turn instead to the seminal questions raised by a basic policy of securing maximum free economic activity."

"Taxation-Payments of Treble Damages in Private Anti-Trust Suits Ruled Deductible as 'Ordinary and Necessary' Business Expenses," *University of Pennsylvania Law Review*, Vol. 113 (April 1965), p. 954.

"Uniform Deceptive Trade Practices Act: Effect of *Sears and Roebuck & Co. v. Stiffel Co.* 84 Supreme Court 784; *Compco Corp. v. Day-Brite Lighting, Inc.* 84 Supreme Court 779), *Trademark Reporter*, Vol. 55 (April 1965), p. 267.

Williams, M. C., "Conflicting Landmark Decisions on Restrictive

Patent Licenses; Package Patent Licensing and Acquisitions," *Chicago Business Record*, Vol. 46 (April 1965), p. 312.

Waldheim, F., "Characters — May They Be Kidnapped?" *Bulletin of the Copyright Society of the U.S.A.*, Vol. 12 (April 1965), p. 210.

Yarbrough, Fletcher L., "Protection of Territorial Rights in Corporate Names and Trade Names," *The Trademark Reporter*, Vol. 55, No. 5 (May 1965), pp. 327-348.

"The name a corporation uses to market its goods or services may have great value. This name

may be the corporate name of a trade name assumed for use with a portion of the corporate business or by a division of the corporation. But in what geographical area or territory is a corporation entitled to the exclusive right to exploit this value by preventing others from using its names, trademarks, or service marks. This article reviews briefly the extent of territorial protection afforded to corporate names and corporate trade names by decisions and statutes. It also points out considerations that should be considered to determine whether further statutory protection is necessary and advisable."

## Reports and Hearings

*Annual Report of the Register of Copyrights* (June 1964), Library of Congress, Washington, D. C.

Included in the Contents is information on Official Publications; Administrative Developments; Legislative Developments; Judicial Developments: (Actions Pending Against the Register of Copyrights), Subject Matter of Copyright Protection, Notice of Copyright, Publication, Registration, Renewal and Ownership of Copyright, International Copyright Protection, Infringement and the Scope of Copyright Protection, Remedies for Infringement, Unfair Competition and

Copyright, Antitrust Action; International Developments.

"This report is preprinted from the *Annual Report of the Librarian of Congress* for the fiscal year ending June 30, 1964."

*A Businessman's View of Some Antitrust Problems—Particularly Mergers, Acquisitions, and Corporate Size*, M. J. Rathbone, Director and former Chairman of the Board, Standard Oil Company (New Jersey). Reprinted from the Proceedings of the Section of Antitrust Law, American Bar Association, at its Spring

Meeting, Washington, D. C., April 8-9, 1965.

"At the outset of these remarks I suggested that, to bring the law into harmony with modern business realities, especially in the field of mergers and acquisitions, this whole segment of our antitrust laws needs a new look. The perspective of history, I believe supports this idea. During these same 75 years, many of our American concepts in other matters of great consequence, such as social welfare and civil rights, have changed and developed. What was progressive yesterday may today become an obstacle to progress. May this not be equally true in the field of antitrust law?"

*Drug Industry Antitrust Act*, U. S. Government Printing Office, Washington, 1962. Hearings Before the Subcommittee on Antitrust and Monopoly of the Committee on the Judiciary, United States Senate, 87th Congress, Second Session, Pursuant to S. Res. 52 on S. 1552.

A bill to amend and supplement the antitrust laws, with respect to the manufacture and distribution of drugs, and for other purposes.

Gamboni, Ciro A., "Unfair Competition Protection after *Sears* and *Compco*," *New York University Law Review*, Vol. 40, No. 1 (January 1965), p. 151.

"It is apparent that *Sears* and

*Compco* absolutely prohibit injunctions against copying commercial products 'regardless of the copier's motives.' Labeling, then, as the only practicable form of relief available, assumes tremendous importance, necessitating re-evaluation of its traditional concepts. While traditional methods of court-imposed labeling may now necessarily be in need of curtailment to avoid possible anticompetitive effects, it is arguable that the secondary meaning requirement may be dispensed with, in specific instances, without violating the *Sears-Compco* thesis. An issue also arises as to whether states may continue to proscribe the copying of bottle and package configurations in order to prevent customer source confusion. Prohibiting the simulation of bottles or packages that are essential selling features of their enclosed products appears to conflict with the *Sears* and *Compco* free competition rationale. On the other hand, no reason exists why states may not prohibit simulation of bottles which serve only as a means of primary source identification."

*The Impact of Antitrust on Economic Growth*, Fourth Conference on Antitrust in an Expanding Economy, National Industrial Conference Board, March 1965.

Hammond, Robert A., "Growth Through Mergers," p. 12.

"I have tried to do little more than to suggest what are the right and wrong questions to ask in trying to predict the competitive effects of mergers. The primary instrument for the further clarification of Section 7 standards will undoubtedly continue to be the decisions of the Commission and the courts in individual adjudicated cases. But this process is likely to produce meaningful standards only if the courts and the Commission recognize their responsibility for the development of a consistent body of doctrine."

Austern, Thomas H., "Expanding Distribution," p. 15.

"With a full recognition of those inescapable difficulties in any logical analysis of this amorphous area of antitrust, I shall endeavor to encase my prototype company's potential problems into three boxes.

"First, what can the company lawfully do in controlling its distributors, either by unilateral action or by agreement with those distributors?

"Second, what can the company lawfully do to expand its distribution by differential pricing between the markets it now enjoys and those it wishes to enter?

"Third, what can the company lawfully do to expand its distribution by promotions and by direct media advertising?"

Kaysen, Carl, "The Present War on Bigness: I," p. 31.

"Today I want to share with you some thoughts on bigness in business in relation to antitrust policy. One can look at this problem from a number of perspectives: the perspective of expounding and justifying a particular policy; the perspective of predicting what courts and regulatory agencies will do; or the more academic perspective of trying to understand what has happened and what

is happening, which may or may not lead us to understand what is likely to happen. I shall exercise my academic prerogative to choose the third point of view. . . ."

Markham, Jesse W., "The Present War on Bigness: II," p. 43.

"I do not assert here that 'bigness' and 'market power' need always be mutually exclusive. What I do mean to say is that the only *economic* reason for condemning large firms lies in the market power they possess."

Gavin, James M., "Technological and Market Research for Growth Under Antitrust," p. 52.

"Merger and acquisition can be a legitimate method for combining the resources of two organizations for the benefit of each. Mergers of competitors and mergers that produce overwhelming economic strength, however, will certainly receive unsympathetic review by the government. In the interest of all parties, therefore, the economic realities of present-day production, distribution, and competition should be fully explored and understood in advance as part of company planning, so that devices helpful to economic growth and consumer benefit will not be prohibited under blanket rules."

*Industrial R&D Funds in Relation to Other Economic Variables*, National Science Foundation, NSF 64-25.

"For several years, the National Science Foundation has published extensive data on expenditures for research and development in the industry sector. These data provide comprehensive information about the dollar magnitude

and composition of industrial performance in research and development. Management and other analysts have shown considerable interest in the relation of the dollar performance of research and development to other economic characteristics of companies performing research and development. This report is a first effort at comparing and ana-

lyzing a number of these relationships."

*Scientific and Technical Manpower Resources*, National Science Foundation, NSF 64-28.

"This publication encompasses much of the most recently developed data on scientists, engineers, and technicians in the United States.

**This issue and  
the forthcoming  
issues of Vol-  
ume 9 of IDEA  
commemorate the  
175th Anniver-  
sary of the  
United States  
Patent System**





# Taxation of the Foreign Licensor in the United Kingdom

MALCOLM J. F. PALMER\*

## INTRODUCTION

**T**HIS ARTICLE WILL DISCUSS THE UNITED KINGDOM<sup>1</sup> TAXATION of profits derived from patents and other industrial property rights owned by those persons or corporations who are not resident within that jurisdiction. This is a topic which has been, and will continue to

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<sup>1</sup>The title to this article refers to taxation in "the United Kingdom." The United Kingdom, which in its full description is the United Kingdom of Great Britain and Northern Ireland, covers England, Wales, Scotland and Northern Ireland. It does not include the Channel Islands or the Isle of Man.

## EDITOR'S NOTE:

*This article is the third report of a series of studies being conducted by John F. Creed, a member of the Research Staff of The PTC Research Institute, dealing with the taxation of the foreign licensor in certain selected non-U.S. jurisdictions. The series naturally breaks down into three study groupings:*

- 1. Australia, Canada, United Kingdom and India.*
- 2. The Common Market countries.*
- 3. Japan.*

*At a later time other non-U.S. jurisdictions will be included in the series.*

*While the studies are involved principally with income taxation, other taxes are also covered where they have a material impact on the foreign licensor. Particular attention is paid to the taxation of U.S. licensors in the various jurisdictions, and in this connection an analysis of the pertinent U.S. double taxation treaties come into play.*

*The studies are being undertaken by men who, through training and experience, are tax experts in the respective jurisdictions. In presenting their studies, they strive to walk the path between undue technicality and over-simplification.*

*The first report in the series "Taxation of the Foreign Licensor in*

be, of major importance to manufacturers in the United States. Statistics show that in 1963 United States manufacturers had more new licensees located in the United Kingdom than in any country other than Japan.<sup>2</sup>

There are four taxes imposed in the United Kingdom which may affect the foreign licensor. The first, and the most important for the foreign licensor, is the income tax imposed at present at the rate of 41.25 percent. Normally the rate is fixed for each year in the annual finance act which is introduced each April. The other three taxes, namely, the profits tax, the corporation tax and the capital gains tax, normally will not affect the corporate foreign licensor unless it is carrying on a business in the United Kingdom through a branch or an agency.

#### INCOME TAX

##### *Basic Charge*

A person resident in the United Kingdom is charged with income tax on all his annual profits from any property and any trade, whether in the United Kingdom or elsewhere. A person not resident in the United Kingdom is charged on his annual profits from any property in the United Kingdom or from any trade exercised there.<sup>3</sup>

The standard rate of income tax is now 41.25 percent. An individual may be liable at a higher rate if he has assessable income in excess of £2,000. Income in excess of that amount may be liable to additional income tax (generally known as surtax) at progressively higher rates on different slices of the excess. The top slice of an individual's income may be taxed at a rate as high as 91.25 percent. On the other hand, certain individuals may be entitled to personal reliefs which will result in an effective rate of less than 41.25 percent, but a nonresident normally will be entitled to these personal reliefs only if he is a British subject.<sup>4</sup>

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*Australia" prepared by John K. Connor was published in the Volume 8, Number 1 (Spring 1964) issue of IDEA.*

*The second report in the series "Taxation of the Foreign Licensor in Canada" prepared by Hubert J. Stitt and John A. Gamble was published in the Volume 8, Number 2 (Summer 1964) issue of IDEA.*

<sup>2</sup> The report of Booz-Allen & Hamilton Inc. entitled "New Foreign Business Activity of U.S. Firms" states that in 1963, 745 U.S. companies investigated entered into a total of 42 licenses in the United Kingdom. Only Japan with 66 exceeded this figure. Canada with 32 licenses was next after the United Kingdom.

<sup>3</sup> Income Tax Act, 1952, Section 122 (1) (a) (iii).

<sup>4</sup> Income Tax Act, 1952, Section 227.

A nonresident corporation which is carrying on business in the United Kingdom through a branch or agency will be liable to the corporation tax and not to the income tax on the income arising directly or indirectly from that branch or agency.<sup>5</sup>

### *Residence*

The residence of an individual or corporation has to be determined for each tax year. Four main factors are relevant to the determination of the residence of an individual.

(a) *The period of presence within the United Kingdom*

If the individual is present in the United Kingdom for a period or periods totalling six months or more in any tax year (which runs from April 6th to April 5th), he will be a resident.<sup>6</sup>

(b) *Dwelling place*

An individual will be a resident if there is a dwelling place in the United Kingdom at his disposal and available for his occupation;<sup>7</sup> but if he works full time in a trade carried on wholly outside the United Kingdom, or if he has an employment the duties of which are performed outside the United Kingdom, the question of his residence will be determined without reference to any dwelling place maintained for his use in the United Kingdom.<sup>8</sup>

(c) *Regularity of visits*

An individual who regularly makes visits of substantial length to the United Kingdom may become a resident even if he is not present for more than six months in a year and has no dwelling place available for him.<sup>9</sup> The Inland Revenue will normally regard visits of three or more months each in four consecutive years as resulting in residence.<sup>10</sup>

(d) *Citizenship*

It is harder for a British subject who has been a resident to lose that status than it would be for an alien in similar circumstances.<sup>11</sup> As a general rule, a British subject will not cease to be a resident until he has been out of the country continuously for a whole tax year.

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<sup>5</sup> Finance Act, 1965, Sections 46 (2) and 50.

<sup>6</sup> Income Tax Act, 1952, Section 375.

<sup>7</sup> *Loewenstein v. de Salis* (1926) 10 T.C. 424.

<sup>8</sup> Finance Act, 1956, Section 11.

<sup>9</sup> *Lysaght v. I.R.C.*, 13 T.C. 511.

<sup>10</sup> See leaflet issued by the Board of Inland Revenue, September, 1960.

<sup>11</sup> See Income Tax Act, 1952, Section 368.

The test to determine where a company is resident can be clearly stated. A company resides where its real business is carried on, and its real business is deemed to be carried on where the central management and control is exercised.<sup>12</sup> What matters is where control is in fact exercised and not where it ought to be exercised under the constitution of the company.<sup>13</sup> Thus, a company normally will be resident at the place where the directors meet and make their decisions. If, however, persons other than the directors exercise *de facto* control of the company, the place where those persons meet will be the deciding factor. A company, like an individual, can be resident in more than one country. It will be resident in any country where a substantial part of the central management is located and the control of its affairs is carried out.<sup>14</sup>

Incorporation in the United Kingdom, at least in the case of a company carrying on an active trade, will not in itself make a company resident there.<sup>15</sup> Furthermore, if a company, irrespective of its place of incorporation, carries on business within the United Kingdom through a branch, that will not in itself make the company resident. Admittedly, there are no reported cases holding that a company carrying on substantial business activities in the United Kingdom is not resident in the United Kingdom, but the cases which lay down the principle of central management and control are clear authority for the view that the existence of a substantial branch business does not in itself render a company resident. This conclusion is supported by legislation which recognizes that a nonresident company may have a branch or management in the United Kingdom.<sup>16</sup> In principle it follows that a company will not be resident in the United Kingdom even if it is incorporated in that jurisdiction and it carries on all of its business there, provided that the central management and control is exercised outside the United Kingdom. But, again, there is as yet no direct case authority for this proposition.<sup>17</sup>

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<sup>12</sup> *De Beers Consolidated Mines Ltd. v. Howe*, 5 T.C. 198.

<sup>13</sup> *Unit Construction Co. Ltd. v. Bullock*, 38 T.C. 712.

<sup>14</sup> *Swedish Central Rail Co. Ltd. v. Thompson*, 9 T.C. 342 and *Union Corporation Ltd. v. I.R.C.* (1953) 34 T.C. 207 at p. 259. See also *Koitaki Para Rubber Estates Ltd. v. Federal Commission of Taxation* (1940) 64 C.L.R. 15 and *Gasque v. I.R.C.*, 23 T.C. 210.

<sup>15</sup> Compare *Swedish Central Rail Co. Ltd. v. Thompson*, 9 T.C. 342 and *Todd v. Egyptian Delta Land and Investment Co. Ltd.*, 14 T.C. 119.

<sup>16</sup> See for example Finance Act, 1965, Sections 50(1) and 89(2)(b).

<sup>17</sup> It seems likely that this point will be litigated in the future in view of the desirability under the Finance Act, 1965, for subsidiaries of foreign companies operating in the United Kingdom to establish themselves in this manner.

Throughout the remainder of this article, it will be assumed that the foreign licensor is not resident within the United Kingdom.

*Withholding of Tax at Source  
from "Annual Payments" and  
Assessment of Nonresidents*

The United Kingdom tax system has adopted, whenever practicable, the principle that tax will be deducted at source. The pertinent statute provides for deduction of income tax at source by the payor from "any yearly interest of money, annuity or other annual payment."<sup>18</sup> The procedure for this deduction has several distinctive features.

1. If the payment is made by an individual who has sufficient taxed income in the year of payment to cover the payment, he is entitled to deduct income tax at the standard rate from the payment. He need not account to the Revenue for the tax deducted. No assessment is made on the recipient, who must accept the payment subject to the deduction of tax.<sup>19</sup>

2. If the payment is made by an individual who does not have sufficient taxed income to cover the payment, he must deduct income tax at the standard rate from the payment and account to the Revenue for the tax deducted, or so much as exceeds the income tax otherwise payable by him.<sup>20</sup> If he fails to do so, the Revenue can assess the recipient.<sup>21</sup>

3. If the payment is made by a corporation resident in the United Kingdom, it must deduct income tax at the standard rate from the payment and account to the Revenue for the tax deducted.<sup>22</sup> If it fails to do this, the Revenue can assess the recipient.<sup>23</sup> Normally the gross payment will be deductible in computing the liability of the payor to the corporation tax.<sup>24</sup>

4. In the exceptional case where the payment is made by a corporation which is not resident in the United Kingdom, the treatment will be the same as if it were made by an individual. Normally, the payor will not have sufficient income liable to income tax to cover the payment and, therefore, it will have to account to the Revenue for the tax

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<sup>18</sup> Income Tax Act, 1952, Sections 169 and 170 (Section 170 refers to "any interest").

<sup>19</sup> Income Tax Act, 1952, Section 169.

<sup>20</sup> Income Tax Act, 1952, Section 170.

<sup>21</sup> *Grosvenor Place Estates Ltd. v. Roberts*, 39 T.C. 433.

<sup>22</sup> Finance Act, 1965, Section 48 (5).

<sup>23</sup> *Grosvenor Place Estates Ltd. v. Roberts*, 39 T.C. 433.

<sup>24</sup> Finance Act, 1965, Section 52 (5).

deducted. No deduction will be permitted in computing the liability of the nonresident corporation to the corporation tax.<sup>25</sup>

In each of these cases the withholding of tax at source applies only to income tax payable at the standard rate. If the recipient is an individual, who in addition has a liability to surtax, he must be separately assessed for the surtax payable by him.

The foregoing treatment applies whether the recipient is a resident or a nonresident. A nonresident may, however, be able to claim exemption under a double taxation treaty. In addition, a nonresident who is not liable to income tax will be entitled to claim the annual payment in full (i.e., without deduction of tax at source) if the proper law of the contract or other obligation under which the payment is made is other than that of the laws of the United Kingdom.<sup>26</sup> But in practical terms it would be unreasonable for the foreign licensor to demand that the contract be governed by, say, the law of Illinois rather than that of England, because although this would ensure that the licensee would have to pay in full, he would not be entitled to any deduction for the payment.<sup>27</sup>

Not every payment which is made annually is subject to tax deduction at source as an "annual payment." The payment must be similar to interest or to a payment under an annuity. This is usually expressed by saying that it must be "pure income profit" in the hands of the recipient.<sup>28</sup> This means that it must not be a receipt, such as a trading receipt, which is merely taken into account in the calculation of the profits of the recipient that are liable to income tax<sup>29</sup> or corporation tax. It must be the type of payment which will almost inevitably increase the total taxable income of the recipient. The procedure for deduction of tax at source is highly relevant for the foreign licensor because it has been specifically extended to cover patent and copyright royalties.<sup>30</sup>

A nonresident who is liable to income tax which is not withheld at

<sup>25</sup> *Supra*, note 24.

<sup>26</sup> *Keiner v. Keiner*, 34 T.C. 346 and *Bingham v. I.R.C.*, 36 T.C. 254.

<sup>27</sup> Income Tax Act, Section 137 and Finance Act, 1965, Sections 52(5)(a) and 53(5)(b). Furthermore, the licensee, if corporate or if an individual whose taxed income is insufficient to support the payment, would probably have to account to the Revenue for the tax which he would otherwise have deducted. See *Keiner v. Keiner*, 34 T.C. 346, *Donovan J.* at p. 348.

<sup>28</sup> *Re Hanbury*, 38 T.C. 588 and *C.I.R. v. Whitworth Park Coal Co. Ltd.*, 38 T.C. 531.

<sup>29</sup> See *British Commonwealth International Newsfilm Agency Ltd. v. Mahany*, 40 T.C. 550.

<sup>30</sup> Income Tax Act, Section 169(3) and Section 470.

source may be directly assessed if he is himself present in the United Kingdom. In addition, he may be charged in the name of any factor, agent, receiver, branch or manager, whether or not that person receives any of the profits or gains.<sup>31</sup>

### *Capital or Income Receipt*

Traditionally, income tax is a tax on income and sums which are capital receipts in the hands of the recipient normally will not give rise to liability to income tax. The importance of determining whether a sum is a capital or an income receipt is considerably less now than it was in the past. Any capital sum received on the sale of patent rights is taxable as income, and there is now a capital gains tax on any capital gain realized on the disposal of other industrial property rights.<sup>32</sup> But the distinction between capital and income receipts is still often relevant, and it is particularly so for the nonresident who will not be liable to the capital gains tax unless he is carrying on a business in the United Kingdom<sup>33</sup> through a branch or agency.

Whether any particular payment is a capital or income receipt is a question of fact to be determined in the light of all of the circumstances. In the final analysis the courts regard it as a question to be answered in accordance with sound accounting principles.<sup>34</sup> Nevertheless, the cases lay down several guiding principles. A lump sum paid on the sale of a patent or similar right is a capital sum (although the gain element is taxed as income),<sup>35</sup> unless the recipient is carrying on the trade of dealing in industrial property rights. In the same way, a lump sum paid on the grant of an exclusive license, whether for the full term of the patent or merely for a fixed term, will be regarded as a capital receipt.<sup>36</sup> On the other hand, if the lump sum is paid on the grant of a non-exclusive license, it will be treated as an income receipt.<sup>37</sup> If the sum paid is based on actual use, as in the case of a royalty hinged to production or sales, it will clearly be income, and this will be the case whether there is a mere license or an outright sale of the right.<sup>38</sup> A lump sum paid on account of or as an

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<sup>31</sup> Income Tax Act, 1952, Section 369.

<sup>32</sup> Finance Act, 1965, Section 22.

<sup>33</sup> Finance Act, 1965, Section 20 (2).

<sup>34</sup> *British Salmson Aero Engines Ltd. v. C.I.R.*, 22 T.C. 29, Sir Wilfrid Greene at p. 43.

<sup>35</sup> *Handley Page v. Butterworth*, 19 T.C. 328, Romer L.J. at p. 359.

<sup>36</sup> *British Salmson Aero Engines Ltd. v. C.I.R.*, 22 T.C. 29 and see *Nethersole v. Withers*, 28 T.C. 501.

<sup>37</sup> *Rustproof Metal Window Co. Ltd. v. C.I.R.*, 29 T.C. 243.

<sup>38</sup> *Jones v. C.I.R.*, 7 T.C. 310 and see *Rustproof Metal Window Co. Ltd. v. C.I.R.*, 29 T.C. 243, Lord Greene M.R. at p. 268.

advance against royalties will be an income receipt.<sup>39</sup>

### *Patents*

The United Kingdom law of patents closely resembles the United States law. The term of a patent is sixteen years from the date of filing of the complete specification, and it is subject to the payment of annual renewal fees from the end of the fourth year.<sup>40</sup>

Patent royalties are treated as annual payments and, therefore, income tax must be deducted from them by the payor. This applies not only to royalties, but also to any other payment of an income nature that is made in respect of the use of a patent. In many cases, patent royalties and other payments of an income nature in respect of the use of a patent will not be "pure income profit" in the hands of the recipient,<sup>41</sup> but the withholding procedure has been specifically extended to them.<sup>42</sup>

The recipient has an option to spread the royalties paid for patent use that has extended for more than two years.<sup>43</sup> If, for example, a royalty is paid in respect of use that has extended for four years, the recipient may be treated as receiving one-quarter of the royalty in the year of payment and one-quarter in each of the three preceding years. The maximum period over which the spread can be made is six years. This particular option is not available if the sum received is of a capital nature, and it will not affect the payor, who will deduct tax at the standard rate at date of payment. Where necessary, relief will be given by a refund of tax. Normally, spreading will be of benefit to the nonresident recipient if the standard rate of income tax has been increased during the relevant period of use or if he is an individual liable to surtax.

A nonresident who receives a capital sum on the sale or exclusive license of a United Kingdom patent will be liable to income tax on the gain realized. The payor of the capital sum must deduct income tax at the standard rate from the payment and account to the Revenue for the amount deducted.<sup>44</sup> The recipient may elect within two years from the end of the tax year in which the payment is made to be taxed as if he had received in the year of payment and each of the five succeeding years one-sixth of the total payment. Exercise

<sup>39</sup> *C.I.R. v. Longmans Green & Co. Ltd.*, 17 T.C. 272 and *Rye and Eyre v. C.I.R.*, 19 T.C. 164.

<sup>40</sup> Patents are covered by the Patents Acts, 1949-1961.

<sup>41</sup> See *Wild v. Ionides*, 9 T.C. 392.

<sup>42</sup> Income Tax Act, 1952, Section 169 (3).

<sup>43</sup> Income Tax Act, 1952, Section 472.

<sup>44</sup> Income Tax Act, 1952, Section 318.



of this election will not affect the payor as he must still deduct tax from the whole payment and account to the Revenue. However, it will entitle the recipient to refund of tax if it turns out that excessive tax has been deducted in any of the six years. He will be treated as though he had received one-sixth of the payment subject to a deduction of one-sixth of the original deduction in each of the six years. Exercise of the election therefore will be an advantage if the standard rate of income tax is reduced during the six-year period or if the recipient would be liable to surtax on the capital sum. The amount of the capital sum on which tax is assessed will be reduced by the amount of any capital expenses incurred on purchase of the patent rights. This relief will permit the recipient to claim a refund of tax, but again it will not affect the liability of the payor to deduct tax from the whole payment.<sup>45</sup> In addition to the opportunities for spreading, the liability of a nonresident may be totally or partially relieved in the following ways:

1. If the taxpayer incurred capital expenditure on the acquisition of patent rights, he will be entitled to an annual allowance which can be set off against his income from the patent rights and carried forward as may be necessary. The amount of the annual allowance will be the amount of the expenditure divided by the number of complete or partial years remaining for the patent at the time of the acquisition of the patent rights, or where appropriate, the specific period of the exclusive rights acquired by the licensor.<sup>46</sup> Relief will be given by way of a refund of tax. If the patent rights are subsequently sold for an amount that is greater or less than the balance of the capital expenditure remaining unallowed, there will be a balancing charge or allowance of the appropriate amount.<sup>47</sup>

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<sup>45</sup> Income Tax Act, 1952, Section 318 (3).

<sup>46</sup> Income Tax Act, 1952, Section 316.

<sup>47</sup> Income Tax Act, 1952, Section 317.

*Example 1*

Assume a taxpayer acquires for £5,000 patent rights which have five years to run. The taxpayer, therefore, is entitled to an annual allowance of £1,000 in each of the five years. If in the second year he sells the patent rights for £2,000, he will not be entitled to any further annual allowances, but will be entitled to a balancing allowance calculated as follows:

Cost of patent rights	£5,000
Less allowances for tax years	2,000
Unallowed expenditure	£3,000
Less proceeds of sale	2,000
Balancing allowance	£1,000

2. Fees and expenses, such as the patent agent's charges, incurred in connection with the grant or renewal of a patent will be deductible and may be set off against income from the patent rights. Relief will again be given by way of a refund of tax.<sup>48</sup>

3. Tax treaty relief. If the nonresident licensor is a resident in the United States, he may be entitled to relief from United Kingdom tax under the terms of the tax treaty between the United States and the United Kingdom. That treaty provides that royalties paid to a resident of the United States for the use of United Kingdom patents will be exempt from United Kingdom tax if the licensor is subject to United States tax on the royalties and is not engaged in trade or business in the United Kingdom through a permanent establishment, or if he is, if the royalties are not associated with that permanent establishment.<sup>49</sup> Thus, in the normal case the licensor who is a resident in the United States will be able to obtain an exemption from the United Kingdom tax. Claims for exemption must be made by the licensor to the Inspector of Foreign Dividends in England. If the claim is accepted, the licensee will be directed to make payment in full without deduction of tax. As a result, the payment will be deductible for income tax and profits tax purposes by the licensee.<sup>50</sup> The deductibility of royalties paid by a corporate licensee will be discussed later in the section on the new corporation tax.

The treaty with the United States and certain other treaties entered into by the United Kingdom prior to 1949 provide exemption only if the royalties or other amounts are paid "for the use of" patents.<sup>51</sup> It is, therefore, generally considered that relief will not be

#### *Example 2*

Assume similar facts, but a sales price of £4,000, in which event there will be a balancing charge of £1,000, which is the sales price of £4,000 less the unallowed expenditure of £3,000.

<sup>48</sup> Income Tax Act, 1952, Section 320.

<sup>49</sup> Article VIII of the Double Taxation Convention between the United States and the United Kingdom.

<sup>50</sup> S.R.&O., 1946, No. 466, Regulation 3 (4).

<sup>51</sup> Treaties which give similar relief include those with Australia, New Zealand, Sweden, Denmark, The Netherlands, France, Norway, Burma, Finland, Greece, Belgium, Switzerland, Federal Republic of Germany, Pakistan, Austria, Italy, Israel and numerous colonies and former colonies. The exact terms of relief differ in certain of the treaties. Only partial relief is given under the treaties with South Africa and Japan. It should be noted that the former treaty with Canada, which is now being renegotiated, gave no relief in respect of patent royalties.

<sup>52</sup> Under the withholding procedure relating to annual payments, a foreign licensor will be entitled to deduct income tax at the standard rate from the royalties. If he is not entitled to deduct tax, because, for example, the royalties are payable outside the United Kingdom under an obligation which is not governed

available under these treaties if the payments which are subject to tax in the United Kingdom are capital payments on the outright sale of a patent. The reason for this is historic. At the time the treaties with the United States and other relevant countries were negotiated, these payments were not taxable in the United Kingdom. As a concession, the United Kingdom Revenue will usually grant relief under these treaties in respect of capital payments. Nevertheless, where the United States licensor is seeking to obtain capital gains treatment, it is advisable to express the transaction as an exclusive license for the full term of the patents, and not as a sale. If this is done, any royalties will be treated for United Kingdom tax purposes as paid "for the use of" the patents and relief will not be merely concessionary. Treaties negotiated after 1949 also give relief in respect of capital payments.

Where the foreign licensor himself is liable to make royalty payments in respect of the patent rights, in theory he normally will be entitled under United Kingdom tax law to the equivalent of a deduction equal to the amount of the royalties payable by him.<sup>52</sup>

#### *Copyright*<sup>53</sup>

Copyright in the United Kingdom subsists in literary, dramatic, musical and artistic works for a period of fifty years beyond the end of the year in which the author died. Copyright also subsists in sound recordings, films, television and sound broadcasts normally for a period of fifty years from the end of the year in which the item was first published or broadcast.

Royalties payable to a nonresident for copyright are expressly brought within the withholding procedure applicable to annual payments. Where the recipient of a royalty or other periodic payment for United Kingdom copyright has his "usual place of abode" outside the United Kingdom, the payor must deduct income tax at the standard rate and account to the Revenue for the tax deducted.<sup>54</sup> This procedure will apply whether the owner of the copyright is an individual or a corporation; corporations are treated as "abiding" where they are managed and controlled.<sup>55</sup>

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by English law, the position is complex. There is no authority on the point, but it would seem that a foreign licensor in such a position may be entitled to claim a deduction for the royalties as expenses necessarily incurred in earning his royalty income. However, there would appear to be no machinery for permitting a refund of tax deducted from the royalties paid to the nonresident licensor unless he elects to spread the royalties or other payments in one of the two ways discussed.

<sup>53</sup> Copyright is covered by the Copyright Act, 1956.

<sup>54</sup> Income Tax Act, 1952, Section 470.

<sup>55</sup> See for example *De Beers Consolidated Mines Ltd. v. Howe*, 5 T.C. 198 at p. 212.

The withholding procedure does not apply to royalties payable in respect of film rights or copies of works which have been exported from the United Kingdom for distribution outside the United Kingdom.<sup>56</sup> Nor does the withholding procedure apply where a capital sum is paid for the copyright. However, it will apply to a lump sum which is of an income nature. For example, it would apply to a lump sum paid as an advance against royalties.<sup>57</sup> If the taxpayer is an author who has spent more than twelve months creating the work in which the copyright exists, he may spread any royalties or taxable lump sum over the period of work, with a maximum spread of three years.<sup>58</sup> No allowance will be made on account of any capital expenditure incurred on the acquisition of the copyright.

As in the case of patent royalties, relief for copyright royalties may be available under a treaty. Relief given under the treaty with the United States is the same as the relief in respect of royalties and other payments made for the use of patents. Motion picture rentals are expressly included within the definition of royalties.<sup>59</sup>

#### *Registered Designs*<sup>60</sup>

Certain designs which are applied to articles by any industrial process or means are registrable. Registration gives copyright for five years from the date of registration. The period may be extended by two further periods of five years each.

The property rights acquired by the proprietor of a registered design are described under English law as copyright.<sup>61</sup> Accordingly, for United Kingdom tax purposes the treatment of a payment in respect of a registered design is the same as for a payment in respect of copyright. A deduction may be permitted for expenditure incurred in registering or renewing a registered design. However, this deduction often will not be of relevance to the nonresident licensor, since normally it will be available only if he has a permanent establishment in the United Kingdom and is taxed on the profits of a trade or busi-

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<sup>56</sup> Income Tax Act, 1952, Section 470 (1).

<sup>57</sup> I.R.C. v. Longmans Green & Co. Ltd., 17 T.C. 272.

<sup>58</sup> Income Tax Act, 1952, Section 471 and Finance Act, 1953, Section 22.

<sup>59</sup> The treaties with several countries expressly exclude royalties for television or film rights from the relief given. Examples are the treaties with Sweden, Pakistan and Israel.

<sup>60</sup> Registered designs are covered by the Registered Designs Acts, 1949-1961.

<sup>61</sup> See Section 7, Registered Designs Act, 1949, "The registration of a design under this Act shall give to the registered proprietor the copyright in the registered design."

ness in respect of which the registered design has been acquired.<sup>62</sup> Again, relief may be given under treaty.

It might be mentioned here that although the rights in a registered design are regarded as copyright for English law purposes, it is considered that they will be regarded as patent rights and not as copyright for the purposes of the United States Internal Revenue Code. This distinction may be relevant if capital gains treatment is to be given for sums received on a sale of the rights. The essential difference between the rights of the proprietor of copyright under United States law and the rights of the proprietor of a United States design patent is that the former has the right to restrain copying only, while the latter has a monopoly in his design. The difference is clear. Two individuals may independently of each other prepare identical maps of the same area; each will have the exclusive right to prevent any other person from copying his own map. The proprietor of a design patent, on the other hand, has a monopoly; he can restrain another from using a similar design, even if that other devised the same design independently and without knowledge of the registration.

In the light of this distinction, it seems clear that the proprietor of a registered design in the United Kingdom has rights which are equated more closely under United States law to the rights of a proprietor of a design patent than to the rights of a proprietor of copyright. The owner of a registered design in the United Kingdom has the exclusive right to use that design in relation to particular articles; he can restrain another from using the same, or a substantially similar design, even if that other devised the design himself and without knowledge of the registration.<sup>63</sup>

### *Trademarks*

The basic concepts of United Kingdom trademark law are comparable with those of the United States law. It should be noted, however, that when a trademark is licensed, it is advisable to do so by means of a user agreement registered with the Registrar of Trademarks. Otherwise there is a danger that the validity of a trademark may be lost.<sup>64</sup> This is true even if the licensee is the subsidiary of the regis-

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<sup>62</sup> Income Tax Act, 1952, Section 139.

<sup>63</sup> The Registered Designs Act, 1949, Section 7.

<sup>64</sup> Failure to register, however, will not necessarily invalidate the trademark if use by the licensee has not resulted in the loss of distinctiveness in the trademark. See *Bostitch Inc. v. McGarry & Cole Ltd.*, 1963, R.P.C. 183.

tered proprietor.<sup>65</sup> The initial period of registration for a trademark is seven years, but it may be renewed from time to time after that period without limit for additional periods of fourteen years each.

In theory, the income of a nonresident licensor of United Kingdom trademarks is liable to income tax as income from property in the United Kingdom. There is no authority directly on this point, but by analogy with cases on other statutory industrial property rights, it seems indisputable that trademarks are "property" for this purpose.<sup>66</sup>

In practice, the Revenue does not attempt to assess trademark royalties that are paid to a nonresident licensor. Presumably this is because there is no convenient machinery for collection of the tax. The Revenue takes the view that trademark royalties are not normally annual payments for the purpose of the withholding procedure that has been described above. This view is probably correct, since trademark royalties are not normally "pure income profit" in the hands of the recipient, but are revenue receipts of his trade.

If there is an agent in the United Kingdom who collects the royalties on behalf of the licensor, the licensor could be assessed in the agent's name.<sup>67</sup> But this normally does not help the Revenue because the licensee paying the royalties will clearly not be the "agent, receiver, branch or manager" of the licensor in whose name an assessment might otherwise be made.

Where there is no relief available under a double taxation convention, two steps can be taken to strengthen the argument that trademark royalties are not taxable. The first is to provide that the royalties shall be payable by the licensee at some bank outside the United Kingdom. This will prevent any argument that they are collected by an agent in the United Kingdom. Secondly, it is advisable to base the royalties on some quantum of use, such as net sales, rather than to make them annual payments of a fixed amount. This will strengthen the argument that the royalties are not annual payments for the purposes of the withholding procedure.

The expenses of registration or renewal of a trademark are deductible, but as in the case of these expenses for a registered design, this deduction normally will not be relevant to the nonresident licensor.

Most of the tax treaties which have been concluded by the United

<sup>65</sup> There is no provision in the United Kingdom trademark law similar to Section 5 of the U.S. Trademark Law, 1946.

<sup>66</sup> See *Curtis Brown Ltd. v. Jarvis*, 14 T.C. 744 (Copyright); *Internal Combustion Ltd. v. C.I.R.*, 16 T.C. 532 (Patent); and *I.R.C. v. Rolls Royce Limited*, (No. 1) 29 T.C. 14 (Patent).

<sup>67</sup> See *supra* p. 8, last paragraph.

Kingdom specifically state that royalties or other sums paid to a non-resident for the use of the United Kingdom trademarks will be exempt from United Kingdom tax. Under the treaty with the United States, the conditions necessary to obtain this relief are the same as for payments for patents. But this relief will not often be relevant. The United Kingdom licensee should pay trademark royalties in full, even if no application for relief has been made, because the withholding procedure does not apply to trademark royalties. The treaty relief will, therefore, be relevant only in exceptional circumstances where, for example, a direct assessment could otherwise be made on the non-resident licensor.

### *Know-How*

Know-how is not a term of art in English law. For the purpose of this article it is used to mean confidential and secret data relating to machines, processes, designs and inventions and any other secret information pertaining to the means of manufacture or trading, which amounts to something more than the mere skill or experience of technical employees. Information will be secret in this sense, even if some competitors or others know it, provided that it is not generally available to those who might want to acquire it. It is firmly settled that a person who reveals know-how to another in such circumstances that an obligation of confidence is imposed will be substantially protected if the other uses the know-how without his consent.<sup>68</sup> This will be the case even if there is no contractual relationship. The protection is given as a result of the breach of confidence. An obligation of confidence will be found where, for example, know-how is given by a manufacturer to a sub-contractor or an intended licensee.<sup>69</sup>

There is a fundamental difference between the license of industrial property rights that consist of know-how and the license of other types of industrial property. The latter is the voluntary waiver of pre-existing statutory rights which give a monopoly that is good against all others (except in the case of copyright, against an innocent, independent creator). The owner of know-how has no pre-existing rights against third parties; he merely has information which is not known to them. He cannot prevent third parties using that information if they can acquire it legally, for example, by their own research or by inspec-

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<sup>68</sup> *Saltman Engineering Co. Ltd. v. Campbell Engineering Co.* (1948) 65 R.P.C. 203.

<sup>69</sup> For recent examples of the application of this principle see *Ackroyds (London) Limited v. Islington Plastics* (1962) R.P.C. 97 and *Peter Pan Manufacturing Corporation v. Corsets Silhouette Limited* (1964) 1 W.L.R. 96.

tion of an item manufactured and sold by him. The licensor of know-how, therefore, reduces the secrecy surrounding his know-how and as a result he acquires rights against the recipient of the secret information.

There is no clear authority as to what is the correct treatment for tax purposes of sums paid to a nonresident for the right to use his know-how. In the past such sums usually have created no problem. In practice, the United Kingdom Revenue normally does not assess royalties for the use of know-how payable to nonresidents. The reasons for this practice are the same as in the case of trademark royalties. Sums payable for the right to use know-how usually are not regarded as pure income profit in the hands of the recipient, but as his trading income; and therefore, the withholding procedure described above will not apply. Secondly, there is usually no agent of the nonresident in the United Kingdom in whose name he can be assessed. As a result, it is not often of concern to the nonresident licensor whether the correct analysis of these payments is that they are royalties for the use of property or for technical service fees. Nor has it been material for the payor who usually can claim a deduction in either event.<sup>70</sup> But this may not always be so in the future. As will be discussed later, "close companies" will not be able to deduct for the purpose of the corporation tax royalties that are paid to members for the use of intangible property.

There seem to be two alternative grounds on which payments for the use of know-how can be assessed. Such payments are either income from property within the United Kingdom, or alternatively, income from services which will be taxable if performed within the United Kingdom. Which is the correct analysis depends upon whether know-how is "property" for the purposes of the Income Tax Acts, and if so, how that property is utilized when licensed.

In cases where improper use of know-how has been claimed, the courts have generally avoided any discussion as to whether know-how creates proprietary rights. Decisions in these cases have normally been based on whether the know-how was acquired in such circumstances that a confidential relationship was created, and if so, whether there was a breach of the confidence imposed by that relationship.

The judgments of the House of Lords<sup>71</sup> in four tax cases have discussed the treatment of sums paid on the disposal or license of know-how. Each case considered whether lump sum payments made to a person resident in the United Kingdom constituted revenue receipts or receipts in the nature of capital.

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<sup>70</sup> See *Paterson Engineering Co. Ltd. v. Duff*, 25 T.C. 43.

<sup>71</sup> The House of Lords is the highest court of appeal in the United Kingdom.



The first case is *Handley Page v. Butterworth*.<sup>72</sup> The point at issue was whether the aircraft designer, Mr. Handley Page, was taxable in respect of compensation paid by the United Kingdom Government for wartime use of his designs. The compensation had been paid to Handley Page Limited, a company of which Mr. Handley Page was Managing Director and the major shareholder. The designs were not registrable and were not covered (except as to minor details) by patent protection. As a result of the wartime use, the designs had become common knowledge. Two questions were at issue. Were the payments in the nature of capital receipts? And secondly, were they received by the company as agent for Mr. Handley Page? Lord Tomlin in the unanimous opinion of the House of Lords stated:

In such a design there is no legal monopoly or property. There is property no doubt in the drawings and plans in which it is embodied, and if the design is kept secret, it may be protected by those remedies which are available against breaches of confidence.

These remarks cannot be regarded as definitive. Notwithstanding his denial of any property, Lord Tomlin concluded that the payments were in the nature of capital receipts, and hence presumably (although he did not actually say so) were payments made in respect of the disposal of a capital asset. Furthermore, the alternative reason for his decision was that the company did not receive the payments as agent for Mr. Handley Page.

The second case is *Evans Medical Supplies Limited v. Moriarty*.<sup>73</sup> The company was a pharmaceutical manufacturer with worldwide sales and in particular with sales in Burma handled through an agency. After the Second World War it became apparent that the Burmese Government intended to set up its own manufacturing plant. The company successfully bid for the contract to supply the Burmese Government with the necessary know-how to erect a plant and commence manufacture of certain pharmaceutical products. The company received a lump sum payment of £100,000 in consideration for the disclosure of secret processes relating to the storing and packing of certain of the products as well as for the disclosure of other information that, although known to some competitors, was not common knowledge. By a majority of three to two, the House of Lords held that no part of the lump sum was taxable. Two of the judges giving the majority decision based their decision on the grounds that the know-how was a capital asset, and that by entering into the transaction the company had realized a considerable part of the capital value of that

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<sup>72</sup> 19 T.C. 328

<sup>73</sup> 37 T.C. 540.

asset. Lord Denning, who was the third member of the majority, based his decision on totally different grounds. He considered that, although the know-how was a revenue producing asset, no part of it was disposed of since the company retained full right to use the know-how as before. He likened the transaction to the instruction of a pupil by a professional man and thus as an agreement to provide services. Nevertheless, he held that the lump sum was not taxable on the narrow ground that it arose from a new trade and not the existing trade assessed by the Revenue. A fourth judge held that the receipt was taxable to the extent that it was allocable to the acquisition of information other than the secret processes. The fifth judge found the receipt was wholly taxable as a profit arising from the exploitation of the know-how in the course of the existing trade, but he did not attempt to analyze whether the exploitation took the form of sale of parts of the asset or for the provision of services.

The *Evans* case is difficult to apply because it is difficult to ascertain a common *ratio decidendi* of the judges. Nevertheless, it is clear that all five members of the House of Lords regarded the know-how as property; the only difference of opinion was as to whether it was exploited in the course of trade or whether it was in part sold in a capital transaction.

The next case is *Jeffrey v. Rolls-Royce Limited*.<sup>74</sup> The company was a manufacturer of aero engines and had acquired a considerable fund of know-how in relation to their manufacture. After the Second World War the engines were used in the military aircraft of many countries throughout the world. Frequently, the company considered that the only method of getting its engines adopted in a certain market was by arranging for local manufacture by a licensee. For example, it entered into license agreements with governments or manufacturers in the Republic of China, France, the United States, Australia, Belgium, Argentina and Sweden. The agreements commonly provided that in consideration of a lump sum payment, the company undertook to supply the licensee with drawings and information necessary for the manufacture of certain of its engines.

All five judges in the House of Lords regarded the know-how involved as a capital asset of the business. But they held that all the lump sums were trading receipts arising from the exploitation of that asset in the course of the company's trade. They did not consider that the company had parted with any capital asset, but that it was trading with its know-how in the most advantageous, and in some countries the only,

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<sup>74</sup> 40 T.C. 443.

way open to it. What is interesting is that two of the judges specifically likened the sums to awards for teaching, that is to say to fees for services rendered. This approach is best exemplified by the judgment of Lord Radcliffe.<sup>75</sup>

First, as to "know-how." I see no objection to describing this as an asset. It is intangible: but then, so is goodwill. . . . "Know-how" is an ambience that pervades a highly specialized production organization, and, although I think it correct to describe it as fixed capital so long as a manufacturer retains it for his own productive purposes and expresses its value in its products, one must realize that in so describing it one is proceeding by an analogy which can easily break down owing to the inherent differences that separate "know-how" from the more straightforward elements of fixed capital. For instance, it will be wrong to confuse the physical records with the "know-how" itself, which is the valuable asset, for, if you put them on a duplicator and produce one hundred copies, you have certainly not multiplied your asset in proportion. . . . Whatever else the lump sum or capital sums payable under the agreement are paid for, it is not for a license in the ordinary sense: it is for the making available, the imparting, of the "know-how," both as recorded in the drawings and other data and as conveyed by direct instruction, advice and information. . . . No doubt the things to be supplied are tangible objects; but then, so are textbooks, formulae or recipes. The company is teaching at long range.

The fourth and most recent case is *Musker v. English Electric Co. Limited*.<sup>76</sup> The company, at the request of the British Government had entered into licensing agreements with the government of Australia and the Glenn L. Martin Company in the United States for the manufacture of the Canberra bomber. These agreements provided for the payment of lump sums of £200,000 and \$1,500,000, respectively, in consideration for the supply by the company of the manufacturing techniques, engineering data and other information necessary for the manufacture of the aircraft. The lump sums were again treated as taxable receipts. All the judges except one (who merely stated that the case was covered by *Jeffrey v. Rolls-Royce Limited*) agreed that the transaction was in reality the teaching of the licensee by the company. In the words of Lord Donovan<sup>77</sup> the company

has taught for reward, as Rolls-Royce taught for reward; and just as that reward was held to be trading income in the hands of Rolls-Royce, so also must the reward accruing to the company.

To summarize these cases, it would seem that know-how is an intangible asset which can be turned to a profit by the manufacturer

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<sup>75</sup> 40 T.C. 443, at p. 493.

<sup>76</sup> 41 T.C. 556.

<sup>77</sup> 41 T.C. 556, at p. 587.

in two ways. He can use it himself in the manufacture of goods for sale at a profit, or he can teach it to others when his fees and rewards will be revenue in his hands. A lump sum received on the disposal of know-how by a manufacturer or other owner will normally be a capital receipt only if the manufacturer no longer retains the right to use the know-how. A lump sum may also be a capital receipt if in an isolated case the know-how is disposed of with a business carried on in a particular territory, and the seller of the business is precluded from using the know-how in that territory.

Where a nonresident licensor grants a manufacturer in the United Kingdom the right, whether exclusive or non-exclusive, to use his know-how in the United Kingdom, but otherwise retains the know-how for his own benefit, any sums received by him will be rewards for services rendered, and not income from property used in the United Kingdom. Consequently, the liability of the nonresident to assessment of income tax will depend upon whether any of those services are rendered in the United Kingdom. If all drawings and other written data are made available to the licensee outside the United Kingdom and all instruction of the licensee's employees takes place at the licensor's premises in the United States or elsewhere outside the United Kingdom, there would seem to be no grounds on which an assessment can be made on the licensor.

Although a lump sum payment in the hands of a licensor will usually be regarded as a payment for teaching services rendered, it will not necessarily be a deductible revenue expense of the United Kingdom licensee. As a result of the instruction the licensee receives, he will obtain know-how which may become a capital asset of his business. This would certainly seem to be the case where the licensee is entitled to retain and use the know-how at the end of the license period. Therefore, a lump sum payment for know-how will be treated normally as a nondeductible capital payment. There will be no means whereby the licensee can depreciate that payment. Thus, if the licensor insists upon a lump sum payment, it may be in the interests of the licensee to allocate the lump sum specifically to any patent rights that may be involved. As has been described, a capital sum paid for the acquisition of patent rights can be depreciated.

The tax treaty with the United States and with most of the other countries specifically gives relief in respect of royalties and other sums paid for the use of "designs, secret processes and formulae." The conditions for relief under the treaty with the United States are the same as for relief in respect of patent royalties. This relief, like the

relief in respect of trademark royalties, will not often be relevant to the United States licensor. In any event, royalties for the use of know-how are payable in full without deduction of tax.

#### PROFITS TAX

Until recently, nonresident companies carrying on business in the United Kingdom were liable to profits tax at the rate of 15 percent. Thus, in the exceptional case where the income of a nonresident licensor was attributable to a branch in the United Kingdom, that income would have been liable to profits tax. However, as a result of the new corporation tax (described later) profits tax will not apply to any profits earned after April 6, 1966,<sup>78</sup> and, therefore, this tax will not be discussed in further detail.

#### CAPITAL GAINS TAX

The United Kingdom has recently introduced a capital gains tax on any gains arising on the disposal of an asset after April 5, 1965.<sup>79</sup> Only so much of the gain as is attributable to the period after that date will be taxable. A nonresident will be liable to this tax only on gains arising from the disposal of assets located in the United Kingdom and used in a trade carried on there through a branch or agency. This tax, therefore, will be of concern to the nonresident licensor only in exceptional cases.

Where the taxpayer is a corporation, the gain will be charged to the corporation tax discussed below. An individual will be liable to the capital gains tax at the rate of 30 percent unless his total capital gain for the year is less than £5,000, in which event he may elect to be taxed at half his marginal rate.

#### CORPORATION TAX

A nonresident company will be liable to the new corporation tax if it is carrying on trade in the United Kingdom through a branch or agency.<sup>80</sup> The rate of this tax has not yet been announced, but will probably fall between 35 and 40 percent. It will be chargeable on the trading profits arising from the branch or agency of the nonresident company and on any income from any property or rights used or held by the branch or agency.<sup>81</sup> Thus, where a corporate nonresident licensor has a branch establishment in the United Kingdom which itself uses the industrial property rights licensed to the United Kingdom

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<sup>78</sup> Finance Act, 1965, Section 46 (3).

<sup>79</sup> Finance Act, 1965, Section 19-45.

<sup>80</sup> This tax is introduced by the Finance Act, 1965, Sections 46-89.

<sup>81</sup> Finance Act, 1965, Section 50.

licensee, its license income will be subject to the corporation tax. Where a nonresident licensor is chargeable in this manner and receives income, such as patent royalties, subject to deduction of income tax, that income tax can be set off against its liability to the corporation tax.

It will probably be the unusual case in which the nonresident licensor is chargeable to the corporation tax as described above. An aspect of the corporation tax which will be of more frequent relevance for the nonresident licensor will be the deductibility of royalties by the licensee. There are three circumstances in which a corporate licensee may find that royalty payments are not deductible. The first is merely a transitional problem; the second will probably be removed by amending legislation; and the third will arise only if the licensee is a close company.

The transitional problem arises from the fact that payments, such as patent royalties, that must be made after deduction of tax under the withholding procedure will not be deductible for the corporation tax if paid before April 6, 1966.<sup>82</sup> The problem is that many, if not most, companies carrying on business in the United Kingdom will be subject to the corporation tax on accounting periods commencing before that date.<sup>83</sup> Admittedly, the licensee will sometimes get an effective deduction because it will be withholding tax for which it will not have to account to the Revenue.<sup>84</sup> However, where the licensee does not have sufficient income to cover the payments or where a tax treaty applies and the payments must be made in full, they will be non deductible if paid prior to April 6, 1966, but in an accounting year in which the licensee is subject to the corporation tax.

Insofar as the licensee is concerned (and subject to what is said in the next paragraph), an effective method of overcoming this transitional problem may be to delay payment of patent royalties until April 6, 1966 or later. The deductibility of patent royalties will not be on the accrual basis, but will be strictly on the basis of actual payments made in the accounting year. It must be emphasized that this problem only arises in respect of royalties which are paid subject to the deduction of tax under the withholding procedure, or would be so paid if it were not for a tax treaty. The problem, therefore, does not arise in respect of trademark or know-how royalties.

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<sup>82</sup> Finance Act, 1965, Section 52 (1).

<sup>83</sup> In the normal case a company will be liable to the corporation tax on its earnings in its first complete accounting period after April 5, 1964.

<sup>84</sup> On or after April 6, 1966, the licensee withholding tax at source will be required to account to the Revenue.

Payments such as patent royalties that are made after April 6, 1966 and that must be made subject to the withholding procedure will not be deductible for the corporation tax unless the payor deducts tax and accounts to the Revenue for the tax deducted. No provision has been made to cover the situation where the licensee is required by a tax treaty to make the payments in full.<sup>85</sup> Thus, it would seem that as the law now stands many licensees will lose the right to deduct patent royalties for the purposes of the corporation tax if the licensor has obtained exemption from United Kingdom tax under a tax treaty. It is understood, however, that the United Kingdom Revenue intends to introduce amending legislation or regulations permitting deductions in these circumstances.

If a corporate licensee is a close company, any royalties or other consideration paid for the use of intangible property paid to a member of the close company will be treated as a dividend distribution.<sup>86</sup> As a result the royalties will not be deductible and, subject to any relevant tax treaty provision, will be subject to a withholding tax at the rate of 41.25 percent. It is beyond the scope of this article to consider in detail the definition of a close company. Briefly, a close company is a company which is under the control of five or fewer members.<sup>87</sup> Family groups are treated as one, as are partners and certain trustees and beneficiaries. Persons who can control the company or who have an option to acquire shares will be treated as members. Where a company is under the control of one or more companies, it will be a close company only if those companies are themselves under the necessary degree of close control. Any licensor who receives patent or trademark royalties from a United Kingdom company of which it is a member, therefore, should investigate whether its licensee is a close company. If it is, one solution may be to transfer the license agreement to a sister subsidiary which does not directly control the United Kingdom licensee.<sup>88</sup>

Royalty payments made by a close company to a member will not be deductible if they are "for the use of property." Copyright in a literary, dramatic, musical or artistic work is specifically excluded from

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<sup>85</sup> See Finance Act, Section 52 (5) and 53 (5).

<sup>86</sup> Finance Act, 1965, Schedule 11, Paragraph 9 (1) (c).

<sup>87</sup> Finance Act, 1965, Schedule 18. In fact, the statute reads in terms of control by five or fewer "participators," a term defined to include not only shareholders, but loan creditors, persons entitled to become shareholders and certain other persons.

<sup>88</sup> In most circumstances, such transfer would give rise to U.S. tax implications that would have to be evaluated before a decision was made to effectuate the transfer.

"property" for this purpose. Royalties paid for the use of patents, trademarks or registered designs are clearly covered. But if the analysis of payments for the right to use know-how made earlier in this article is correct, royalties for the right to use know-how should be deductible. They are not royalties for the use of property, but payments for teaching services rendered. They should, therefore, be deductible as ordinary revenue expenditure. It must be emphasized, however, that although this proposition appears to follow from the previously discussed decisions of the House of Lords, there is no direct authority for it at this time.

#### CONCLUSION

The United Kingdom tax law relating to patent royalties and other sums paid for the use of or on the sale of patents is well developed. Nevertheless, in view of the extensive range of tax treaties concluded by the United Kingdom, the licensor resident in the United States, or in one of most other developed countries, will not be affected often by any United Kingdom tax liability. The law relating to the taxation of royalties and other sums paid in respect of trademarks and know-how is less well developed. But this is usually to the advantage of the non-resident licensor, since the lack of development chiefly consists in the failure to apply an effective method of collecting tax from nonresidents in respect of income from these types of intangible property. The major practical problem which is likely to concern the nonresident licensor is the deductibility by the licensee of patent and trademark royalties for the purposes of the new corporation tax.



# Employee Creativity and Organizational Aims\*

IRVING H. SIEGEL\*\*

## SUMMARY

**A**CHIEVEMENT OF A SUSTAINABLE, mutually beneficial rapport between the largely self-oriented creative employee and the essentially profit-oriented or service-oriented organization is a continual, many-faceted challenge to research management. It is always tempting for such management to seek a lasting answer in one or another major administrative improvement, like the design and installation of a special system of awards for inventive disclosures or patents. But more or less successful "enculturation" of the creative employee doubtless requires that attention be paid recurrently, if not steadily or regularly, to a host of other matters in addition to direct motivation and specific compensation of inventive behavior. Among these matters of coordinate importance are an appreciation of the nature of creativity and its real uses in the organization, the establishment and maintenance of a favorable professional atmosphere, and the careful selection, assignment, blending, direction, remuneration, and advancement of all innovation-related personnel (creative and other).

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### *The Topic*

**T**HIS PAPER CONSIDERS the place of inventive behavior in technically based private and public enterprises, especially those not dedicated primarily to education or to the promotion of knowledge (e.g., through "basic research"). It takes account of some of the relevant new literature and also reflects the writer's own experience in interdisciplinary and other research organizations. A subsequent paper, on rewarding employee inventors, will take advantage of the background here provided.

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\* This paper was used for a talk by the author on "Problems of Existing Employee-Inventor Plans and Potential New Approaches" at a dinner meeting of the New Jersey Patent Law Association, Newark, October 21, 1965.

\*\* Dr. Siegel is a principal consultant to The PTC Research Institute. He is a member of the Senior Research Staff of the W. E. Upjohn Institute for Employment Research, which shares no responsibility for views expressed here.

Our subject is a familiar and important one. It has attracted increasing and widespread attention since the end of World War II, with the emergence of research and development as an explicit organizational activity underwritten by billions of dollars of annual private and public expenditures. According to a new estimate by Battelle Memorial Institute, the total 1966 outlay for such activity will amount to about \$23 billion.<sup>1</sup> The Federal component, which exceeds two-thirds of this total, is expected to continue to rise in absolute terms. By fiscal year 1975, according to a McGraw-Hill projection, the Federal share will reach or exceed \$20 billion, with private organizations remaining the principal sites at which the actual work is performed.<sup>2</sup>

For good reason then, our topic has enlisted the interest of several staff members of The PTC Research Institute and many outside contributors to Institute programs. It has been treated in other articles and from other standpoints in *IDEA*; in various Annual Public Conferences of the Institute; and in the seminar on the employee inventor arranged and conducted by the Institute as part of the 175th Anniversary Symposium on the United States Patent System, held in April 1965.

### *Creativity as Slogan and Resource*

Three points should be made at the outset concerning the demand for, and the role of, employee creativity in mission-oriented organizations:

1. Not every organization seeks or requires technical creativity for the accomplishment of its master objective of, say, making profit or (as in the case of a government, foundation, or nonprofit organization) rendering well-defined services to its clients.

2. A longer-run or "higher-system" assessment by outsiders of the prospects and opportunities of such mission-oriented organizations may often indicate a need for more creativity than the managements in charge actually seek; but a judgment of this sort may incorporate debatable or faulty estimates of costs and returns (especially "costs of change"), and the voicing of it does not prove that the responsible leaders are guilty of "complacency" or "lack of vision."

3. Even in organizations that depend on technical creativity for the achievement of shorter-range objectives and longer-range potentials, dilution and supplementation with other attributes is required for staff balance and for relevant functionality.

These observations, which will be amplified in the discussion that

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<sup>1</sup>*Washington Star*, December 5, 1965.

<sup>2</sup>"Lab Focus Changing as Funds Shift," *Business Week*, December 4, 1965, p. 47.

follows, may be inconsonant with impressions derived from company advertisements for personnel, from the popular identification of technological novelty with economic growth and other national desiderata; and from the voluminous literature on the human problems of modern management. Our attempt, however, to discriminate fact from fashion and fiction cannot diminish the significance of our topic. The hoarding, maldistribution, and misapplication of scarce creativity are economically and otherwise undesirable—although, as in the case of other limited resources, the supply of creativity may also be more expandable than is commonly realized. Since the tapping of “hidden reserves” of employee creativity depends, in part, on the quality of personnel management, we should note that good personnel management too is a relatively scarce resource. Obviously, a system of bootstraps is not a system of pulleys; it is easier to transform the problem of effective utilization of creativity into an equally perplexing management problem than to solve the original problem once and for all.

Something must be said about definitions before we proceed further. Many notions of “creativity” flourish in the literature; but, for our purpose, it would seem that there is sufficient agreement on essence despite disagreements on instances. A psychologist prominent in research on creativity acknowledges his inability “to find a definition for which there was any sort of consensus.” He further remarks: “Some definitions are formulated in terms of a product (invention and discovery, for example); others, in terms of a process, a kind of person, or a set of conditions.”<sup>3</sup> A geochemist has properly added that “in discussions of creativity most authors emphasize what is often the spectacular phase—illumination.”<sup>4</sup>

After consideration of alternatives and limitations, we may safely adopt this working definition of *creativity*: a disposition or ability to discover significant novel facts or principles or to generate significant novel ideas, distinctions, or combinations.<sup>5</sup> This concept applies in the first instance to individuals, but it is also extensible to a team or a larger aggregate. In a company environment, the novelty is usually expected to take the form of a process or product model that appar-

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<sup>3</sup>E. P. Torrance, “Scientific Views of Creativity and Factors Affecting Its Growth,” *Daedalus*, Summer 1965, p. 663.

<sup>4</sup>P. H. Abelson, “Group Activity and Creativity in Science,” *ibid.*, p. 604.

<sup>5</sup>Our concept of creativity is deliberately broad enough to accommodate both scientific and technological novelty. These two varieties emphasize different individual attributes, even as the pursuit of personally determined research objectives entails somewhat different creative abilities from those required for accomplishment of research tasks designed by others. (More will be said on these points later in this paper.)

ently will satisfy a stringent legal criterion of merit and preferably has economic promise too. Corporate employment agreements, however, are not restricted to patentable contributions or to the output of the research department.<sup>6</sup> Even in Government laboratories, the prospect of effective use is often a weighty factor in project selection or continuation. Finally, different orders of creativity may properly be identified for particular inquiries; and creativity is a composite of more elemental attributes, a fact important for efforts at enhancement through incentives or training.

An individual who is hired to invent is also expected to flash repeatedly, to give recurrent demonstrations of his special capability. Where a team is regarded as the inventive unit, the employer welcomes maximum participation by team members in the active quest for, and in the positive achievement of, research results. Thus, we come to our second definition—of *productiveness* as the realized rate of novelty flow. More specifically, productiveness refers to: (1) the frequency with which creative performance is manifested by individual employees and (2) the coefficient of fruitful participation by project members in group invention.<sup>7</sup>

From the management standpoint, the typically desired complement of creativity and productiveness is a special quality of the output—*exploitability* for practical use. Application often requires additional efforts, which tend to be regarded as creative in the business world even though they may not involve genuine novelty of a technical character. Schumpeter used the word *innovation* for initial successful exploitation of a beneficial process or product, and the word *imitation* for competitive diffusion by followers. Economic progress and growth depend more visibly on the latter, on extensive application, than on the former, mere introduction. Finally, we use *inventive behavior* here as a general term that can embrace the whole spectrum of activity from the generation of an idea to ultimate practical embodiment; it is obviously broader than creativity.

Government officials in the Executive and Legislative Branches, feeling a "higher-system" responsibility for the impact of public outlays on the general welfare, often press for the diffusion of technological benefits. Thus, proposals for revision of Federal patent policy and for more

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<sup>6</sup>See, for example, the sample forms provided in J. R. O'Meara, *Employee Patent and Secrecy Agreements*, National Industrial Conference Board, New York, 1965, pp. 74-87.

<sup>7</sup>A former Presidential adviser on science and technology proposes a distinction between "creativity" and "productivity" that differs from ours. See. J. B. Wiesner, "Education for Creativity in the Sciences," *Daedalus*, Summer 1965, p. 528.

effective dissemination of technical information emerging from publicly financed research and development ventures (e.g., in the fields of defense, space, and atomic energy) emphasize imitation, the broadening of the base for exploitation of novelty.

Organizations committed to profit-making or to client satisfaction for survival and growth cannot easily tolerate or uninhibitedly support within their walls a "disjunction" between the quest for knowledge and the use thereof. They have to subordinate inquiry to their organic purpose even if they are alert to the longer-range advantages promised by a somewhat freer research atmosphere and by the special treatment of outstanding technical employees. Much of the writing on creativity, being concerned with the nature of the concept and with incentives and hospitable conditions, leaves the organizational context obscure or refers explicitly to the encouragement of "science" (rather than the pursuit of, say, profit through advancement of "technology"). In industrial research departments and mission-oriented Government agencies, aiming at preassigned targets is preferred to open-ended problem-solving and tangential knowledge acquisition.

The success with which ideas progress toward application reflects the interests and quality of management even more than the will and ability of any inventive employee or team. Company leaders favorably disposed toward technical innovation must be able to discern the potential value of novelty, to learn the "new" way and unlearn the "old" way, to select alternatives that will prove economically or instrumentally superior, to guide development (in an engineering sense) of these alternatives, to estimate future costs effectively in the face of uncertainty, to gauge market prospects adequately. Such are the qualities they need in addition to a general technical inclination and an ability, in the first instance, to establish an internal environment that is conducive to extensive and repeated generation of novelty.

Thus, the pursuit of profit or other key objectives does not automatically or naturally inspire the improvement, diversification, or substitution of processes, materials, and product lines. The speculative benefits derivable from innovation may not beckon all managements as strongly as the more certain benefits expected from routine operations. In short, we should not take for granted the receptiveness of all organizations to technical activity, their capacity to utilize it extensively and effectively, or their ability to exploit happy accidents that could lead away from familiar paths (including familiar technical paths). Company advertisements for scientists and engineers have doubtless encouraged a wrong opinion that industry is enthusiastically organizing safaris of serendipity.

It would surprise many people who regard themselves as generally well-informed to learn that only a trivial fraction of the population of industrial firms is actually engaged in formal research and development activity. The data are widely accessible, but more glamorous conclusions are usually drawn therefrom. According to a standard report of the National Science Foundation published in 1964, only 10,300 manufacturing firms and 1,500 nonmanufacturing companies had such formal programs in 1961. Most of these organizations had fewer than 1,000 employees, and a small number of sizable ones accounted for the great bulk of the private financing and of the Government contract work.<sup>8</sup> But the important point here is that the reported total number of research-oriented organizations represented only a tiny portion of the universe of firms, and these organizations certainly constitute the principal source of non-academic demand for creative personnel.

Another mistaken opinion that is probably widely shared concerns the frequency of establishment of a small viable firm on a strong technical base, especially around a patent nucleus. Institute studies conducted several years ago under the writer's direction and reported in *IDEA* showed that relatively few existing little companies were actually organized around patents in various sampled industries known to be favorable to small-scale operations (e.g., custom heat-treating, scientific instruments, aluminum processing, and fabricated plastic products). These findings, of course, do not deny the well-publicized Cinderella stories concerning the exceptional new companies founded, say, by refugees from academia with a pocketful of visions and promissory notes. The same Institute studies of the role of patents among other factors in the establishment and evolution of small firms revealed a heavy general reliance on "know-how," but the creative content of this kind of proprietary knowledge is not certain. Importance to the possessing firm is not the same as uniqueness, and it need not mean that reproducibility by an intent competitor would require much creative talent.

Reports of the Small Business Administration and the Senate Select Committee on Small Business also testify to the difficulty of giving a technological face to a small company that does not already have one—and most such companies apparently do not, in view of what has already been said. Negligible advantage has been taken to date of Section 9 of the Small Business Act of 1958, which allows establishment of intercompany research pools with immunity from antitrust prosecu-

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<sup>8</sup>National Science Foundation, *Research and Development in Industry: 1961* Washington, 1964, especially pp. 19-21.

tion. As in the case of Webb-Pomerene export trade associations, energetic promotional efforts on the part of Government seem required to motivate small firms in directions officially determined to be in their own, and in the public's, long-range interests. It is also pertinent to add here that Small Business Administration reported only \$385,000 of administrative expenses in calendar year 1964 for all efforts devoted to "research and development and products assistance"—about one-ninth of the administrative outlays of \$34 million for all the agency's activities. It would be wrong to conclude that the agency was not eager.<sup>9</sup>

Even companies that do have a positive technological image, that do engage in formal research and development work, tend to exaggerate their needs for creative talent. The word "creativity" has become an "O.K. word" for a quality of good repute that is not always used effectively and cannot be employed in unlimited degree. The technical personnel shortages about which we have heard so much in recent years are not necessarily equivalent to shortages of technical people who are also significantly creative. Most of what is called "research and development," especially in industrial settings, is really "learning" or "education." It refers to the distribution of knowledge much more often than to significant creation. No disparagement is intended, of course, in this recognition of the typical emphasis of business firms (and of many public organizations, too) on the mastery, for their own purposes, of scientific and engineering principles already established at another time, at another place, and by other persons. Indeed, research programs of firms frequently overlap in some degree, and this duplication of company learning is as notable a phenomenon as "multiple discovery" by independent individual investigators, a subject to which sociologists and other students of invention have devoted much more attention. While the acquisition and adaptation of "old" knowledge for organizational purposes need hardly be routine, a lesser order of creativity would nevertheless seem to be required as a rule than for the generation of "new" knowledge, for the winning of secrets from nature that are new to mankind.<sup>10</sup>

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<sup>9</sup>See Small Business Administration, *1964 Annual Report to the President and Congress*, Washington, 1965, p. 84; and Select Committee on Small Business, U. S. Senate, *Fourteenth Annual Report*, 88th Cong., 2d Sess., Rept. No. 1180, July 9, 1964. Only one example of a "research, development and production pool" is cited in the SBA report's very brief discussion of legally sanctioned "small business pools" (p. 47).

<sup>10</sup>On this paragraph, see two papers by I. H. Siegel: "Scientific Discovery, Invention, and the Cultural Environment," *PTC J. Res. & Ed. (IDEA)*, Vol. 4, No. 3 (Fall 1960), pp. 233-248; and "Appropriate Government and Private Research Roles in a Mixed Economy," in R. A. Tybout, ed., *Economics of Research and Development*, Ohio State University Press, 1965, pp. 268-287.

*Understanding, Encouraging, and Supplementing Creativity*

We turn now from organizational aims to internal administration. The inhouse challenge to management is complex and inescapable. Whatever delegation of decision-making to machines and systems becomes possible with the advancement of managerial arts, organizations still require critical face-to-face confrontations, and the price of evasion and of failures in indoctrination can become intolerably large. Management has to appreciate the nature of creativity and creative people, to provide the general and specific conditions conducive to the productiveness of exploitable novelty, to blend staff skills in a way that assures advancement of the master purpose. Management has to achieve and maintain a constructive dynamic balance of internal tensions and, at the same time and by so doing, significantly satisfy the pertinent demands of external environment.

The helpful literature is vast, and the aspects inviting consideration are numerous. To communicate adequately what is involved yet avoid wrestling with too untidy and unwieldy a package, we present in this section three authoritative summary statements and a few additional observations. In the next section, some gleanings from recent literature will underscore and elaborate comments made in the following paragraphs and in the earlier part of this article.

First, we refer to a paper addressed to executives by a specialist in industrial mental health. The challenge to management is described by him as follows:

The task of the manager is to organize people and processes into increasingly predictable activities. Regularity, control, efficiency, ordinarily are his watchwords. But the nature of science is that discovery is unpredictable, and the manager whose task it is to reduce various forms of rebellion must facilitate a form of rebellion and encourage those who foment it by creating and maintaining a climate conducive to scientific productivity.

He notes the importance of recognizing the scientist's "dual loyalties" to the employer and the professional community. He further counsels the manager to (1) "reject the assumption that the scientist is odd"; (2) "set up a reward system which fits the scientist's values"; and (3) "give careful attention to supervision" (including allowance for project failure). Among the "values" included in the second point are: greater autonomy in choice of projects for senior scientists, more challenging assignments, opportunity for association with high-caliber colleagues in a "creative intellectual atmosphere," recognition of productive performance, provision of merit salary increases and status pro-



motions, and availability of parallel ladders of "research" and "administrative" advancement.<sup>11</sup>

At a seminar on "The Creative Organization" held at the University of Chicago in 1962, a psychologist-social scientist considered ways in which creativity could be promoted. He focused on three factors of central importance: (1) the "distribution of authority," (2) the provision of the organizational "slack" for "error absorption," and (3) the use of internal "communication facilities for the diffusion of innovative ideas." His (originally italicized) summary statements are assembled here from different parts of his paper:

Organizations exhibit simultaneous demands for routinization and for innovation. The balance of these countervailing pressures determines the organization's climate for the creative member.

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A dispersed distribution of authority within a firm provides more occasions for innovation, creative decision-making, especially when the decentralized unit exists within a diversified firm and possesses relatively objective criteria in terms of which its output may be appraised.

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The greater the organizational slack [flexibility], with its increased capability of absorbing errors and ethos for risk-taking, the greater the propensity for innovation.

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The communication system of an organization may be tuned so as to provide materials for creative activities without depriving members of the organization of time for creative work.

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*Ad hoc* and permanent rearrangements of group structures of organizations [brainstorming sessions, establishment of specialized teams and task forces, sponsorship of the "odd-ball" gadfly, etc.] may be used to induce increased propensity for innovation.<sup>12</sup>

Finally, the Director of the Chicago seminar has developed a suggestive analogy between the creative individual and the "creative organization." The analogy is illuminating but should not, of course, be accepted too literally. The creative individual is characterized by "conceptual fluency," an ability to generate many ideas quickly; he is "original," "separates source from content in evaluating information," "suspends judgment," is "less authoritative," indulges in "playful, undisciplined exploration," shows "independence of judgment," and has both a rich "fantasy life" and "superior reality orientation." Among the corresponding properties of the creative organization, the Director

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<sup>11</sup>Harry Levinson, "What an Executive Should Know about Scientists." *THINK*, September-October 1965, pp. 6-10.

<sup>12</sup>Harold Guetzkow, "The Creative Person in Organizations," in G. A. Steiner, ed., *The Creative Organization*, University of Chicago Press, 1965, pp. 35-45.

lists: employment of "idea men," open channels of communication, a flexible personnel policy, a tendency to evaluate ideas according to merit instead of status of proponent, an interest in experimentation, structural decentralization, provision for employee "fun" and "freedom to discuss ideas," a self-image of uniqueness, and a separation of creative from routine functions.<sup>13</sup>

We conclude this section with a distinction concerning creative personnel, a distinction that seems important for recruitment, assignment, remuneration, and supervision. At least two types of creative persons should be identified. They are recognizably dissimilar in their trait profiles and in their relations with colleagues, subordinates, and supervisors. One is disposed to set and solve his own problems; for him, inventive behavior is, above all, a mode of self-expression. The other type has greater capacity for self-censorship and adjustment, is more amenable to external guidance, is more responsive to employer and client needs as a consultant, administrator, or research worker. From the organizational viewpoint, the employee who is beckoned by his private beacons is hardly equivalent to the one who is willing and able to address his ingenuity to tasks defined by management.

Perhaps, the two types normally seek different employment situations corresponding roughly, say, to "basic" and "applied" research. In any case, both are found in goal-oriented organizations; and, although the one that is better adapted to organizational objectives is usually "more valuable," his adaptability itself tends to label him as "less creative." Since "absolute" or "concentrated" creativity is harder to use than a variety that is less than 100-proof, an organization has to appraise realistically how much of both it needs and can stand. It has to appreciate the cost of converting (if conversion is even possible, or desirable) the self-expressive individual into a "king's canary" able to sing well enough and loud enough upon command. Indiscriminate stress on high creativity in recruitment, followed by misassignment with insensitive supervision, can only lead to bilateral frustration and to high turnover.<sup>14</sup>

### *A Sampling of the Literature*

Points already made may be elaborated and dramatized by further reference to the research contributions and experience of others.

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<sup>13</sup>G. A. Steiner, "Introduction," *ibid.*, especially pp. 16-18.

<sup>14</sup>It seems pertinent here to note a finding in a 1964 study cited by Torrance (*loc. cit.*, p. 678): "The least creative children are less productive in open tasks, and the most creative ones react less favorably to closed tasks." (Incidentally, anyone who has had occasion to supervise creative people tends to regard as plausible the application to such people of experimental results pertaining to children.)

The talks and papers of specialists familiar with different aspects of employee creativity and organizational aims provide additional illumination and, to change our metaphor, also impart a flavor and accent of authenticity to do some of the things we have said above.

The material that follows offers insights and reinforcements along three principal lines. First, it enhances appreciation of the role of organizational parameters in shaping managerial attitudes toward creativity and other aspects of inventive behavior. Second, with respect to Government in particular, it reflects the increasing concern for linkage of research, even basic research, to the larger and more mundane utilitarian goals of our society. Third, it adds dimensionality to our earlier discussion of the nature, utilization, and motivation of creative employees. Because of inevitable overlap, the material on these three phases of our topic cannot be sharply separated, although it is presented, on the whole, in the sequence indicated.

#### *A. Organizational Imprinting*

Our consideration of additional writings on creativity within the larger framework of organizational objectives starts with a Battelle report that senses an evolution in the role of research and development in industry: "Changing demands and new challenges have given rise to a new environment for research—an environment in which R&D must become more sensitive to all other corporate functions." Thus, more attention will have to be given in the future to "the strategies, the needs, and the inputs from other phases of the corporate activity." This kind of coordination "enhances the promise of achieving corporate objectives."<sup>15</sup> We interpolate here the remark that a similar effort to rationalize the huge Federal outlays for research is underway, as will be evident in the later discussion of Government.

A recent survey of industry attitudes toward research and development notes that both cost and effectiveness have come under scrutiny from "top management—often prodded by stockholders and financial houses." According to a General Electric executive who is quoted, "inventions that fit into our existing product lines usually cause problems, but we've often fumbled ones outside our regular lines." A remedy is being sought in attempted recapture of the flexibility and sense of identification said to be found in the smaller laboratory. In this modified environment, the corporate inventor would 'operate more like a small-company entrepreneur.'<sup>16</sup>

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<sup>15</sup>Battelle Technical Review, December 1965, p. 21.

<sup>16</sup>Hubert Kay, "Harnessing the R&D Monster," *Fortune*, January 1965, p. 160 ff.

A study made by a social psychologist, who interviewed directors, administrators, and scientists in 20 organizations, indicates that new ideas cannot easily be accepted if they threaten diversion of on-going projects. These ideas may, of course, get their just appraisal in the formulation of research programs and budgets for later years. Meanwhile, "the new idea must be *relevant* to be greeted with enthusiasm," and "another word for relevance is *practicality*."<sup>17</sup>

At the 1963 Annual Public Conference of the Institute, several speakers emphasized innovation as the expected complement of invention. Ultimate economic value was asserted as the aim of company research. An official of Bell Telephone Laboratories estimated roughly that "it takes 14 times as many people to make something out of inventions as it does to invent them"; and that perhaps "between 1 and 10 percent" of the "research done" culminates in manufactures, while the rest is general, unsuccessful, or irrelevant.<sup>18</sup> The Westinghouse Vice President of Engineering and Research stated bluntly that, "to a corporation, a patentable invention means basically one thing: a potential source of profit." Accordingly, "it must be viewed in much the same way as any other business commodity."<sup>19</sup> The Burroughs Vice President observed:

Efficiency of a research organization is like efficiency of anything else—the relationship of output to input. The output is profit or technical achievement, and the input is dollars.<sup>20</sup>

At the same Conference, a prominent independent inventor, citing the threat of foreign competition based on sophisticated postwar technology, saw a national need, beyond mere patent production, for "successful inventions"—"for valuable inventions (or ideas) carried through to successful manufacturing and sales."<sup>21</sup>

At the University of Chicago seminar on "The Creative Organization," a clinical psychologist, citing his experience with research laboratories, expressed doubt that industry really wanted creativity or "would know what to do with it." Administrators, in his view, have a "cash-register philosophy of creativity" that biases them toward short-range projects and away from "what will be profitable five or ten years from now."<sup>22</sup>

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<sup>17</sup>Norman Kaplan, "Some Organizational Factors Affecting Creativity," *IRE Transactions on Engineering Management*, March 1960, pp. 24-30.

<sup>18</sup>J. R. Pierce, *PTC J. Res. & Ed.*, (*IDEA*), Vol. 7, Conference Number (1963), p. 98.

<sup>19</sup>J. W. Simpson, *ibid.*, p. 120.

<sup>20</sup>Irven Travis, *ibid.*, p. 131.

<sup>21</sup>R. R. Walton, *ibid.*, pp. 178-179.

<sup>22</sup>M. I. Stein, in G. A. Steiner, Ed., *The Creative Organization*, pp. 94-95.

Another participant in the seminar, the Chief Executive Officer of Brunswick, spoke of his company's enlistment of creative ability for deliberate growth. From his remarks, it is clear that he was speaking of the stimulation of personnel at all levels—design, engineering, manufacturing, and marketing—to assist “our imaginative management” in executing ideas, some of which evidently originate in “a relaxed atmosphere that will help people unlock their mental storehouses.”<sup>23</sup>

In the colloquy that followed this industrialist's talk, the President of Bell and Howell observed:

We have been talking about creativity as though it were a homogeneous thing. . . . Much of what goes on in business is not the creativity that many of these gentlemen are talking about—not fundamental understanding, basic breakthroughs, etc., but just minor adaptations of things you know how to do. Maybe we are putting too much into one basket by talking about creativity. I have a feeling that 90 percent of what businessmen would call creativity is really a different kind of creativity from what many of you have talked about.<sup>24</sup>

The Brunswick official answered: “I agree.” He continued with a comment on a company team, led by research engineers, that is “working way out ahead”—while “nobody bothers.” This team has not, however, developed “anything tangible.” Saying, “I suspect that we will take a close, hard look and limit this a little,” he then addressed the only psychiatrist at the meeting:

Franz, you say you should let a man just think *ad infinitum*, but when you have budgets, profits, and other things to meet from a business point of view, a management point of view, you cannot always do what you would like to.<sup>25</sup>

In his own seminar paper, the Bell and Howell executive observed: “We should not conclude that, in order to be profitable, you have to be an innovator”—although, “to be sure, innovations often contribute very importantly to company profits.” Justifying a predilection for small innovations, rather than attempts at giant technological strides forward, he stressed the master aim of profitability:

As you probably know, most products that are introduced on the market are rather minor changes from year to year, and built into the existing product is an enormous, a staggering, investment in tools, know-how, dies and equipment. One of the characteristics of basic

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<sup>23</sup>See B. E. Bensinger, “A Creative Organization,” *ibid.*, pp. 141-151.

<sup>24</sup>P. G. Peterson, *ibid.*, p. 152.

<sup>25</sup>Remark addressed to Dr. Franz Alexander, Chief of Staff, Psychiatric Department, Mt. Sinai Hospital, Los Angeles, *ibid.*, p. 153. The reply of Mr. Bensinger to Mr. Peterson appears on pp. 152-153.

technological change is that the start-up cost, so-called, is truly enormous, because you then have to start all over again, let us say, with your tools. Whereas a product change in a camera might cost us \$100,000, a major innovation might cost us \$4,000,000.

I suspect that one of the reasons these changes do not take place is that in computing what it costs to make the change versus how much more they will sell, management decides they are better off not making the change.<sup>26</sup>

The decisiveness of profitability estimates was urged again in the discussion that ensued. A psychology professor who stated that he was a member of the "Research Advisory Board for General Electric" referred to a bulging company portfolio of inventions, many of which "do not get into use." Why? Is it the "sheer size" of a company? Must a company reaching "this critical size" fret over its unused inventions and its restive "excellent people" who are eager to return to a university as it also watches the rise of "little companies like KLH, which started little and is now bursting its gussets"?<sup>27</sup> The Bell and Howell executive replied:

I can only assume in the case of General Electric that they have an alternative use for their money that returns more to them, whereas KLH does not have that situation developing. Most companies I know have two or three times as many innovations at a given time than [*sic*] they can use, but they try to rank them in terms of return.

. . . There are many case studies of companies going broke stimulating generic demand, which is very expensive, whereas men with a great sense of timing . . . just jump in at that point. It is quite rational if you try to maximize your profit. It may not be very gratifying in terms of being an innovator, but it might be rational.<sup>28</sup>

A suitable transition to the next sub-section is provided by a brief notice of two meetings. First, we refer to the 1963 Engineering Research Foundation Conference on "Technology and the Civilian Economy," which was attended by research and development managers from industry, Government, universities, and institutes. According to the Chairman, who was also President of the Midwest Research Institute, "a central national issue" is "the productive use of new technology as a stimulus and base for further economic growth."<sup>29</sup> His view was echoed by many other participants; the challenge requires "a

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<sup>26</sup>This passage occurs at the end of Mr. Peterson's paper on "Some Approaches to Innovation in Industry," *ibid.*, pp. 183-190.

<sup>27</sup>J. S. Bruner, *ibid.*, p. 197.

<sup>28</sup>P. G. Peterson, *ibid.*, p. 198.

<sup>29</sup>For remarks of Charles Kimball cited here and for a summary of the Engineering Research Foundation Conference, see Elliot Schrier, "Toward Technology Transfer," *Technology and Culture*, Summer 1964, pp. 344-358, and Charles Kimball, "Epilogue," *ibid.*, p. 358.

new breed of science and scientist combining both hard and soft science knowledge with real entrepreneurial spirit." In his opening remarks, he stated that a "prime goal of government and industrial research organizations . . . should include economic application of research results, not just their generation." The obstacles to conversion of scientific knowledge and of engineering capability into civilian technology were recognized to be numerous and complex. For early and widespread technological transfer of space and defense findings, many conferees insisted that specially trained people and special institutions are needed as "couplers" and "intermediaries." Ideas such as these have been sympathetically received by the Federal Government and partly implemented in recent legislation. Private companies will doubtless assume important roles as contractors.

The 1963-64 published record of the Columbia Seminar on Technology and Social Change furnishes another piece of bridging. In one of the several pertinent talks, a prominent educator stated that "the gradual translation and diffusion of *people* from science into technology" is most important for the enrichment of the latter. Indeed, as a "corollary," he asserted "that one of the essential conditions of continuing technological innovation in the society is the need for a certain degree of overproduction of scientists." Such a surplus would force scientists into application work and, in turn, further accentuate the industrial demand for new technology.<sup>30</sup> The perennial hopes of peace and the tremors propagated from time to time by adjustments in the nation's defense program vividly remind Government and industry leaders that a surplus of scientists available for development activity could come with too much suddenness. Redundancy could come through collapse of defense-oriented demand rather than literal "overproduction."

#### *B. Federal Focus on Utilization.*

Surprisingly, perhaps, the official Government answer to the query, "Creativity—for what?", is not remarkably divergent from the response of the private sector. Knowledge is typically viewed by its sponsors as instrumental, as a handmaiden of "power" in some limited or grander sense. The proximate aims of public and private organizations differ, but a longer-run or larger-scale perspective insists on convergence. Such a postulated harmony, at least, is central to the traditional political, economic, and social philosophy of our country. New Federal pro-

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<sup>30</sup>Harvey Brooks, "The Interaction of Science and Technology: Another View," in A. W. Warner, Dean Morse, and A. S. Eichner, eds., *The Impact of Science on Technology*, Columbia University Press, 1965, pp. 86-48.

grams are now seeking to promote more rapid and more extensive diffusion of technical knowledge generated under public auspices. If, perchance, peace were to "break out," such programs would surely grow, proliferate, and be pursued with greater urgency. Even in the case of basic research, which still attracts only a small fraction of Federal funds for science and technology, ultimately beneficial results are anticipated—and, for this reason, immediate and intermediate constructive results are also perceived.

The budget transmitted by the President to the Congress in January 1965 contains a most authoritative statement on the Federal purpose, and this statement probably differs a bit from what the layman expects to read:

The Federal Government finances development to design, test, and evaluate prototypes of materials, devices, systems or processes needed to accomplish specific agency missions. . . .

Research on the other hand is supported not only to accomplish agency missions—usually as a forerunner to development—but also to increase the broad body of scientific and technical knowledge which underlies the future advancement of the nation's welfare, economic growth, and security. This is particularly true of basic research. . . .<sup>81</sup>

Also significant is the inclusion of the following heading in the summary chapter of a report on basic research recently assembled for a Congressional Committee by the authoritative National Academy of Sciences: "We Must Improve the Connection between Basic and Applied Research." The sentence that comes after this heading even refers explicitly to "payoff";

Since what emerges from the essays is a preponderant opinion that the primary justification for Government support of basic research lies, aside from education, in the expectation of payoff, we must examine more carefully the efficiency with which our Nation has been able to convert successes in basic research to practical advantage.<sup>82</sup>

Resuming the theme with which the preceding sub-section ended, we note that, during the past few years, Government officials, including Congressional leaders, have become increasingly persuaded that great benefits could be gained from more deliberate efforts to apply science and technology.<sup>83</sup> Economic growth in general, the develop-

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<sup>81</sup>See "Special Analysis H," *Budget of the United States Government, Fiscal Year Ending June 30, 1966*, Washington, 1965, p. 443.

<sup>82</sup>*Basic Research and National Goals*, a report to the Committee on Science and Astronautics, U. S. House of Representatives, by the National Academy of Sciences, Washington, March 1965, p. 15.

<sup>83</sup>See, for example, J. H. Hollomon, "Science and the Civilian Technology," in *The Impact of Science on Technology*, pp. 118-131; and John Brademas, "Technology and Social Change: A Congressman's View," *ibid.*, pp. 143-152.



ment of lagging regions, the restoration of eroded communities, the strengthening of our foreign-trade position, the increase of productivity in sluggish industries, more expeditious ground travel, and the improvement of health and the human environment are among the numerous targets of action proposed or taken. The more effective dissemination of technical information, including the speedier diffusion of defense and space findings into civilian use, has been sought. In September 1965, the President signed into law the State Technical Services Act, which he called the "sleeper" of the 89th Congress. This Act envisages creation for industry of something analogous to the agricultural extension service for farmers.<sup>34</sup> At this point, we should again observe that proponents of measures for revision of Federal patent policy typically stress the aim of improving the nation's technological tone.

What if our Era of the Ruptured Dove were finally to come to a happy end? The technical manpower implications were among the matters considered in the first report of a Committee on the Economic Impact of Defense and Disarmament, headed by the Chairman of the Council of Economic Advisers. A section on "Support of Research and Development" envisages assistance to industry, new applications to national problems, and new applications to Government operations. For movement to a more peaceful age, the Committee favors various sustaining programs "to strengthen civilian demand for R&D personnel, thereby helping to assure an adequate demand . . . when the demand for them by defense industry may have leveled off." The Committee notes that defense contractors might bid for work in "large new research programs in such fields as urban transportation, pollution control, oceanography, weather forecasting, methods for organizing medical and hospital care, and techniques of education."<sup>35</sup>

### C. "The People, Yes"

In amplifying our earlier remarks on "Understanding, Encouraging, and Supplementing Creativity," we briefly consider four subtopics that are of interest to the employer and that may be documented extensively by recourse to the literature. These subtopics are: (1) the universality of creativity (i.e., its wide distribution in the human population); (2) the multiplicity of attributes of creativity (e.g., opposing pairs of qualities and qualities for the performance of conflicting roles); (3) interpersonal variation in creativity (kind as well as

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<sup>34</sup>A good discussion of the Act and its background appears in *Science*, September 24, 1965, pp. 1485 ff.

<sup>35</sup>*Report of the Committee on the Economic Impact of Defense and Disarmament*, Washington, July 1965, pp. 51-53.

degree, according to age as well as discipline); and (4) modifiability of inventive behavior by organizational methods and environment (e.g., work arrangements, project structure, assignment and supervision, systems of reward, and general atmosphere). The employer is advised to find encouragement, rather than confusion, in the disagreements among the experts who have contributed to the vast literature and in their familiar refrain that additional and continuing research are needed.

Illustrative of expert opinion on the first subtopic, the distribution of creativity, is this observation by the psychiatrist participating in the Chicago seminar:

I agree with those who said that everyone has some degree of creativity. Everyone, perhaps, is an exaggeration, but the majority of people have some degree of potential creativity. It has often been stated that all children are creative, but gradually they lose their creativeness under the necessity to adapt and to conform. Latent creativity can be suppressed or activated by the spirit and the system prevailing in an organization.<sup>36</sup>

The reference to children recalls that much has been written concerning the influence of the educational process on the nurture and inhibition of creativity. Managers should have an interest in this relationship since they deal with the human results of the process, are actually conducting "extension schools" in their organizational setting, and are often in a position to affect the formal public and private educational system (and hence the quality of future professional employees). A psychiatrist who has made a special study of training systems for scientists and engineers believes strongly that educational procedures tend to ignore "the fact that true creative velocity of our thinking is continually being braked and driven off course by the play of unconscious forces"; that these procedures, therefore, may actually increase "the interference from latent and unrecognized neurotic forces."<sup>37</sup> He says:

Learning, thinking, and creating are predominantly preconscious rather than conscious processes, and when left unhampered preconscious processes are effortless and effective. Yet they require translation into the language of conscious symbols in order to become usable. . . . Furthermore, our conscious symbolic tools, which are essential for the learning process and indispensable for man's highest creative functions, are particularly vulnerable to neurotogenic distortions. . . ."

Consequently we have to face the fact that from childhood through adolescence and on into post-graduate levels, education has to over-

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<sup>36</sup>Dr. Alexander, in *The Creative Organization*, p. 240.

<sup>37</sup>L. S. Kubie, *Neurotic Distortion of the Creative Process*, Noonday Press, New York, 1965, p. 585.

come two obstacles: the impact of conscious sampling on pre-conscious processes, and the distortions due to the neurotic process. These two struggles have always haunted human education . . . [although] many engineering educators assume [incorrectly] that this is peculiar to engineering education. . . .<sup>38</sup>

Another authoritative writer, a professor of educational psychology cited earlier in this paper, takes a somewhat different view:

Many complain that we do not yet know enough about the factors affecting creative growth. In my opinion, we have known enough about these factors since the time of Socrates and Plato to do a far better job of creative education than is commonly done.

He also says the following, which has a bearing on our fourth subtopic, since organizations continue the conditioning process of education after formal schooling is over:

Although there are certainly many gaps in knowledge concerning the factors that affect creative growth, there is a great variety of research findings that give useful guidance. . . . These studies help to delineate the roles in creative growth of such factors as ways of rewarding creative behavior (for example, by being respectful of unusual and provocative questions and of unusual ideas), creative motivations or attitudes of the teacher, creative activities and opportunities for practicing skills in creative thinking, differential rewards for boys and girls, differential rewards for originality, competition, unevaluated practice, creative rather than critical peer-evaluated practice, evaluative discussions about creative productions, peer pressures in homogeneous and heterogeneous groups, trouble-shooting evaluation, and helping children and young people value their own ideas.<sup>39</sup>

This sort of passage may remind supervisors of their often unrecognized roles as "teachers," and managers of neglected roles as "principals" or "deans."

A summary article in a book based on three University of Utah conferences supported by the National Science Foundation is very encouraging with regard to future enlargement of the supply of creative ability:

A feeling of tremendous optimism about human nature has been emerging from this research on creative potential, not just in science, of course, but in a wide spectrum of human activities. We are beginning to realize something of the extent to which creativity can be increased, not merely through the processes of selection and identification of creative talent, but through its systematic development. An implicit criticism of conventional methods of education has been gaining ground.<sup>40</sup>

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<sup>38</sup>L. S. Kubie, "Unsolved Problems of Scientific Education," *Daedalus*, Summer 1965, p. 585.

<sup>39</sup>Torrance, *loc. cit.*, pp. 675, 676.

<sup>40</sup>"A Look Ahead: Reflections of the Conference Participants and the Editors," in C. W. Taylor and Frank Barron, eds., *Scientific Creativity: Its Recognition and Development*, John Wiley & Sons, New York, 1963, p. 388.

"Psychologists," according to an academic investigator of the multiple aspects of creativity (our second subtopic), "have all too often fallen victim of the fallacy of assuming that one name means one process." He includes 55 factors in a "unified theory of intellect, which includes thinking."<sup>41</sup> Another investigator, echoing the above warning on oversimplification, notes that "research on creativity may focus on: (1) products, (2) processes, (3) tasks, (4) persons, and (5) environmental variables." Preferring an emphasis on product, he nevertheless stresses some pitfalls of quantification. In particular, he refers to the danger of using "number of patents as a measure of creativity even among individuals in the same general area." He, too, knows of a "patent hound," this one a person "who had over 200 patents but who in the judgment of his colleagues was less creative than another individual who had only two patents."<sup>42</sup> Earlier, we cited some of the many attributes identified with creativity, which includes "more than general intelligence"—conceptual fluency, conceptual flexibility, originality, preference for complexity, and so forth.<sup>43</sup>

The strange, if not obscure, parenthesis included in the statement of our second subtopic will now be elucidated slightly. A psychology professor, who recognizes creativity by "an act that produces *effective surprise*," believes that such acts "are the resultant of combinatorial activity—a placing of things in new perspectives." In considering the conditions of creativity, he observes that "one is immediately met by paradox and antinomy": every "determinant" that seems important suggests an opposite one that also seems important. He identifies such pairs as "detachment and commitment," "passion and decorum," and "deferral and immediacy"; he speaks of "freedom to be dominated by the object."<sup>44</sup>

Not only must the creative individual, therefore, find some internal balance between opposing pairs of traits but he must, in so doing, also establish a workable equilibrium with environmental forces. A student of the sociological and psychological factors influencing the creativity of industrial chemists emphasizes the need to balance four

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<sup>41</sup>J. P. Guilford, "Basic Conceptual Problems in the Psychology of Thinking," in *Fundamentals of Psychology: The Psychology of Thinking*, New York Academy of Sciences, 1960, pp. 7, 9.

<sup>42</sup>D. W. Taylor, "Thinking and Creativity," *ibid.*, pp. 109-110.

<sup>43</sup>G. A. Steiner, in *The Creative Organization*, pp. 6-7. Another summary list of traits is given in *Scientific Creativity: Its Recognition and Development*, pp. 385-386.

<sup>44</sup>J. S. Bruner, "The Conditions of Creativity," in H. E. Gruber, Glenn Terrell, and Michael Wertheimer, eds., *Contemporary Approaches to Creative Thinking*, Atherton Press, New York, 1962, pp. 1-30.

roles having different orientational requirements: (1) the "scientist role," which demands acknowledgment of the claims of "universalism," "communism," "disinterestedness," and "organized skepticism," four features of the "ethos of modern science"; (2) the "professional role," which involves "limited communism," "focused truth," "selflessness," "communication with lay personnel," and "vested interest" (loyalty to company and work group); (3) the "employee role," which demands "consistent productivity," "financial awareness," "efficiency," "accepting status position and adjusting to authority," and "regularity and flexibility"; and (4) the "social role," which involves a host of opposing attribute pairs needed for successful dealings with supervisors, colleagues, and subordinates.<sup>45</sup> After reading this sort of catalogue, one feels that for the creative technical person to function effectively at all in this complicated world is a feat of a high order.

We proceed to the third subtopic, interpersonal variation. The literature recognizes different lifetime patterns of productivity for, say, physicists and mathematicians on the one hand and biologists or social scientists on the other. Different special abilities—numerical, spatial, verbal—have different roles and weights in the various scientific fields. The ranking of technical people according to creativity or productiveness as high, average, or low is quite common, despite difficulties of meaningful measurement. We have referred earlier to the limited interchangeability between the "inner-directed" technical worker and the one more responsive to organizational aims. Many other distinctions have, of course, been reported. For example, a scientist with few ideas is found more defensive, more disturbed at failures, less generous, than a more productive one.<sup>46</sup>

A recent report on the shift in age composition already occurring in United States research institutions focuses attention on a growing need for more effective utilization of older personnel. Observing that quantitative measures of research productivity are unreliable, the authors note:

Physical energy and published output seem to be fairly constant for those who remain practicing scientists for their whole working careers. Yet scientific insight and selectivity, or breadth of technical contact, can increase greatly with age.

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<sup>45</sup>M. I. Stein, "Creativity and the Scientist," in Bernard Barber and Walter Hirsch, eds., *The Sociology of Science*, Free Press of Glencoe, New York, 1962, pp. 329-343.

<sup>46</sup>Based on Anne Roe, "The Psychology of the Scientist," *Science*, August 18, 1961, pp. 456-459; and on a perusal of essays in several books already cited: *The Creative Organization*, *Contemporary Approaches to Creative Thinking*, *Scientific Creativity: Its Recognition and Development*, and *The Sociology of Science*.

The changing abilities of people with age, coupled with reduced voluntary turnover, present management with new difficulties as well as new opportunities. Perhaps, senior scientific personnel will increasingly be considered available for second careers in administration and management in business, education, and Government.<sup>47</sup>

Addressing our final subtopic, which relates to environmental stimuli to creativity and restraining factors, we note first the necessity of maintaining a constructive competition—or at least a skeptical cooperation—between the technical and non-technical staffs of an organization. Interdependence is as significant a fact as the differences in personal values and motivation. The master objective, we recall, must still be achieved for organizational viability, and this need is a harmonizing force. An analogue exists between interpersonal tension and the opposition of paired traits within the creative individual. Neutral spirits, and non-neutral ones also, are needed for blending, extending, diluting, and balancing creative talent. At the Chicago seminar a leading sociologist observed that the stereotype of conflict between the "Philistine" and the "creative man" in the organization could well be replaced by a model of symbiosis, of functional differentiation and mutual support for the achievement of common goals: "Administrative men can provide the stable environment in which difficult but creative men can best realize their potential."<sup>48</sup>

The contribution by one of the transistor co-inventors at the Chicago seminar illustrates some of the problems of personality blending and compensation confronted in administering a large loosely coordinated project including many able specialists. The speaker, asked if he were a better "creator" or "evoker" of ideas, answered: "Myself? I do both things. No modesty." He also expressed a distrust of special awards for patenting.<sup>49</sup> In an earlier version of the transistor story, a vice president of Bell Telephone Laboratories in charge of long-range program planning and of patent activities treated the dysfunctionality of special awards and stated his preferred alternatives in this way:

One might well question how, in an apparently loosely hung activity such as this transistor program, with its great opportunities for

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<sup>47</sup>L. G. Cook and G. W. Hazzard, "Mature Research Institutions and the Older Scientist," *Science*, November 5, 1965, pp. 716-719. See also I. H. Siegel, "The Employee Inventor: An Economist's View," *Journal of The Patent Office Society*, July 1965, pp. 493-500; and Anne Roe, "Changes in Scientific Activities with Age," *Science*, October 15, 1965, pp. 313-318.

<sup>48</sup>R. K. Merton, "The Environment of the Innovating Organization: Some Conjectures and Proposals," in *The Creative Organization*, pp. 50-63.

<sup>49</sup>William Shockley, "A Case: Observations on the Development of Transistors," with discussion, *ibid.*, pp. 130-140.

valuable inventions, one can avoid destructive rivalries. Scientists and engineers are human beings, and human beings are by nature competitive. I believe that the destructive factors in competition are greatly mitigated by two of our policies. The policy of easy individual publication insures that in each scientific advance the scientific world will know who has contributed what. The policy of making no special awards for inventions but of considering an invention as one meritorious performance to be lumped with all others in the administration of salaries reduces the incentive that leads to dog-in-the-manger thinking.<sup>50</sup>

In a paper presented at a Utah conference, an employee of Dow Chemical Company reported on the complex problem of rating employee creativity according to patent output and other objective factors. Apart from describing this exercise, he noted that his organization provides parallel ladders of advancement for scientists. The supervisory route leads from chemist to project leader, to group leader, to assistant laboratory director, to laboratory director. The scientific route leads from chemist to project leader, to associate scientist, to research scientist.<sup>51</sup> A number of companies are now providing parallel ladders, as was pointed out at The PTC Research Institute's Annual Public Conference in 1963.

A paper published in 1956 and republished in 1962 touches on the enduring problems of research management that necessarily also involve the welfare of scientific personnel. Is the laboratory, asks the author, a sociologist specializing in research relationships, considered by the company leadership as the "department of today," or "department of tomorrow"? Is the preferred scientific employee a "local" or "cosmopolitan"? Should research results be "guarded secrets" or "advertised achievements"? How should research time be budgeted and charged? Is authority to be "delegated" or "shared"? Should the laboratory be organized into "project" groups or permanent "functional" specialist groups? Should the management of research look to the individual employee's self-fulfillment? Can it afford to ignore the "jealousies, antagonisms, and feelings of injustice . . . likely to arise over such matters as authorship of reports, patents, and papers" where strong project leadership and teamwork are the rule? Are nonprofessional support workers regarded as a lower "caste" or "class"? Are the professional workers an "elite," or will they become a well-heeled branch of the "proletariat"? Room exists today, as it did

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<sup>50</sup>Ralph Bown, "The Transistor as an Industrial Research Episode," *The Scientific Monthly*, January 1955, p. 46.

<sup>51</sup>J. H. McPherson, "A Proposal for Establishing Ultimate Criteria for Measuring Creative Output," in *Scientific Creativity: Its Recognition and Development*, pp. 24-29.

in 1956 or 1962 and will tomorrow, for experimentation to improve the conduct of research and the utilization of people and other resources.<sup>52</sup>

The difficulty of keeping research people "happy" is a familiar experience; but failure should probably be expected and it does not necessarily mean uncertain support of organizational aims. A study of 622 scientists and engineers in six major companies disclosed that only one-third reported themselves "very well satisfied" with their jobs. Among the persons considered "most valuable" by management, this reply was given by only 42 percent. Thus, "despite considerable attention from management, scientists and engineers remain one of the most disgruntled groups on industry's payroll."<sup>53</sup>

Finally, we call attention to a series of studies made by the Stanford Research Institute. In one inquiry into the work and attitudes of scientists and research managers, the large majority of respondents indicated, for example, that they regarded adequate salary as "quite important" or "extremely important." Earlier studies by The PTC Research Institute also reported a strong interest in salary. The scientists reporting in the Stanford survey generally regarded themselves as more closely identified with their profession than with their employer. Nevertheless, the large majority felt a "strong objection toward the long-range goals of their research organization." Given the opportunity of responding to a survey, the scientists, of course, reported standard irritations concerning time requirements for meeting administrative demands, objectionable management practices, inadequate complements of trained technicians, inadequate physical facilities, and limited or uncertain funding.<sup>54</sup>

### *Epilogue*

This paper began as part of a study of inventive behavior that was to feature systems of reward. It early became clear that the efficacy of such systems could not be considered apart from other conditioning factors. The business of management—or the management of business—is an integral responsibility even though it has to be departmentalized, analyzed into components, and delegated or otherwise distributed. The responsibility has to be discharged continually, daily; for

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<sup>52</sup>H. A. Shepard, "Nine Dilemmas in Industrial Research," in *The Sociology of Science*, pp. 344-355.

<sup>53</sup>Kay, *loc. cit.*, p. 163.

<sup>54</sup>H. M. Vollmer, *Work Activities and Attitudes of Scientists and Research Managers: Data from a National Survey*, Stanford Research Institute, Menlo Park, May 1965. This report is one of five in the Institute's "R&D Study Series."



the allocation of an organization's resources is not subject to "cure" but has to be "managed" in the same sense in which this verb is used in medicine, to signify the control of a chronic disease. A capsule of concentrated advice prescribed by the philosopher, A. N. Whitehead, is commended to the detail manager who is tempted to consider the improvement of one component system without reference to the impact on others and on the total complex: "Seek simplicity—distrust it." Having written the present paper to serve as background, the author is more ready to address himself to reward systems in another one.



# Further Work on the Number of Living Patentees

BARKEV S. SANDERS\*

**I**N A PREVIOUS ARTICLE<sup>1</sup> IN *IDEA*, entitled "The Number of Patentees in the United States," the main concern was to develop a methodology of the number of new patentees in a given year and the number of individuals living at a specified time with one or more patents issued to them. Some preliminary estimates for this were given. Further work on these estimates has led to certain modification of the age composition of both "independent" and "employee" inventors. A recomputation has been made of the probable number of "employee" inventors in the population at this time.

It is surprising, despite the importance that people have assigned to inventions and inventiveness, that very little attention has been given to the number of inventors in the population at a given time, or to the productivity of such inventors over their life time. A precise knowledge of these trends might be one way of discerning favorable or unfavorable public policies with respect to the patent system.

A large-scale study for selected years could be carried out with moderate cost by random selection of "independent" and "employee" inventors from the annual Index of Patents. By sending cards to these patentees facts concerning (1) their age, and (2) the proportion of those who received their first patent in the specified index year could be determined. From such returns it would be possible to estimate more accurately than our current estimates indicate: (1) the number of new patentees in each year; (2) how this number has varied in recent years; (3) the approximate number of living patentees in the population at this time; and (4) the patent productivity of the average "independent" and "employee" inventors.

In the meantime the closest estimate of patentee population available to us is that derived from the completed questionnaires in connection with The Patent Utilization Study conducted by The Patent, Trade-

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\* Dr. Sanders is a member of the Research Staff of The PTC Research Institute. Computations for this report were made by Mr. Jae Hong Kim under the guidance of Dr. Sanders.

<sup>1</sup> B. S. Sanders, "The Number of Patentees in the United States," *IDEA*, Vol. 9, No. 2 (Summer 1965), pp. 205-221.

mark, and Copyright Research Institute of The George Washington University. The finalized estimates based on questionnaires sent to inventors with patents sampled in 1938, 1948, and 1952 are shown in the tables below.

Table 1, column 2 shows the age distribution of 198 "independent" inventors with sampled patents in 1938, 1948, and 1952 who returned a completed questionnaire and reported their birth dates. Four of the patentees returning a questionnaire on the sampled patent failed to report their birth dates. Eighty-six of these patentees who returned a questionnaire supplied information showing that the sampled patent was not the first United States patent issued to them. The age distribution of these, with one exception, is shown in column 4, with percentages by age in column 5. Column 6 gives the age infor-

TABLE 1  
AGE OF "INDEPENDENT" PATENTEES AT THE TIME OF THEIR SAMPLED PATENT, THE AGE OF  
MULTIPLE PATENTEES AND FIRST PATENTEES SEPARATELY AT THE TIME OF THE  
SAMPLED PATENT, AND THE AGE AT THE TIME OF FIRST PATENT AS  
REPORTED BY MULTIPLE PATENTEES.

Age	Age at time of samples patent						Reported age at time of first patent	
	All patentees reporting		First patent not the sampled patent		First patent the sampled patent			
	No.	%	No.	%	No.	%	No.	%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
15-19	—	—	—	—	—	—	2	2.4
20-24	1	.5	—	—	1	.9	10	12.2
25-29	6	3.0	—	—	6	5.4	17	20.7
30-34	17	8.6	4	4.7	13	11.7	15	18.3
35-39	21	10.6	6	7.1	15	13.5	14	17.1
40-44	26	13.1	5	5.9	21	18.9	7	8.5
45-49	28	14.1	13	15.3	15	13.5	9	11.0
50-54	34	17.2	18	21.2	15	13.5	2	2.4
55-59	32	16.2	20	23.5	12	10.8	4	4.9
60-64	12	6.1	8	9.4	4	3.6	1	1.2
65-69	13	6.6	7	8.2	6	5.4	—	—
70-74	3	1.5	1	1.2	1	.9	1	1.2
75+	5	2.5	3	3.5	2	1.8	—	—
Unknown	4	—	1	—	3	—	4	—
Total	198	100.0	85	100.0	111	100.0	82	100.0

mation for 114 patentees who indicated that the sampled patent was their first United States patent. The age distribution of 111 who reported their date of birth is shown in percentages in column 7. Column 8 gives the age of the patentee at the time of his first United States patent as reported by those patentees who indicated that the sampled patent was not their first patent.

It is apparent that the age distribution of patentees is somewhat older for those who indicated that the sampled patent was not their first in comparison with patentees who reported the sampled patent as their first. This is reflected more clearly in the respective averages given in Table 5. The mean age of multiple "independent" inventors is nearly 54 years, while the mean age of inventors for whom the sampled patent was the first is slightly over 46—more than 7 years difference. Table 5 also shows that the variability in age is greater for "independent" patentees whose sampled patent was their first as compared with inventors with patents prior to the sampled patent—coefficient of variation 25.3 and 18.7, respectively.

There is an even larger age difference when the age composition of "independent" patentees for whom the sampled patent was the first patent is compared with the age distribution at the time of their first patent as reported by those patentees who indicated that the sampled patent was not their first United States patent. In terms of averages, this difference is more than 10 years, as shown by Table 5—46.3 as the mean age of "independent" inventors for whom the sampled patent was their first, in comparison to 35.8 as the mean age at the time of the first patent reported by patentees for whom the sampled patent was not the first. In our sample the age structure at the time of the first patent of multiple patentees shows greater variability than that for patentees for whom the sampled patent was the first—coefficients of variation 30.7 and 25.3, respectively.

The lower age at the time of the first patent for multiple patentees is a confirmation in part of much other evidence that persons with outstanding accomplishment early in life prove more productive in their chosen line of work than the so-called late maturers. Other things being equal, patentees who receive their first patent in their late teens or early twenties will be on an average much more productive patentwise than those who obtain a patent later in life. Even if the "working life time" were equalized, the youthful patentees still have a double advantage, i.e., more time in which to produce and a higher productivity in a fixed period of time. This higher propensity to patent by patentees who receive their first patent early in life can be studied em-

pirically by a yearly follow-up on first inventors in specific age groups from the time they receive their first patent to determine their patent productivity in fixed periods of time, using the annual Index of Patents as the means to carry on the follow-up phase of the study.

Table 2 gives the estimated total of first "independent" inventors in an average year and their probable age distribution in the year in which they receive their first United States patent—column 2 and 3. This distribution is of course subject to sampling error and also to various long range trends inherent in a series of this nature as well as unknown biases flowing from incomplete returns caused partly by death and disability of the patentee population circularized in The Patent Utilization Study.

TABLE 2  
ESTIMATED NUMBER AND AGE COMPOSITION OF NEW "INDEPENDENT" PATENTEES IN AN AVERAGE YEAR AND THE PROBABLE NUMBER AND AGE OF ALL LIVING "INDEPENDENT" PATENTEES IN THE POPULATION AT THIS TIME.

Age	Estimate of first patentees		All living patentees	
	No.	%	No.	%
(1)	(2)	(3)	(4)	(5)
20-24	74	.9	364	.2
25-29	435	5.4	2,490	1.1
30-34	936	11.7	7,027	3.1
35-39	1,084	13.5	12,193	5.4
40-44	1,512	18.9	19,238	8.6
45-49	1,084	13.5	23,850	10.6
50-54	1,084	13.5	27,822	12.4
55-59	862	10.8	29,811	13.3
60-64	288	3.6	27,965	12.4
65-69	427	5.4	25,492	11.3
70-74	74	.9	20,322	9.0
75+	140	1.8	28,426	12.6
Total	8,000	100.0	225,000	100.0

Columns 4 and 5 give an estimate of all living "independent" patentees and their probable age distribution. This was obtained on the basis of 1959-61 United States Life Tables for white males deriving a stationary population from a population stream shown in column 2. This estimate implies that if we were able to take a national census

of all "independent" patentees in the United States we would obtain a distribution not unlike that shown in column 4. To the extent that our questionnaire returns were biased by a lower rate of response in older ages, the age structure in column 4 might err in showing a somewhat younger age than the population which it represents.

Table 3, column 2 gives the age distribution of "employee" patentees in 1938, 1948 or 1952 who returned a questionnaire for the sampled patent. Of these, 691 gave their birth dates. The age distribution of these in percentages is shown in column 3. The mean age of all respondents [see Table 5], who gave this information is 44.5, at least 5 years younger than "independent" inventors summarized in Table 1. This younger average age is consistent with the higher productivity of "employee" inventors as compared with independent inventors. In column 5 are shown according to their age at the time of the issuance of the sampled patent those patentees for whom the sampled patent was not their first United States patent. The number of those who reported the date of their birth was 535 and the age distribution of these inventors is shown in column 5. Compared to column 5 of Table 1, the age of "independent" inventors with multiple patents is older. This difference is reflected in Table 5, with a mean age of 53.6 for "independent" inventors for whom the sampled patent was not the first as compared with 45.2 the mean age of "employee" patentees for whom the sampled patent was not the first patent.

Column 6 gives the age distribution of "employee" patentees who reported the sample patent as representing their first patent from the United States Patent Office. The percentage distribution of their ages is shown in column 7, patentees for whom the sampled patent was the first are younger than the multiple inventors in column 4. This is reflected in the mean age as summarized in Table 5. The mean age for "employee" inventors for whom the sampled patent was the first is 41.1 as against 45.2 for "employee" patentees for whom the sampled patent was not the first. Compared with "independent" patentees for whom the sampled patent was the first, the "employee" patentees in this same category are considerably younger, 46.3 and 41.1, respectively.

Column 8 gives the age of "employee" patentees at the time they received their first patent and who indicated that the sampled patent was not their first. Column 9 gives the percentage distribution of this group by age at the time of issuance of the first patent. This average of 32.4 is considerably lower than the average age of "employee" patentees for whom the sampled patent represented the first patent.

The average age of 32.4 at the time of their first patent reported by those "employee" inventors for whom the sampled patent was not the first compares with the average of 35.8 for the comparable group among "independent" patentees.

It is observed, therefore, both for "independent" and "employee" inventors that on the average the oldest at the time when the sampled

TABLE 3

AGE OF "EMPLOYEE PATENTEES AT THE TIME OF THEIR SAMPLED PATENT, THE AGE OF MULTIPLE PATENTEES AND FIRST PATENTEES SEPARATELY AT THE TIME OF THE SAMPLED PATENT, AND THE AGE AT THE TIME OF FIRST PATENT AS REPORTED BY MULTIPLE PATENTEES.

Age	Age at time of sampled patent						Reported age at time of first patent	
	All patentees reporting		First patent not the sampled patent		First patent the sampled patent			
	No.	%	No.	%	No.	%	No.	%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
10-14	—	—	—	—	—	—	1	.2
15-19	—	—	—	—	—	—	10	1.9
20-24	1	.1	—	—	1	.7	54	10.4
25-29	19	2.7	6	1.1	12	8.4	140	26.9
30-34	104	15.1	74	13.8	29	20.3	164	31.5
35-39	139	20.1	103	19.3	35	24.5	88	16.9
40-44	118	17.1	98	18.3	20	14.0	30	5.8
45-49	125	18.1	104	19.4	19	13.3	22	4.2
50-54	75	10.9	62	11.6	12	8.4	8	1.5
55-59	62	9.0	48	9.0	10	7.0	2	.4
60-64	25	3.6	19	3.6	4	2.8	2	.4
65-69	18	2.6	16	3.0	1	.7	—	—
70-74	4	.6	4	.7	—	—	—	—
75+	1	.1	1	.2	—	—	—	—
Unknown	17	—	10	—	1	—	43	—
Total	691	100.0	535	100.0	143	100.0	521	100.0

patent was issued are patentees for whom the sampled patent was not the first; these are followed by the group for whom the sampled patent is their first patent. However, the age of multiple patentees when they received their first patent is consistently younger than the age of those for whom the sampled patent was the first. These relationships hold both for "independent" and "employee" patentees. In each category



TABLE 4

ESTIMATED NUMBER AND AGE COMPOSITION OF NEW "EMPLOYEE" PATENTEES IN AN AVERAGE YEAR AND THE PROBABLE NUMBER AND AGE OF ALL LIVING "EMPLOYEE" PATENTEES IN THE POPULATION AT THIS TIME.

Age	Estimate of first patentees		All living patentees	
	No.	%	No.	%
(1)	(2)	(3)	(4)	(5)
20-24	35	.7	170	.1
25-29	420	8.4	2,205	1.4
30-34	1,013	20.3	7,071	4.4
35-39	1,223	24.5	12,850	8.0
40-44	700	14.0	15,963	10.0
45-49	664	13.3	18,647	11.6
50-54	420	8.4	19,742	12.3
55-59	350	7.0	19,947	12.5
60-64	140	2.8	18,470	11.5
65-69	35	.7	15,784	9.9
70-74	—	—	12,394	7.8
75+	—	—	16,757	10.5
Total	5,000	100.0	160,000	100.0

the average age of "employee" inventor is also appreciably lower than the corresponding average for "independent" patentees. These relationships can best be seen from Table 5.

Table 4 shows the estimated annual number of first inventors as totaling about 5,000 first "employee" inventors in an average year. This estimate is substantially lower than the preliminary estimates given earlier.<sup>2</sup> The probable age distribution of these first inventors in percentage form is shown in column 3. Column 4 gives the estimated total number of "employee" patentees distributed by age. The estimated total number of "employee" patentees living at this time is about 160,000.

Our estimates indicate that both groups of patentees combined number less than 400,000 in our entire adult population of nearly 120 million age 20 and over, or about three inventors per 1,000 adults. The average life time number of patents per patentee is about four. This average is somewhat less than three for the "independent" inventors

<sup>2</sup> *Ibid.*, pp. 217-219.

and about six for "employee" patentees, more than twice that for independent" patentees.

TABLE 5  
SUMMARY STATISTICS OF AGE CHARACTERISTICS OF DIFFERENT CATEGORIES OF PATENTEES  
AND ESTIMATED NUMBER OF PATENTEES IN THE POPULATION AT THIS TIME.

Groups of patentees	No.	Mean	Med.	S.D.	C.V.
"Independent" patentees					
Age at time of sampled patent—					
All responding	198	49.6	50.0	11.7	23.6
Sampled patent, not the first	85	53.6	54.0	10.2	18.7
Sampled patent, first patent	111	46.3	44.9	11.7	25.3
Reported age at time of first patent	82	35.8	34.0	11.0	30.7
Estimated total patentees in the living population	225,000	57.9	58.3	13.1	22.6
"Employee" patentees					
Age at time of sampled patent—					
All responding	691	44.5	43.5	9.8	22.0
Sampled patent, not the first	535	45.2	44.3	9.6	21.2
Sampled patent, first patent	143	41.1	39.2	9.5	23.1
Reported age at time of first patent	521	32.4	31.7	7.4	22.8
Estimated total patentees in the living population	160,000	55.9	55.8	13.5	24.1

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## EDUCATIONAL ACTIVITIES

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*The following brief statement was prepared as an educational feature for the information of people who do not have a first-hand working knowledge of trademarks.*

### Trademarks As Business Assets

ROBERT B. BANGS\*

#### NATURE OF TRADEMARKS

A TRADEMARK IS A MONOGRAM OR IDENTIFYING SYMBOL. It is used by a manufacturer or seller to identify his products, to differentiate them in the minds of consumers from those of his competitors, and to connote a standard of quality or performance that will be reflected in increased sales. The mark may be a word ("Coca-Cola"), a picture (the Fisk Tire child with a candle), a distinctive symbol ("RCA"), or some combination of these. Registrable marks in the United States now include not only those that are affixed to goods but also those that are service marks ("GM's Guardian Maintenance"), collective marks as used by a cooperative or club ("Sunkist" oranges), and certification marks—i. e., the Good Housekeeping Seal of Acceptance.

A trademark is a sales asset rather than a technological one and it must be promoted by advertising to be able to grow in value. Trademarks, for maximum effectiveness, must be distinctive, be easily remembered, and be appealing to the consumer. They acquire status as exclusive property rights in this country through use rather than registration, although registration may be important in obtaining recognition and enforcement of these exclusive property rights. Although foreigners may register marks in the United States prior to their use, and even though proposals have been advanced for registration of proposed marks, the use requirement in this country is basic. Property rights in trademarks may be lost by non-use or abandonment.

Trademark law both in England and in this country grew out of the common-law doctrine of unfair competition and is still a part of that broader field. The term "unfair competition" is something of a mis-

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nomer since the law in this area can apply between parties who do not actually compete. The doctrine of unfair competition refers rather to a complex and subtle set of principles designed to carry out equitable concepts of fair play which continually develop as business practice evolves. Trademark statutes represent merely a codification of one branch of this broader and more amorphous or unsettled law of unfair competition. Other codifications may be found in the Federal Trade Commission Act and in the antitrust statutes.

The universe of trademarks is large. More than 500,000 marks have been registered in the United States Patent Office. New registrations now exceed 25,000 annually. The number of nonregistered marks in actual use greatly exceeds those marks that are registered. Since reasonable likelihood of confusion with an existing mark is a bar to registration, and since distinctiveness is a practical prerequisite to extensive outlay on trademark promotion, the problem of developing new marks is increasingly difficult. The Act of 1946 did, however, substantially broaden the material, e.g., slogans, radio marks, packages, et cetera, that could be registered.

Marks to be protected must be more than merely descriptive of the product to which they are attached, but at the same time they must not misdescribe it, e.g., as the use of an adjective "metallized" would in connection with a product that contained no metal. Proper or geographical names are not permitted except in cases where, through long use, these names have acquired a "secondary meaning" that is readily identifiable with the product e.g., "Smith Brothers" cough drops. Trademarks must not invade privacy nor must they contain material that is contrary to public policy.

Many marks, such as "Kodak" are coined words which originally had no meaning except that which was gradually built in by promotional efforts. These are sometimes called "strong marks" in contrast to "weak" ones which are geographical or personal names and hence rely on secondary meaning. Other marks, such as "Life Savers" are physically descriptive of the product or of some property it possesses which can be developed into a consumer preference.

Trademarks are most commonly associated with finished products sold to consumers, although industrial materials and components may bear them as well. Even basic materials such as coal may in specific cases be trademarked.

For a business selling internationally, marks must translate readily into foreign languages with no unintended or improper meanings. Although registration in the United States carries no foreign right, it

may be a basis for foreign registration under national statutes. These naturally differ from the United States law.

At present, the United States does not adhere to any international convention which provides for international registration of trademarks. From 1929 to 1945 this country subscribed to a protocol providing for inter-American registration of marks at Havana, Cuba. However, experience disclosed that most registrants preferred to file separate registrations in individual countries so that in practice the facilities of the Havana Bureau were little used. Accordingly, the United States withdrew.

Whether a feasible scheme can be developed whereby the bulk of all countries join in the international registration of marks is one of the major outstanding issues as far as this form of industrial property is concerned.

A trademark may be lost in this country if it becomes used in a manner that is generally descriptive of the product rather than as a specific mark of origin. Such terms as rayon, aspirin, cellophane and thermos bottle were once registered marks which became generically descriptive, and thus have deteriorated into common words that no longer bear special legal rights. A special burden to insure that this does not happen rests on the owner of a valuable mark.

Trademarks are licensed either by themselves or in combination with patent rights. Fairly elaborate controls over its use as well as over the quality of the product with which it is identified will normally be desirable when a mark is licensed. Package licensing of patents, trademarks and know-how is often advantageous but it may raise problems in antitrust, tax, or other branches of law. Such licenses need to be carefully and expertly drawn.

A trademark, unlike a patent or a copyright, is not a monopoly grant. The exclusive right is only in the mark or in the name itself, and is not in the product to which it is affixed. The mark is purely an exclusive identifying symbol, even as a person's name is such a symbol, although it is not always exclusive.

Although trademark registration in the United States is normally valid for 20 years, successive renewal is possible. The use requirement, however, remains essential. In this respect the United States law follows that of the British. The six countries that rely primarily on the use of trademarks to give them special legal status are referred to as common-law countries and include Canada, Australia, France, Italy, Switzerland and Japan. However, in some foreign countries exclusive rights derive from registration of trademarks rather than from their use. These are known as civil-law countries and they include Germany,

Russia and most of Latin America. In still other countries both use and registration may be required. These are known as mixed or compromise countries. They include Mexico, Spain, Norway, Denmark and Brazil.

#### THE VALUE OF TRADEMARKS

Trademarks have little or no intrinsic value but they derive such value as they may possess from appropriateness, the quality of the product or the service to which they are attached, and the promotional efforts exhibited by the mark owners. Some marks are selected to incorporate a capsule advertising message or thought, such as "Beautyrest" mattresses, or to convey some particularly desirable quality of the product or service, such as "Hercules" powder (strength) or Prudential's insurance's "Rock of Gibraltar" (stability).

There are many elements to be considered in trademark selection besides their uniqueness and suitability. These include brevity, ease in reading, speaking and remembering, adaptability to pictorialization, and subtlety. Because of the high cost of trademark promotion, each selection should be a careful process assisted by thorough research and evaluation, and should include the testing of buyer reaction.

Trademarks may have only nominal values in financial statements, but they may be extremely valuable in potential earning power. Like goodwill, with which they are considered and of which they are actually a part, their real value is revealed only in occasional sales of a going business and often not even then. A trademark may not be sold by itself, separate from the business with which it is identified, without being lost. A mark is intangible, open to depletion and to exhaustion as well as to continued appreciation. Licensing terms may be an even better indication of trademark values since rental transactions of this nature are more usual than their sales.

Since a trademark symbolizes goodwill it is now fairly well-settled that a mark used on one article cannot be appropriated by a stranger for use on another article of a different kind even though there is a reasonable likelihood that the public will be deceived into believing that the second article is actually the product of the trademark proprietor. Even if the products do not compete, the goodwill of the mark owner may be reduced.

In line with its standing policy of basing research findings on factual evidence, The PTC Research Institute plans to develop evidence on trademark values by questionnaires and interviews addressed to business firms that own such marks. The questions will include how long the marks have been used, the duration of use of the marks, the

amount of promotional expense properly assignable to them, and the quantity of assignable expenditure believed to have created values of more than a transitory nature. This survey should contribute greatly to accurate appraisal and interpretation of our present trademark complex.

Mr. Justice Frankfurter, in a well-known decision of the United States Supreme Court, remarked that:

The protection of trademarks is the law's recognition of the psychological function of symbols. If it is true that we live by symbols, it is no less true that we purchase goods by them. A trademark is a merchandising shortcut which induces a purchaser to select what he wants or what he has been led to believe he wants. The owner of a mark exploits this human propensity by making every effort to impregnate the atmosphere of the market with the drawing power of a congenial symbol. . . . Once this is attained, the trademark owner has something of value.

The private values that trademarks represent need to be distinguished from the social values that inhere in the system. These depend in part on whether consumer preference is actually assisted or impeded by marks of origin. Advertising is often condemned by those who regard it as basically wasteful because it sometimes aims to distort rational choice, and because much of it is self-cancelling. On the other hand, in any economy basically dependent on both private initiative and private profit, advertising has informational value. It is also basic to the process of market development and enables economies of scale to be realized. One need only contemplate the confusion that would result if similar products competed without marks of origin in order to realize that the system we have, although it may incorporate faults, is basically useful and necessary.

The use of marks of origin for distinguishing commercial goods one from another is very old. The definition of the precise legal status of these marks is however much more recent. Trademark laws are relatively new and date only from the latter half of the 19th century. In the common-law countries unfair competition was originally an essentially local problem rather than a national one. Only as markets broadened did the need for uniform rules of fair competition on a national scale become apparent.

In the United States the national trademark law applies only to such trade as Congress, under the commerce clause, is empowered to regulate. We still have numerous state statutes dealing with trademarks and some of these are anachronisms. One issue is whether these state laws should be made uniform and whether some of them, in view of national and international commerce, are even necessary.

Business strategy today is, at root, a complex game in which individual aspirations for growth are rationalized by the competitive process into aggregate growth in the business sector. Increasingly as we move toward affluence, competition takes forms other than that of price reduction. Large businesses compete in new-product development, in better service to consumers, and in quality as well as in price. In this competition trademarks are an essential fixed point around which tactics of market expansion can evolve as competing business strategies unfold.

Many businesses face the problem of how many trademarks they should undertake to promote. They probably have a basic mark that is used on all of their products. If their product line is broad, they may also employ numerous individual marks or names to identify particular products. Companies producing soaps and detergents, for example, often employ many marks. A relevant question is always whether promotional outlay is more effective if it is concentrated or if it is dispersed. This has to be answered in individual cases on the basis of the market strategy that is being employed.

As a component of generalized goodwill, trademarks appreciate in value as a result of all the activities that contribute to that goodwill. Particularly important in this respect are those activities that maintain the quality and uniformity of the product or service identified by the mark. Promotional efforts may be in vain without this quality control. In an era of large-scale production and automation, this quality control will be a difficult engineering and management problem. Services, more individualized in character, are naturally harder to subject to effective quality control than manufactured goods.

Development of trademark values is not more important than the maintenance of these values. Marks must be policed and defended, not only against infringers but also against careless usage that may speed the deterioration of a protected mark into a generic descriptive term such as aspirin. Companies with valuable marks police them by distributing style sheets and booklets which illustrate both their proper and improper usage. These same companies scan published material for innocent improper usage of their marks. In these cases a letter which calls attention to the misuse is normally sufficient. Where a willful violation is encountered, the law provides remedies which are chiefly in the form of injunctive relief and recovery of damages. Exact determination of damages in trademark infringement cases is a particularly difficult problem.

Risks of loss are particularly heavy when a mark is licensed. If the licensing takes a form that can mislead the public as to the true origin



of the product or service, the mark may be formally lost. Even if this does not happen, by careless practice the licensees can depreciate their mark by lowering the standards of service formerly associated with it. For these reasons as well as for others, licensing must be protected by safeguards which the owner of each mark imposes and consequently constantly polices to make sure that they are observed.

Trademark values are potentially fleeting things. They require a good deal of initial ingenuity for their creation and development and then constant vigilance for their protection. In this respect they resemble the "good name" of a person.

#### TRADEMARK MANAGEMENT

Trademarks grow in value and they maintain that value only through proper management. Proper management covers the wise selection of the mark or marks, their registration, promotion, policing, licensing and any other form of exploitation; their reregistration when necessary, and any other activities that are needed to maintain their distinctiveness and identity. Decisions concerning local and foreign registration must be made, licensing terms must be studied, and licensing results must be evaluated. All these activities may be centralized in a department that is also concerned with patents or they may be dispersed in a different chain of responsibility. The important point is that prudent and aggressive management is highly essential.

Much good advisory work in this area has been done by the United States Trademark Association, a commercial body that was formed before 1900 to promote the interests of trademark owners. This association for many years has published a journal, *The Trademark Reporter*, and has also engaged in other activities that promote better understanding and appreciation of the trademark system.

Trademark administration within a business includes preserving the historical records that concern the adoption and the use of each mark, obtaining the registration (and reregistration when necessary) that provides proof of its continued use as required under the Lanham Act (the Federal trademark statute dating from 1947), and overseeing all the activities that contribute to trademark promotion. It also includes all the processes devoted to policing the mark and the procedures against all who misuse it, either innocently or otherwise.

Paradoxically, the better known and more valuable a mark becomes, the more difficult it is to administer. The risks of loss increase, particularly when a number of sellers are licensed to use the same mark.

When patents and trademarks are licensed together and the mark

serves as a cover for the extension of the life of these patents or for maintaining the payment of royalties after the patents have passed into the public domain, then some difficult problems can arise. Many franchising activities raise problems of this nature as well as antitrust problems. The law in these cases is complex and not fully settled. Final clarification from the Supreme Court is still awaited.

A question sometimes arises as to whether a seller's interest will be promoted better by a design patent or by a trademark. The former is of course a monopoly right which can be used to exclude others from making the same article. As such, a design patent calls for novelty and inventiveness and has a limited life. The latter, the trademark, is not a monopoly grant, and so carries no exclusive rights except in its name, symbol, or the arrangement of its colors and characters. For many years the United States Patent Office held that a container or configuration of goods that was covered by a design patent could not be registered as a trademark on either the principal or the supplemental registers. However, a 1964 decision by the Court of Customs and Patent Appeals (*In re Mogen David Wine Corporation*, 140 U.S.P.Q. 575) held that a design patent need not be a barrier to trademark registration on either register.

For many years the Patent Office also denied principal registration to containers and design configurations on the ground that they were not within the definition of trademarks for purposes of principal registration. However, this rule has been modified somewhat in recent years so that particularly shaped containers for liquids are now admitted to the principal register. It would appear therefore that the law in this area is not yet fully settled and that a business that is anxious for the maximum protection of its product should investigate the possibilities of both design patents and of trademarks.

#### PUBLIC INTEREST IN TRADEMARKS

Public interest in trademarks is to be found primarily in the avoidance of confusion in the marketplace and in the continued ability of consumers to distinguish one product from another. It is primarily for this reason that the exclusive right to use a mark is granted by the common law, and that under the existing statute registration will be denied a proposed mark that is confusingly similar to one already established. There are virtually no controls in the trademark law over the efforts that may be made either to promote a particular mark, or to endow the trademarked product or service with distinctive properties. Of course, false and misleading claims in advertising are subject to action by the Federal Trade Commission.

Once expensive efforts to promote a mark have been undertaken and they have been crowned with a substantial degree of commercial success, then the seller's interest and the public interest may correspond. Even though there may be little or no actual difference in performance characteristics among certain competing products, as the consumer research organizations like to contend, public preferences for brand names are a fact and an actual objective of marketing strategies. Moreover, the alleged social disadvantages of advertising have not been effectively documented.

In a world of constant purchasing, consumers cannot be walking test organizations. They must rely on marks which are known to them and in which they have confidence, however irrational this confidence may be. A mark that does not actually symbolize a uniform standard of quality or service will quickly lose its value. The fact that the public interest is fairly well protected under our existing trademark arrangements is reflected in the absence of a strong demand to change these arrangements fundamentally.

In its continuing work in the trademark area, The PTC Research Institute will detail not only the present status of trademark law but also the prevailing practice under that law. It will collect factual and quantitative data on that practice so that the issues in this field can be discussed against a background of unbiased evidence. It has been our experience that when empirical information has been properly arrayed and analyzed, at least some issues that are based on opinion can be partially harmonized.



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*We are bringing to the attention of our readers an example of the work being done toward the efficient electronic data processing of information on industrial property. Programs along these lines would serve the very constructive purpose of facilitating access to the wealth of technological information embodied in patents. Not only have efforts been made to mechanize examination and search procedures in the United States Patent Office, but numerous systems have been devised for the industrial property operations of companies. The following example of a company system is provided for the benefit of companies and others who might want to exchange information with the author and each other, and who may be undertaking or contemplating the development of their own electronic data processing systems for industrial property.*

## Machines In The Administration Of Trademarks, Patents And Licenses

NORMAN ST. LANDAU

**M**EDIUM TO LARGE SIZE INDUSTRIAL-PROPERTY operations can benefit from the use of modern data-processing methods. Efforts along this line have been made by leading industries and law firms and, prior to the design of the methods described below, the writer and the method engineers associated with him, have reviewed some of the outstanding systems then in existence.

As a result of these reviews and of further consideration of the practicalities of data-processing machinery available to us, we calculated that data-processing methods would be practical for a system having a minimum of 4,000 entries (individual patents, trademarks or applications therefor). We further concluded that for a system exceeding 25,000 individual entries data processing on tapes rather than cards may be indicated.

Since our longest experience relates to trademarks, the following discussion will concentrate on trademarks. Systems for patents were in existence in other companies prior to the origination of our trade-

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\* The author is International Counsel for Johnson & Johnson, New Brunswick, New Jersey.

mark system, and subsequently we developed a system which is referred to later on in this report along with a brief reference to a licensing-control system.

#### TRADEMARK RECORDS

Prior to institution of the trademark system a great number of letters had to be written day in and day out:

1. to notify subsidiaries of our company throughout the world that another subsidiary had selected a new trademark;
2. to learn whether they were interested in registration or use of the new trademark;
3. to notify associate attorneys where indicated that we wanted to register the trademark and for what goods;
4. to assure ourselves that the associates were indeed following up with the registrations; and
5. to notify company executives of the status of various registration programs.

#### SAVINGS IN CLERICAL TIME AND EXPENSE

Since institution of the new system, considerable letter writing has been totally eliminated in view of the fact that nearly all of the foregoing functions are taken care of by the capacity of standard electronic data machinery operating a few minutes a month. Clerical work is largely avoided in favor of brain work to develop most efficiently the capabilities of the system and its machinery.

The system lends itself to quick and accurate clerical handling because the few corrections that are needed as well as up-dating changes are made during any month right on a copy of the report for the preceding month. In other words, if a trademark that was applied in January, 1962 under #593 matures to registration in December, 1965 under #999405, the clerk merely enters in the appropriate column of the report summarizing the trademark status for November, the registration date with the number, and the machine operators add the new information when they convert the November data into the December report.

It has been our experience both in manual and in electronic-data keeping that considerable errors are avoided when a clerk or typist can forego the need to repeat data and can limit himself merely to adding or changing those few data that need change. As a matter of fact, control of errors can be further reduced by obtaining each month a report of changes only, as distinguished from the summary of all existing data. Further correspondence has been eliminated and sim-

plification achieved by the system in providing executives stationed throughout the world with copies of the report that are pertinent to their activity, and 10 copies of the master report are run by the machine at one time at incredible speeds.

#### SECURITY OF DATA

One of the greatest instinctive fears of the lawyer in entrusting his records to an electronic system is the fear that some of the data may be lost. Actually, we have demonstrated that data are more secure within such a system than they would be otherwise. The way this is achieved is by having the machine count and report the data as it assembles and prints them. (See Exhibit 1)

Careful check is made each month to make sure that the overall totals and totals of the number of trademarks in each country in each status do not vary from what they should be. After two years of experience we have not encountered any instances of lost information, but have had rare instances where information would appear twice when it should have appeared only once. If there were an instance where information were found missing, we would simply go back to the report for the previous month and reconstruct the missing data on the basis of the previous month's report and of the correspondence file.

Minimizing human error, or in any case to reduce it greatly as against the punch-card system or hand-typed tabulation, changes in the records are entered by the docket clerk directly in her master record (which she keeps in duplicate with a carbon in between the two copies) and this is done next to the original entry between the lines. For this reason master copies are double spaced. Once a month the docket clerk sends the original record bearing all her changes to data processing where the data are punched onto the records. New reports are issued including these data.

#### SELECTIVE REPORTS

Furthermore, it is possible with the use of a system such as the one presented here to provide selected information and cross-indexing without expensive human effort.

The following exhibits illustrate this point. Exhibit 2 illustrates information on trademarks by country (German Federal Republic) in alphabetical order of the trademark. Exhibit 3 presents out of such a section, cases due in 1965 (see columns 71 and 72). Exhibit 4 presents those opposing a particular client or which are opposed by that client in alphabetical order of the adversary's name. Exhibit 5 presents a collection of agreements in alphabetical order according to the

FORM NO. 14-13 REV. 11-64 TRADEMARK OF JOHNSON & JOHNSON & AFFILIATES

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FORM NO. 14-13 REV. 11-47 ~~100-2~~ **MARK OF JOHNSON / OFFICES & AGENTS.**  
**34 P.**  
**J1914**  
**705206N256 3660766W BRUNSWICK, N. J. 4:**

COUNTRY	I	NUM.	ALPHA	TRADE MARK CODE	TYPE OF TRADE MARK	TRADE MARK	CLASS OF GOODS	BY	INITIAL	DATE OF FIRST FILING	O N E	APPLICATION		REGISTRATION		DATE EXPIRE		NEED ACTION	T A U B	L.C. OR USER
												NUMBER	DATE	C O D E	NUMBER	DATE	MO			
362 GFR	0050003	ACI-JEL/TH.VAG.CRMS.&JEL	14A	19-38	38	40-41	42-43	44	45	46	47-48	49-54	55-56	57-63	64	65	66	67	68-78	
362 GFR	0050004	ACI-JEL/TH.VAG.CRMS. & JE	14A	19-38	38	40-41	42-43	44	45	46	47-48	49-54	55-56	57-63	64	65	66	67	68-78	
362 GFR	2740000	DDEULAN&CILAG/DFTS.20150	14A	19-38	38	40-41	42-43	44	45	46	47-48	49-54	55-56	57-63	64	65	66	67	68-78	
362 GFR	2890003	DDIAZIL&CILAG/SFA.	14A	19-38	38	40-41	42-43	44	45	46	47-48	49-54	55-56	57-63	64	65	66	67	68-78	
362 GFR	3410001	ETHICON/MDCL.FRDS.	14A	19-38	38	40-41	42-43	44	45	46	47-48	49-54	55-56	57-63	64	65	66	67	68-78	
362 GFR	3410005	ETHICON/MDCL.FRDS.	14A	19-38	38	40-41	42-43	44	45	46	47-48	49-54	55-56	57-63	64	65	66	67	68-78	
362 GFR	4340000	HUGHES/MRS&BTL&BSHS	14A	19-38	38	40-41	42-43	44	45	46	47-48	49-54	55-56	57-63	64	65	66	67	68-78	
362 GFR	4550000	JODURON/IO.FMCS&CSTS.	14A	19-38	38	40-41	42-43	44	45	46	47-48	49-54	55-56	57-63	64	65	66	67	68-78	
362 GFR	5330000	LISTER S/BGDS&ISTS&APPS	14A	19-38	38	40-41	42-43	44	45	46	47-48	49-54	55-56	57-63	64	65	66	67	68-78	
362 GFR	5660000	MEDS/MEDICAL APPARATUS	14A	19-38	38	40-41	42-43	44	45	46	47-48	49-54	55-56	57-63	64	65	66	67	68-78	
362 GFR	5830003	DMETHURAL&CILAG/DFTS	14A	19-38	38	40-41	42-43	44	45	46	47-48	49-54	55-56	57-63	64	65	66	67	68-78	
362 GFR	6460000	NUTRI-DISCS/CMCS&FMCS&MD	14A	19-38	38	40-41	42-43	44	45	46	47-48	49-54	55-56	57-63	64	65	66	67	68-78	
362 GFR	6710000	ORTHO-CREME/FMCS&HUM.DFT	14A	19-38	38	40-41	42-43	44	45	46	47-48	49-54	55-56	57-63	64	65	66	67	68-78	
362 GFR	7890000	RAYTEC/MDLS&FMCS&DFTS&FS	14A	19-38	38	40-41	42-43	44	45	46	47-48	49-54	55-56	57-63	64	65	66	67	68-78	
362 GFR	8150001	SALPIX/CONTRAST MEDIA	14A	19-38	38	40-41	42-43	44	45	46	47-48	49-54	55-56	57-63	64	65	66	67	68-78	
362 GFR	8560000	STERIPAD/CMCS&FMCS&PSVS	14A	19-38	38	40-41	42-43	44	45	46	47-48	49-54	55-56	57-63	64	65	66	67	68-78	
362 GFR	8900000	SURGINE/CMCS&FMCS&MDLS	14A	19-38	38	40-41	42-43	44	45	46	47-48	49-54	55-56	57-63	64	65	66	67	68-78	
362 GFR	8900001	SURGINE/F-A.A.PPARATUS	14A	19-38	38	40-41	42-43	44	45	46	47-48	49-54	55-56	57-63	64	65	66	67	68-78	
362 GFR	8900002	SURGINE/CSMS	14A	19-38	38	40-41	42-43	44	45	46	47-48	49-54	55-56	57-63	64	65	66	67	68-78	
362 GFR	8900003	SURGINE/GAUZE	14A	19-38	38	40-41	42-43	44	45	46	47-48	49-54	55-56	57-63	64	65	66	67	68-78	
362 GFR	9050003	TEK/BTLS&BSHS&CSMS&MDLS	14A	19-38	38	40-41	42-43	44	45	46	47-48	49-54	55-56	57-63	64	65	66	67	68-78	
362 GFR	9250000	TOPPER/CMCS&FMCS&PLTS&DF	14A	19-38	38	40-41	42-43	44	45	46	47-48	49-54	55-56	57-63	64	65	66	67	68-78	
362 GFR	9640000	VELROC/POP.BDGS&SFNTS	14A	19-38	38	40-41	42-43	44	45	46	47-48	49-54	55-56	57-63	64	65	66	67	68-78	
362 GFR	9910000	ZOBEC/PLTS&BDG.MT&DSGS	14A	19-38	38	40-41	42-43	44	45	46	47-48	49-54	55-56	57-63	64	65	66	67	68-78	
362 GFR	9910001	ZOBEC/FD. FSVS	14A	19-38	38	40-41	42-43	44	45	46	47-48	49-54	55-56	57-63	64	65	66	67	68-78	
362 GFR	9940000	ZONAS/PLTS&BDG.MT.	14A	19-38	38	40-41	42-43	44	45	46	47-48	49-54	55-56	57-63	64	65	66	67	68-78	
ATTORNEY TOTALS																				
TRADEMARKS 26																				
PENDING REC 26																				
INTERNATIONAL REG 4																				
REGISTRATIONS 26																				
ACTION DUE 26																				
ABAND/REJECT																				

FORM NO 14-13 REV 11-64 TRADEMARK OF JOHNSON &amp; JOHNSON &amp; AFFILIATES

JOHNSON &amp; JOHNSON NEW BRUNSWICK, N. J. '81

				Exhibit 4			
072BLG	6100000DEL	MULTIVITAMINE/SOC ETUDES F	4 25450	B			
033ARG	8650000SEMINOL	EUROPHARMA INT L INC.	4 25680	L			
77KPTL	4280001HEMATOTAL	EURO-LABOR	4 25680	B			
90KSPN	5950000MATOSAI	EUROPHARMA INT L INC.	4 25680	L			
902SPN	6750000KELORON	EUROPHARMA INTERNATL	4 25680	GL			
095SAP	4496000BINDEVAN	EVANS-MEDICAL-LTD.	4 25880	S			
924SWN	5283000CHOCK	AB EWOS	9 2635	CT			
902SPN	4750000BABY	SHAHPOO/FACTOR HISPANIA SA	1 27270	M			
131CAN	7400000PIC.A.PAC	FANCY LINE DOMESTICS	1 27400	L			
093BRZ	2170000CECRISTIN	ETC/LAB.FARMAQUION LTD	4 27450				
093BRZ	2170003CRISTINE	PENCRISTINE/FARMAQUION	4 27450				
093BRZ	2170004BETACRISTIN	LAB.FARMAQUION	4 27450				
ROKSPN	4354000HIFNOX/V	FERNANDEZ NOGUERA	4 27890	Q			
902SPN	7608000NEPREX	LAB.M.FERRER & C.L.	2 27900				
224DMK	4496000IVORAN	A.B.FERROSAN	4 27910				
895SAP	0840001BILAGEN	A.S.FERROSAN	4 27910	CT			
224SWN	2972000DIFERRON	AB FERROSAN	4 27910				
924SWN	2972003DEPIANDRON	FERRING AB	4 27910				
093BRZ	4710000JOHNSON	ALBERGO FLAKOPSKY	1 28110	F			
033ARG	8166000TROMBOFLEX	FILEY INDUSTRIA QUIMIC	9 28230				
033ARG	8600000MASLIN	FIADOTI S.C.A.	9 28230	B SW			
36KGFR	0640003PLEFURIN	FLAMMER SEYFENWERKE	4 28540				
033ARG	2650001DELFTEN	CURT FLIESS	6 28600				
033ARG	2650000CENTISALIL	LAB.FARM.FLOMA LTDA.	6 28610	DF			
90KSPN	3450002ETHION	FMC CORP.	5 28650	ND			
36KGFR	1400000CARMOSINE	4711	4 28930	ND			
36KGFR	4126000DRION	4711	4 28930				
36KGFR	4496001INVANO	4711 COL. & PERP. FABRIK	4 28930				
36KGFR	3253000SENORA	EAU DE COLOGNE 4711	4 28930				
36KGFR	8405001SPARTADONT	4711 EAU DE COLOGNE	4 28930				
391GBT	2070000DIOPRINE	FO-WE	4 29080	S SW			
36KGFR	4740001MER	FRANCK & KATHREINER GMBH	5 29170				
16KGFR	0960003BONDAFLEX	C.FREUDENBERG	3 29250	F SQ			
224DMK	0880000BIOSTOP	FREDERIKSBERG CHEM.A/S	5 29260	SM			
36KGFR	7395010PANSOL	DR. JUL. FUCHS 7395022	4 29490				
472TLT	7130000PERMASEAL	WILTON CO.	3 29580	H			
093BRZ	7340000SOFT	FURSAND LABS./PETAL SOFT	2 29720	6864 SQ			
033ARG	6398500NOVUL	EX/LAB.DR.GADOR Y CIA.	6 30140	B			
033ARG	6870000FLOROTIST	DR. GADOR & CIA.	6 30140				
162GFR	5120002EUROGAL	CALIFORNIA ARZ. GMBH	2 30230	GW			
36KGFR	9830001VITACOR	GALENICA DR. REITERICH	2 30230				
294VNZ	7116000DEER	YUDAN/GALENO QUIMICA S.A.	4 30350	A			
033ARG	6398500GASTROTON	CARMEN LUPO DE GARCIA	4 30350	C SQ			
033ARG	6398500GASTROTON	CARMEN LUPO DE GARCIA	4 30350				
34KFR	7395000PAXANOL	O. GAUDIN	4 3052	41064 LB SWML			
224DMK	7393000GEADORM	A.A.GEA FARM.KEM	4 30620	NCCT			
36KGFR	2830000RIVASED	CERRUDER GIULINI GMBH	4 30620				
16KGFR	7393000RIVADORM	CERRUDER GIULINI	4 30620	0364 SL			
36KGFR	7367001TANNYL	GEHE UND CO.	4 30680				
36KGFR	4370101TREVREX	GEHE UND CO.	4 30680				
093BRZ	6960001ANAFLEX	ED GEISTICH SONNE AG	4 30690	42464 GF O			
68KRLD	8358002KEPAN	J.R. GEIGY S.A.	4 30690	O CT			
832SWZ	0570000ATRAZOL	J.R. GEIGY S.A.	5 30690	621184 UK S			
36KGFR	8366001SONNOPAX	GERMAN PATENT OFFICE	4 30850				
093BRZ	8890005SYNOL	D.W. GIBBS LTD.	1 31090				
391GZT	6670000DETAES	GIBBS LTD. LONDON GBT	6 31100	H			
093BRZ	9050001TECH	GILLETTE SAFETY RAZOR CO.	8 31370	001664 Q			
36KGFR	0436502ANTIDOL	GERB. GIULINI GMBH	4 31490	O			
753PRU	1150000BETNASOL	COLMENARES GLAXO	4 31570	T			
895SAP	7453000FRIEX	GLAXO LABS. LTD.	4 3157	CT			

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company with whom the agreement is made including an outline of the agreement's main provisions. Exhibit 6 shows a particular client's trademarks in order of registration numbers (last column) in regard to the country or any other factor, in order to facilitate locating numbers that may otherwise be meaningless. Exhibit 7 selects trademarks from a list of corporate trademarks in order of vowels and disregards other letters (the o-i's following the o-e's, etc.). This is useful in handling contested cases on a worldwide basis when often the attorney does not remember that his own company has a mark that differs in only its first letter, but is as close to the newly applied trademark as the adversary's.

## Exhibit 5

932SWZ	2676003PY/FF	M DELONAL/E.MERCK A.G.	56701
93KSNZ	616900010-64/FF/U.O.F.HFNS.ACC.SDTV.HTV	MWNAFIRON/E.MERCK	56701
932SWZ	829500112-63/PT/FF	MFSERSEDAL/E.MERCK A.G.	56701
93KSNZ	93450019-64/FF/U.O.F.NLPTS.IN.PSYCH.	MWPERHYDROL/E.MERCK	56701
96KTNS	2676003PT/PT	M DELONAL/E.MERCK A.G.	56701
96KTNS	616900010-64/FF/U.O.F.HFNS.ACC.SDTV.HTV	MWNAFIRON/E.MERCK	56701
96KTNS	829500112-63/PT/FF	MFSERSEDAL/E.MERCK A.G.	56701
96KTNS	93450029-64/FF/U.O.F.NLPTS.IN.PSYCH.	MWPERHYDROL/E.MERCK	56701
990VTN	2676003PT/FF	M DELONAL/E.MERCK A.G.	56701
990VTN	616900010-64/FF/U.O.F.HFNS.ACC.SDTV.HTV	MWNAFIRON/E.MERCK	56701
990VTN	829500112-63/PT/FF	MFSERSEDAL/E.MERCK A.G.	56701
990VTN	93450029-64/FF/U.O.F.NLPTS.IN.PSYCH.	MWPERHYDROL/E.MERCK	56701
36KCFR	0090000PT/FF	O ATUCOMBIN-MERRELL-BEIER	56731
924SWN	4475002THEIR CONSENT/AUGUST 63	MEINPLACEN/MERZ & CO.	56781
362CFR	57300017-64/FF/U.O.F.SRG.SUTS.	E MERZULEN/MERZ & CO.	56781
042AUT	7840000UD O.F. IRON&CA PEP PT/FF	O RMYKAL H. NICHOLSEN GF	0057001
36KCFR	8730003APPL. WITHDRAWN/	O SULTRAN MOBIL OIL AG.	0057691
8955AF	9610000UD O.AS VEGETONE-61LAG/FF	MS VEGETEX MODERN HEALTH P	0057711
042AUT	0050000NOT UD.F. CTR LBT J/	O CATHEJELL FABRIK MONTAV	0057341
004JNP	8420500SPITRAMIDE	MW	58081
001USA	3890000NOT UD.F.LQ.DS.NOT UD	FLOCRON MOR	0058541
000	8024000PT/FF/U.O.F.VASCULAR HEADACHES	MEERGOMAR/MUNDIPHARMA AG	58931
362CFR	1450000NOT UD.F.DIS OF ORNS/	MS CUAISIL MUNCHNER PHARM.	0058931
362CFR	6190000NOT UD.F.DIS OF RFR ORNS/	MS CUAISIL MUNCHNER PHARM.	0058931
000	40300005-64/U.O.F.LAX.PRPS.	O GENTLAX/MUNDIPHARMA A.G.	58951
391GRT	1990000UD.O.F.DPRS/MOT REG.F.DPRS	N CHUK-MUNRO & CO.	0058951
-72BLG	08100010-61/N.F.USE-MARK ALREADY REGD.	MWBICLINE/NEDERLANDSE G.	59981
024SWD	2820001PT/REG.O.F.E.RLOS	MS DELFUCIN/NEDERLANDSCHE	0059981
000	2650001PT/NOT UD.F.DELFEN GS	O DELFUCIN NLD GIST&SPIRI	0059981
332SWZ	6477000NOT F.BBY.SUGAR.PRDS./FF	LSNIDEX/SOC.FROD.NESTLE SA	60391
362CFR	0880003U.O.F.AB.PIR&CRM.F.MD&HYC/FF	E BIDDOK/NESTLE A.G.	60391
000	5890002UD.SREG.O.F.MW&ASIF PT/FF	NIGRIN NIGRIN WERKE GFR	0060721
352CFR	6670000PT/FF	O ORTO NIGRIN-WERKE GFR	0060721
352CFR	6671000PT/FF	O PE ORTO NIGRIN-WERKE GF	0060721
004JNP	457700015SPRILENE	MW	61091
000	8740000PT/FF	MS SUFFUND NGRIMARKWERKE	0061151
-00	93450088-63 FF/U.O.F.NLPT.PRPS.	MFTRYPSITROL/NORDMARK-WERKE	61151
137CEV	0087400T/	MSSULFONO - NORDMARK-WERKE	61151
166COL	0008700T/	MSSULFONO - NORDMARK-WERKE	61151
924SWN	2740000PT/REG.F.LQZ	MS DESORAL PAUL NORDSTROMS	0061151
033ARG	6396000FF/U.O.F.TROLZRS.	M NORVITAL/NORVIT SCHICK	61261
924SWN	786500110-30/FF/U.O.F.PAT POISON	9 RAPITARD/NOVO INDUSTRI	61301
924SWN	7830000REG.& UD.O.F.FTR DCS F.DAIRY	RAPID NYSTROEMS ORGE	0061871
004JNP	8421000SPITRODIPLAMINE	MW	62181
033ARG	8940000FF/U.O.F.TIME RELEASE TAB.	M SUCCINEK/OCEFA	62541
000	8120002PT/FF	MS LYSTENON LYSTENON OESTR	0062541
-04JNP	8162000THIAZOTHIEENOL	MWIPERCOL	64381
362CFR	7769000NOT UD.F.DFT F.URI.PASSAGE	MS KYRIFRYLL OFFERMANN SOH	0066111
391BET	7760000PT/NOT UD.F.DFT F.URI.PASSAGE	MS KYRIFRYLL OFFERMANN SOH	0066111
000	7760000-64/PT/FF/RESTRICTED-EX191.	MSOPOFERROL/OPOCALCIUM&OPTI	66201
342FRA	6520000NOT UD ON IRON TC/FF	MSOPOFERROL-LAB OPOCALCIU	66201
000	2676004FF/E.AU.O.F.OBAL RHIN.PRPS.	M LYNORAL/ORGANON	66391
924SWN	4030000PT/FF REG.O.F. HRM PRP	O CESTERAL N.V.ORGANON	0066391
362CFR	2170000PT/FF	M GUSTIN ORIMEX HAMBURG	0066411
042AUT	0090000N.U.F.HEMOGLOBIN PRPS.	O ALLERGLOBIN/OSTERR.INST.	66801
033ARG	1800000DUR CONSENT/MARCH 63	7PFI BERGLAS/OWENS-CORNING	67731
362CFR	6960000UD.O.F. M RLXT PT	M PANTAPLEX PANTAPLEX-VER	0069011
362CFR	6960000MSC. RLXS/	M PANTAPLEX PANTAPLEX AB	69011
000	65130017-64/PT/FF OUR OCARON	MSCARON/PARFUMS CARON	69051
000	3370002PT/U.O.F.HORMONE PRPS	MSSESTRINOR/PARKE DAVIS & CO	69071
084RLV	3340000PT-64/PT/FF/MUTUAL RESTRICTION	MSLIVIBRON/PARKE DAVIS & CO	69071
144CHL	6980000FF	M PANAFORM PARKE DAVIS	0069071

S 3191X3

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## LICENSING RECORDS

Variations of the system used on trademarks have been prepared for licensing records, patent records, and international food and drug records.

Exhibit 8 illustrates a typical licensing record. Such a record is considered a useful bridge between the lawyer, who is familiar with the legal provisions, and the accountant, who needs to keep track of the financial facts of the license agreement. Here, in particular, the mathematical ability of the computer can shine when it flags situations where the agreed minimum payment has not been met, or where there is disparity between the number of articles sold and royalties

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## PATENT RECORDS

In connection with patent records a form of a type illustrated in Exhibit 9 is used. Because the description on one in the same invention and certain steps of a worldwide protection plan are uniform for all countries, we have selected a system where these standard matters (the first 3 lines for 2 fictitious examples shown in the Ex-

Exhibit 7

SWZ	65750010	PERIDINE/FMCS&MDLS	DEII4LB 5	MF	190342	255774	
BLG	66550000	ORPENIC/CR. PENICILLI	OEIO	KW	*	1622	
GFR	60300020	MODESS/INSTRUMENTS	OEIO	K2 2G	*	445495	
USA	09600030	BONDES/NOT IRON TAPE	OEO	-50563	20212-6	655655	
BLG	22300000	CO-ETS/COTN. APPLICAT	OEOA	2	*	80404	
CFR	65200000	FEROL/M-RLXT. AGC	OEOA	-3362MS	15526604	181577	
SWZ	65200000	FEROL/MRLXT. AGC	OEOA	861MS	*04	153266	
BLG	23400000	CORATONE/FMCS	OEOE	4W	*	1178	
USA	92100022	PBEC/UNDERPADS	OEU6&DS4M-64		20845964		
USA	92500000	TOPPER/SURGICAL DSGS	OEU1	4W	64074313	589006	
USA	6060-0000	KEYS 3 IRG. PUBS	OBY	LB	65466303	609116	
BLG	63940000	NOKEMYL/FMCS	OBY	5	MW	1540	
GFR	63940000	NOKEMYL/FMCS	OBY	5	MW	154078	212671
SWZ	63940000	NOKEMYL/FMCS	OBY	-5	MF	154078	212671
GFR	09800000	BONLINE/N-WVN, TKTS	OI	8CP	P		
BLG	22650000	COLITAL/FMCS	OIA	4W	*	952	
BLG	83660000	COMIPAX/FMCS	OIA	MW	*	1873	
GFR	23000000	COMBI-PAS/FMCS	OIA	-5	MS16028526	192556	
SWZ	23000000	COMBI-PAS/ CHEMICAL	OIA		MS	*26	160285
SWZ	83660000	COMIPAX/FMCS	OIA	-5	MW	187312	253781
USA	23170000	CONFIRMAGEN/DGN. REAG	OIAE7DM	06640	19741974	789290	
USA	80000010	ROLSTRIP/DAIRY FILTE	OIAI	3J858	63072-8	679265	
BLG	84035000	OTIMASK/IDL. PPR. ADH	OIAI	1W	*	2145	
GFR	84035000	OTIMASK/IDL. PPR. ADH	OIAI3LB	1W	214535		
GFR	09800007	BONLINE/N-WVN. FABRICS	OIAI8CFM1	P	C1274692		
SWZ	84035000	OTIMASK/IDL. PPR. ADH	OIAI3LB	1W	214535		
BLG	65830000	PTICARBONE/FMCS	OIAQ	MW	*	940	
USA	40800000	CLO-BRITE/PLG. CLTH.	OIE	295347	35134754	317934	
USA	10700000	BROMIPHEN/PHBRTL. PHM	OIE	-6732M	43055640	380463	
GFR	09790010	BONLINE/NWN. TXT. LNG	OIE	3CPK4	7S19742143	270657	
GFR	23420000	CORIPEL/FMCS	OIE	5	JY36897076	128523	
GFR	23420010	CORIPEL/CRN. PLTR	OIE	10	JY 3697076	128523	
SWZ	99700010	ZOXINE/BDGS&DSGS	OIE	-5	MS 4982-0	183747	
SWZ	23420000	CORIPEL/FMCS	OIE	5	JY36897076	128523	
SWZ	23420010	CORIPEL/CRN. PLTR	OIE	10	JY 3697076	128523	
GFR	09790000	BONLINE/NWN. LNG. MTL	OIE	7S	176243		
GFR	09790000	BONLINE/PPR. ARTS	OIEA3CPJ6		7S19742143	270657	
USA	30000000	DOTTIE/TEXTILE CLEAN	OIEE	29	7	62268-8	683666
GFR	83620000	SOLITEK/MDLASRG. IST	OIEI1G110	MS			
SWZ	09800000	BONLINE/TEXTILES	OIEI	CP 0	7S	537160	184203
SWZ	83620000	SOLITEK/MDLASRG. IST	OIEI1G110	MS		39113	
USA	40800000	CLO-BRITE/DUSTERS	OIEU	292567		678746	638038
GFR	83620010	SOLITEK/FMCS&VVS&HY	OIEY1G1	5	MS		
SWZ	99700000	ZOXINE/FMCS&VVS&MDLS	OIEY	-4	MS 4982-0	183747	

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hibit 9) are on magnetic tape while the other data are on punch cards. This permits having the benefit of the general information even in special reports pertaining only to one country or to a selected group of countries. The system is particularly helpful in segregating secret cases (S in column 20, as distinguished from N in that column) and in paying taxes either annually or several years at a time.

#### AUTOMATIC BILLING

Variations of our patent and trademark record-system have been used successfully by at least one law firm to provide automatic billing to clients by computer on a time basis depending upon the level of the staff member handling the assignment.

**Exhibit 8**

[illegible]

CARD CODE	DOCKET CODE	COUNTRY		PATENT APPLICATION		PATENT		NEXT NEEDED ACTION		ATT. INSTR'D	CASE STATUS	NAME OF		CLASSIFICATION OF INVENTION							
		NUM.	ALPHA	NUMBER	FILED DATE MO. DAY YR.	NUMBER	DATE MO. DAY YR.	EXPIR. DATE MO. DAY YR.	RATING			DATE MO. YR.	TYPE		APPLICANT	ASSIGNEE					
12	1-2	3-5	6-12	13-15	16-18	19-21	22-29	30-36	37-43	44-49	50-51	52	53-56	57-58	59-60	61	62-63	64-67	68-71	72-79	80
12	003	ACH0007					VACUUM FLUORINATION OF TRIVALENT RING COMPOUNDS														
22	003	ACH0007					FILE CONF GET PAT IN MAL-SIN & TRD														
32	003	ACH0007					BIG CONF FRA PAT														
32	003	ACH0007					769 100361														
42	003	ACH0007					190320 31764N														
42	003	ACH0007					569618 52563N														
42	003	ACH0007					093BRZ IN 100162C														
42	003	ACH0007					932857 92962C														
42	003	ACH0007					701578 100162C														
42	003	ACH0007					391GCT NM														
42	003	ACH0007					476JMC AN														
12	016	ACY0003					SPLIT APPLICATOR FOR SUPERHEATED CANDLES														
22	016	ACY0003					CIP ACY0001														
22	016	ACY0003					REG GET PAT CEY-MAL-SYN														
32	016	ACY0003					75678 111561														
32	016	ACY0003					59876 121963N														
32	016	ACY0003					1 A 2 B 1 C 6 D														
32	016	ACY0003					1 A 2 B 1 C 1 D														
32	016	ACY0003					FINAL TOTALS														
32	016	ACY0003					2 A 4 B 2 C 7 D														
32	016	ACY0003					SEQUENCE ERRORS														
32	016	ACY0003					3 ACTION CARDS														
32	016	ACY0003					ABANDONS														

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Exhibit 9



#### SELECTED REPORTS FOR BUSY EXECUTIVES

For busy executives who do not care to read a long report abbreviated reports of changes only are readily prepared from the change material transmitted by the docket clerk to the data-processing group.

#### SUMMARY OF EXPERIENCE

Actual experience with automatic record keeping over a period of five years has shown that such a system is thoroughly practical for medium to large corporate departments or law firms, that it saves substantial clerical time and thus pays for itself, that it prevents mistakes by placing records where and when they are needed and promptly correcting them, and that such a system effectively deals with the ever increasing complexities of industrial property litigation and with the difficulty of training clerical personnel to deal with the complexities of industrial property.



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## STUDENT PAPERS

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By making available student papers, students will receive an incentive and our readers will appreciate the evidence of scholarly development in the fields of interest. These papers are carefully reviewed by the Editorial Committee and other specialists, and helpful suggestions are made to the students as part of the educational function of *IDEA*. The Research Institute invites educational and research institutions to submit informative student manuscripts on the patent, trademark, copyright, and related systems.

### Government Counterclaim for Patent Infringement

EDWARD D. DREYFUS\*

#### SUMMARY

**O**NE IMPORTANT ASPECT OF A COMPANY'S PATENT POSITION is defensive benefits derived therefrom. Thus, a company with a strong patent program can commercially act in a particular field with some degree of certainty that it will not be sued for patent infringement by competitors. Although there is no agreement not to sue, the competitor knows that its suit is certain to induce the company to bring a counterclaim or separate action for patent infringement. In this way, patent ownership can sometimes indirectly help a company avoid patent litigation.

This paper analyzes the question whether or not the defensive aspects of patents are available to the Federal Government.<sup>1</sup> After reviewing facts bearing on the Government's present patent position, a study is made on the legal and policy factors which affect the Government's right to counterclaim for patent infringement.

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\* The author, while a senior in Law School, was the recipient of the 1965 Patent Office Society Student Award for this paper submitted in partial fulfillment of the requirements for the Seminar and Lecture Series given by The PTC Research Institute in conjunction with The George Washington University Graduate School of Public Law.

<sup>1</sup> At the writing of this paper, the Government has for the first time counter-claimed for patent infringement in *Tektronics, Inc. v. United States C. Cl.*, No. 79-61.

## BACKGROUND

THE GOVERNMENT HAS CONSENTED TO BE SUED in the Court of Claims for patent infringement resulting from its acts or the acts of one contracting with the Government by passing the Acts of 1910 and 1918, formerly Section 68 of Title 35, U.S.C. (1940), and now superseded by Title 28, Section 1498.<sup>2</sup> This act is more than a waiver of sovereign immunity<sup>3</sup> and operates to relieve an entity which contracts with the Government from liability of every kind for infringement of patents and to limit the owner of the patent to a suit against the Government in the Court of Claims.<sup>4</sup> If the terms of the statute are met, this remedy in the Court of Claims is exclusive.<sup>5</sup> The principal purpose of 28 U.S.C. 1498 is to prevent injunctive awards against activity of Government contractors<sup>6</sup> and, in effect, the section recognizes the Government's right to eminent domain where the remedy in the Court of Claims is entire compensation (reasonable royalty) for the governmental taking or using of private property.<sup>7</sup> Thus, when a party acts as an agent for the United States Government, an injunction against the party or the United States will not lie.<sup>8</sup>

However, in view of its consent to be sued, the Government reserves the right to defend in the same manner as would any private party sued for patent infringement. The Government has successfully

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<sup>2</sup>Title 28, § 1498, reads in part:

(a) Whenever an invention described in and covered by a patent of the United States is used or manufactured by or for the United States without license of the owner thereof of lawful right to use or manufacture the same, the owner's remedy shall be by action against the United States in the Court of Claims for the recovery of his reasonable and entire compensation for such use and manufacture.

(b) For the purposes of this section, the use or manufacture of an invention described in and covered by a patent of the United States by a contractor, a subcontractor, or any person, firm, or corporation for the Government and with the authorization or consent of the Government, shall be construed as use or manufacture for the United States.

<sup>3</sup>In *Richmond Screw Anchor Co. v. United States*, 275 U.S. 331, 1928 the Supreme Court stated at page 343:

... It [the Act of 1918, now 28 U.S.C. 1498] is more than a waiver of immunity and effects an assumption of liability by the Government.

<sup>4</sup>*Supra*, note 2.

<sup>5</sup>*Dearborn Chemical Co. v. Arvey Corp.*, U.S.D.C., N.D. Ill., ED July 14, 1953, 114 F. Supp. 369.

<sup>6</sup>*Richmond Screw Anchor Co. v. United States*, 275 U.S. 331, wherein the Supreme Court stated:

The intention and purpose of Congress in the Act of 1918 was to stimulate contractors to furnish what was needed for the War, without fear of becoming liable themselves for infringement to inventors or the owners or assignees of patents. . . . To accomplish this governmental purpose, Congress exercised the power to take away the right of the owner of the patent to recover from the contractor for infringements.

<sup>7</sup>*Irving Air Chute Co. v. United States*, Ct. Cl., 93 F. Supp. 633 (1950).

<sup>8</sup>*Stelma, Inc. v. Bridge Electronics Co.*, C. A. N. J., 287 F. 2d 163 (1961).

so defended by asserting, *inter alia*, patent misuse,<sup>9</sup> invalidity,<sup>10</sup> lack of privity,<sup>11</sup> lack of jurisdiction,<sup>12</sup> statute of limitations,<sup>13</sup> and insufficiency of evidence.<sup>14</sup>

Congress has created by law<sup>15</sup> and the courts have recognized<sup>16</sup> the Government's right to negotiate and exercise sound business practices regarding infringement suits.<sup>17</sup>

Furthermore, the Government has acquired title to an increasing number of unexpired patents; in June of 1953, the Government had title to 4,061 unexpired patents, and by 1955 the figure was 5,203. Official reports<sup>18</sup> estimate the Government owned 12,000 patents in 1960 and 14,000 patents in July of 1961, and it is presently estimated that the Government owns approximately 18,000 patents which are still in force today.<sup>19</sup>

Notwithstanding the defenses available to the Government for patent infringement, the increased governmental use of business negotiating practices and Government acquisition of increased numbers of patents, there has been a steady increase in the number of patent infringement suits filed against the Government in the Court of Claims, as well as an increase in the amount prayed by plaintiffs in these suits. Two important factors have contributed to increased governmental infringement of privately-owned patents. First, the Government's principal duty to the people is to establish national security even at the temporary sacrifice of economic welfare. Therefore, eco-

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<sup>9</sup> *Urquhart v. United States* 109 F. Supp. 409 (1953).

<sup>10</sup> *Piet v. United States*, C. A. Cal., 283 F. 2d 693 (1960). The grounds for invalidity were, in this case, a statutory bar based on 35 U.S.C. § 102 (a).

<sup>11</sup> *Gearson v. United States*, 115 F. Supp. 910 (1953).

<sup>12</sup> *Coakwell v. United States*, 156 F. Supp. 749 (1957).

<sup>13</sup> *Hebern v. United States*, 132 F. Supp. 451.

<sup>14</sup> *Ric-wil v. E. B. Kaiser Co.*, C. A. Ill. (1950), 179 F. 2d 401, cert. denied, 339 U.S. 958.

<sup>15</sup> The Act of October 31, 1942 § 3, P.L. 768, 77th Cong., grants power to the Federal Government to negotiate settlements regarding patent infringement suits pending before the Court of Claims.

<sup>16</sup> *Supra*, note 3, wherein the court upheld validity of the Government's obtaining an indemnification clause for certain purposes in Government contracts.

<sup>17</sup> Thus, the court stated (as dicta): (*Supra*, Note 2).

Nor does the language of the statute [28 U.S.C. 1498] warrant any inference that the Government is thereby prevented from engaging in sound business practice of securing indemnity agreements from any of its suppliers.

Also see, for example, ASPR §9-103.

<sup>18</sup> Palmer, *Administration and Utilization of Government-Owned Property*, at p. 11, a report prepared and issued December 23, 1960, under contract NASw-177 of NASA.

<sup>19</sup> *Ibid.*, at p. 12.

TABLE I

Fiscal Year	Cases Pending Beginning Fiscal Year	Amounts Asked By Plaintiffs*	New Petitions Filed Against Government	Amounts Asked By Plaintiffs (New)
1952	53	(3) \$556,013,355	9	(3) \$ 11,995,426
1953	54	(9) 379,456,606	10	(4) 62,120,000
1954	49	(18) 367,566,702	13	(11) 318,118
1955	56	(25) 866,527,320	5	(2) 5,838,818
1956	50	(24) 359,616,138	10	(7) 5,574,683
1957	45	not ascertained	18	(12) 18,717,100
1958	45	" "	19	(15) 739,120
1959	47	" "	17	(14) 11,620,000
1960	56	" "	13	(8) 26,800,300
1961	58	" "	16	(12) 143,080,000
1962	68	" "	14	(12) 27,875,000
1963	73	(59) 173,279,120	11	(11) none specific
1964	72	(59) 168,279,120	19	(14) 39,151,856

\* The figure in parentheses indicates the number of cases filed which prayed for reasonable and just compensation in lieu of a specific amount. The estimated amounts of these cases are *not* included in the shown dollar amount.

This information has been compiled from the files of the Patent Section of the Department of Justice and does not include cases brought in the United States District Courts for which the United States Attorney's Office is responsible.

TABLE II

Fiscal Year	Cases Closed	Plaintiffs Had Prayed*	Plaintiff Prevailed	Prevailing Plaintiff Had Prayed*	Judgments to Prevailing Plaintiffs	Largest Single Judgment
1952	8	(0) \$ 38,266,875	1	(0) \$ 3,600,000	\$ 592,000	\$ 592,000
1953	15	(9) 74,009,904	1	(0) 60,000,000	750,000	750,000
1954	6	(4) 1,357,500	0	—	—	—
1955	11	(3) 12,750,000	5	(2) 2,920,000	408,189	280,689
1956	15	(6) 69,443,218	3	(2) 12,208,218	244,913	220,000
1957	18	(11) 221,701,233	9	(7) 5,075,500	565,000	250,000
1958	17	(6) 73,308,845	8	(6) 10,118,309	1,114,080	425,000
1959	8	(6) 10,025,000	0	—	—	—
1960	11	(7) 858,118	5	(7) —	2,250,000	1,750,000
1961	6	(3) 2,476,547	3	(3) —	289,338	99,000
1962	9	(5) 26,240,300	2	(1) 2,225,000	27,000	20,000
1963	12	(10) 18,325,769	6	(5) 18,325,769	499,250	360,000
1964	7	(5) 90,000	4	(3) 80,000	133,974	101,474

\* The figure in parentheses indicates the number of cases filed which prayed for reasonable and just compensation in lieu of a specific amount. The estimated amounts in these cases are *not* included in the shown dollar amount.

This information has been compiled from the files of the Patent Section of the Department of Justice and does not include cases brought in the United States District Courts for which the United States Attorney's Office is responsible.

conomic responsibility laid down by the Government in the past must give way to more important requirements of defense.<sup>20</sup> And, when defense is given the continuing significance which it has today,<sup>21</sup> it is inevitable that governmental activities will encroach on private rights and property. Second, there exists a current apprehension concerning the ability of our economic mechanisms to grow satisfactorily without active intervention by the Federal Government.<sup>22</sup> Therefore, economic and political pressures urge the Government to remain active and they continue to stimulate the economy by Government spending and contracting.

To get some idea of the extent of Government encroachment on private patent rights and the effectiveness of the Government in defending such litigation, we turn to the appropriate records.

Table I illustrates the number of patent infringement cases pending at the Court of Claims, as well as the magnitude of judgments rendered for the fiscal years 1952 through 1965.

This table shows that the docket of patent infringement suits against the Government has grown steadily from 53 pending in 1952 to 72 pending in 1964. Although it is difficult to determine since the amount asked in many of the cases is not stated, the amount involved as possible damages against the United States in 1964 greatly exceeds the amount involved even a few years ago.

Table II illustrates the number of cases closed, the number of decisions in favor of the plaintiff, and also shows the magnitude of the judgments awarded.

In order to get some understanding of the average amount plaintiff prays in a patent infringement suit against the Government, as opposed to the reasonable royalty determined by the Court of Claims in a judgment thereon, Table III includes only the known amounts asked for and awarded to the plaintiffs in these suits. In averaging the amounts included in this table, it has been determined that the Court of Claims awarded approximately 1/60 of the dollar amounts prayed by plaintiff. This average could account for the increasing percentage of petitions filed in the Court of Claims which pray only for a "reasonable and just royalty" instead of a fixed figure.

The following conclusions can be drawn from the above tables:

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<sup>20</sup> See V. A. Mund, *Government and Business*, 3rd ed., N.Y. Harper & Bros., 1960, ch. 1.

<sup>21</sup> The National Defense Budget for fiscal year 1965 was approximately \$49.3 billion.

<sup>22</sup> For a more extensive analysis, see Fuller, *Government Financing of Private Enterprise*, Stanford University Press, 1948, ch. 2.



TABLE III

Fiscal Year	Sum of Specific Amounts Asked By Prevailing Plaintiffs*	Sum of Judgments Awarded To Prevailing Plaintiffs Asking For Specific Amounts
1952	\$ 3,600,000	\$592,000
1953	60,000,000	750,000
1954	—	—
1955	2,760,000	350,689
1956	12,208,218	236,163
1957	5,075,000	257,500**
1958	60,000,000	280,000
1959	—	—
1960	—	—
1961	—	—
1962	2,225,000	20,000
1963	18,325,769	360,000
1964	80,000	101,474

\* As can be seen from Table II, not all prevailing plaintiffs asked for specific amounts.

\*\* The Government was reimbursed \$119,600 of this amount, pursuant to prior agreements with third party defendants.

This information has been compiled from the files of the Patent Section of the Department of Justice and does not include cases brought in the United States District Courts for which the United States Attorney's Office is responsible.

(1) Generally, the number of pending patent infringement suits against the United States increases every year;

(2) Although it is difficult to determine from Table I, it can be said with some degree of certainty that the average claim (plaintiff's expected recovery) against the Government also increases every year;

(3) There is no steady trend in the number of cases closed per year by the Government, nor is there a definite trend as to the number of cases won by plaintiff;

(4) Although the amounts prayed by plaintiffs are staggering, the writer believes the final judgments obtained by plaintiffs are not of such magnitude as to require the Government to alter its present policy

regarding activities infringing privately-owned patents. Although the largest single judgment to plaintiff was \$1,750,000, it must be recognized that this action was based on patent infringement of patents used extensively in defense radar networks all over the world. Thus, although the magnitude of judgment was great, the public benefit obtained from governmental use was also great.

In summary, although the present amount of judgments against the Government for patent infringement is not critical, it is expected that with increased Government spending and activity, this figure will continue to rise. Moreover, the number of pending potential judgments at the Court of Claims represents serious problems against which the Government (as would any private party) wants the best possible defense including the right to counterclaim.

#### GOVERNMENT POWER TO OWN TITLE TO PATENTS

Paramount to the right to sue for patent infringement is the right and power to take good title to patents. Around the early 1900's, governmental policy<sup>23</sup> and the law<sup>24</sup> regarding taking title to inventions and patents conceived by governmental employees, were in a state of conflict.<sup>25</sup> Opposition to the Government's taking title to patents at that time is summed up by former Commissioner Thomas Ewing,<sup>26</sup> who argued that since the power (to hold patent title) is not expressly awarded to the Federal Government by the Constitution of the United States, this power remains in the people in accordance with the Tenth Amendment.<sup>27</sup> Ewing contends Government ownership of patents is unconstitutional and questions the Government's power to grant to itself the right to exclude others from practicing the invention.<sup>28</sup> But assuming, *arguendo*, the Government

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<sup>23</sup> Government policy attempted to give Government the status of a private corporation regarding employees' inventions whereby, by the common law, title is in the employer for inventions conceived or reduced to practice during the period of employment.

<sup>24</sup> In *Hapgood v. Hewitt*, 119 U.S. 226, the Supreme Court held that title to inventions remains with the Government employee even if he invents while discharging employment duties if he had not been hired to invent.

<sup>25</sup> In 1894 and again in 1907, the Navy Department requested legislation making definite the Government's rights to inventions made by its employees. See Rep. Atty. Gen., Vol. III, 1947, pp. 167-169 and H. R. Doc. 914, 60th Cong., 1st Sess., 1908.

<sup>26</sup> "Government Owned Patents," 10 *J.P.O.S.* 149 (1928).

<sup>27</sup> Amendment X reads:

The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people.

<sup>28</sup> Broder, in his article, "Government Ownership of Patents," 18 *JPOS* 697 (1936), sets forth this viewpoint in greater detail; he states the grant of a

can hold title to patents, Ewing argues that Government suit on these patents would be unfair because the Government has an advantage over private parties regarding where the suit is brought and the cost of litigation. Further, the duty that the Government owes to the public is inconsistent with monopoly. He also implies<sup>29</sup> that if the Government could obtain title and grant licenses to patents, the Government could also sue on its patents. However, he urges that this should not be the Government's policy unless there is a public need for it, as well as a foreseeable advantage to the public. Former Commissioner Ewing concludes he could not see such an advantage and that the Government is obligated to the public not to sue on Government patents.

Courts also saw only limited rights enabling the Government to take patent title. In *United States v. Dubilier Condenser Corp.*,<sup>30</sup> it was held that Government policy could not *create* power to take patent title to an invention made by a Government employee outside the scope of his regular employment duties. The court strongly expressed its feelings in dicta:

... No act of Congress has been called to our attention authorizing the United States to take a patent or hold one by assignment. No statutory authority exists for the transfer of a patent to any department or officer of the Government, or for the administration of patents, or the issuance of licenses on behalf of the United States. In these circumstances no public policy requires us to deprive the inventor of his exclusive rights as respects the general public and to lodge them in a dead hand incapable of turning the patent to account for the benefit of the public. (emphasis added)

Thus, the Supreme Court could not see any benefit or public interest in Government ownership of patents. However, the Supreme Court subsequently ordered, *without comment*, an amendment of the opinion by striking this entire statement therefrom.<sup>31</sup>

Former Commissioner Ewing's wishes and the Court's decision in the *Dubilier* case have not been followed. In *Haughton v. United*

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patent is a grant of power to exclude and the question becomes:

Can the Government grant this power to itself as a person or do all the people individually own the power and therefore no one owns the power? To say the Government owns it and the Government is apart from and not the people contradicts logic and our own heritage.

However, Broder goes on to recognize that if the Government is a corporation with power to protect itself from some of the people for the benefit of the rest of the people, in carrying out its corporate duties, then it has power to exclude. He states, "Exercise of power of Government to sue on patents it owns does not violate good logic."

<sup>29</sup> *Supra*, note 26, at p. 156.

<sup>30</sup> 289 U.S. 178 (1933).

<sup>31</sup> See 289 U.S. 706 (1933).

*States*,<sup>32</sup> it was held the Government can sue in equity for the transfer of title of a patent from a Government employee to the United States. Moreover, the existing law was clear that that title to patent belongs to the Government whenever a Government employee conceives or reduces to practice pursuant to his assigned and compensated employment duty.<sup>33</sup> Beginning with the Tennessee Valley Act of 1933,<sup>34</sup> Congress has passed many laws<sup>35</sup> granting power to the United States to take title to patents conceived or reduced to practice by Government employees or, under some circumstances, by contractors acting under Government contract.<sup>36</sup> Administrative opinions,<sup>37</sup> executive orders,<sup>38</sup> and administrative reports<sup>39</sup> have consistently placed the public on notice that the Government considers itself as having power to acquire title to patents. Moreover, Congress recognizes the right of the Government to hold patents because it has passed laws which authorize Government disposition of patents.<sup>40</sup>

But there is recent support for legislation which would impart more restrictions on the Government's taking of patent title.<sup>41</sup> Apparently,

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<sup>32</sup> 23 F. 2d 386, affirming 20 F. 2d 434, C.C.A.4th (1928).

<sup>33</sup> *Gill v. United States*, 160 U.S. 426, 16 Sup. Ct. 322, 40 Law Ed. 480; *Solomon v. United States*, 137 U.S. 342 (1890); 11 Sup. Ct. 88, 34 Law Ed. 667; *Standard Parts Co. v. Peck*, 264 U.S. 52, 44 Sup. Ct. 239, 68 Law Ed. 560.

<sup>34</sup> 48 Stat. 58; 16 U.S.C. 831 (1958).

<sup>35</sup> Atomic Energy Act of 1954, 69 Stat. 944, 42 U.S.C. 2182 (b); National Aeronautics and Space Administration Act of 1958, 72 Stat. 435-7, 42 U.S.C. 2457 (1958).

<sup>36</sup> For a rather complete picture of factors affecting Government policy as regards the increase of Government taking of patent titles to inventions derived from Government contracts, see *Hearings Before the Subcommittee on Patents, Trademarks, and Copyrights; Committee on the Judiciary; United States Senate, 87th Cong., 1st Sess.*; pursuant to S. Res. 55 on S. 1084 and S. 1176 (1961).

<sup>37</sup> 31 Op. Atty. Gen. 463 (1919); 32 Op. Atty. Gen. 321 (1920); 34 Op. Atty. Gen. 320 (1924); 37 Op. Atty. Gen. 180 (1933); 38 Op. Atty. Gen. 425 (1936); 39 Op. Atty. Gen. 164 (1938).

<sup>38</sup> Executive Order 10096, 37 C.F.R. 300 (1950). The Constitutionality of Executive Order 10096 has been challenged on the basis the President cannot make law by Executive Order: *Youngstown Sheet & Tube Co. v. Sawyer*, 343 U.S. 579 (1952); and see Walker, *The Legislative Process*, N.Y. (1948), pp. 29-31.

But the better view is that Executive Order 10096 merely sets forth a unifying decision for all agencies of Government to follow the common law in absence of legislation involving employer-employee rights and that it makes assignment of patent rights a condition of employment. See Rep. Atty. Gen., Vol. II, (1947), at p. 153.

<sup>39</sup> Report and Recommendations of the Attorney General to the President, hereinafter referred to as *Atty. Gen. Rep.* (1947).

<sup>40</sup> See 58 Stat. 767, 774, 775, ch. 479 § 19, 20.

<sup>41</sup> See Finnegan and Pogue, "Federal Employee Invention Rights—Time to Legislate," 40 *J.P.O.S.* 252 (1958).

supporters feel that patents in the hands of the Government are unproductive and that the commerciability of such patents is wasted.<sup>42</sup> They are on sound ground when they suggest that patents owned by the Government do not instill private investment speculation which would result in provision of risk capital<sup>43</sup> in new and untried inventions. Thus, they go on, Government's non-enforcement policy concerning the right to exclude is objectionable because the normal commercial incentive offered by the patent system is inoperative where title is taken by the Government without specific compensation; and, if the Government does not sue on patents derived from Government employees, these employees are not induced to produce.

Therefore, in order to avoid these detriments and provide the Government with proper protection, they advocate leaving title to patents with the inventor and giving the Government appropriate licenses thereunder. In this way, patent rights to important inventions will find their way into commercial hands which will then spend the time and the effort to develop and improve each idea. No such development and improvement would result for the commercially unprotected idea i.e., where rights are held by the United States Government.

Lastly the proponents of new legislation suggest that "the procurement of patents by the Government, even under a defensive theory, constitutes economic waste."<sup>44</sup> But Saragovitz<sup>45</sup> states that Government patent ownership is important for the following reasons: (1) It avoids costly procedures of tracking down records which show that the Government has priority vis-a-vis another party. (2) Because of the express provisions of our patent laws,<sup>46</sup> mere publication of the invention does not constitute a reduction to practice. (3) In some cases, an invention, made after one duly acquired by the Government, can still be the basis for a patent even though it is not the first invention.<sup>47</sup> (4) If the classification of the subject matter is secret in the interest of national security, the Government cannot publish the in-

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<sup>42</sup> Apparently, this basis appears to follow the dicta mentioned *supra* in the Dubilier case, which was later stricken by the Supreme Court.

<sup>43</sup> Stuart Chase, *Government in Business*, N.Y. The Macmillan Co., 1936, at p. 16:

Profit is the reward of risk. The private profit maker is essentially a gambler. He puts down a sum of money which he hopes will be increased by the venture, but which is frequently decreased, if not wiped out entirely. This is a zestful game, even as the races are zestful.

<sup>44</sup> *Supra*, note 44, at p. 329.

<sup>45</sup> "Procurement of Patents by the Government Agencies," 37 *JPOS* 677 (1955).

<sup>46</sup> 35 U.S.C. § 102 (a).

<sup>47</sup> 35 U.S.C. § 102 (b).

vention but the Government can still file a patent application in the United States Patent Office and preserve secrecy.<sup>48</sup>

Forman, unlike Saragovitz, takes the bold step forward by mentioning the all-important defensive benefits of patents in the hands of the Government.<sup>49</sup>

. . . if the Government merely published or dedicated its patents and inventions, it would lose this bargaining power, and be subject to the demands of such patent owners without any "counter-claim" or "set-off."

Lately, executive policy<sup>50</sup> favors leaving the patent title in the hands of commercial entities with the Government retaining appropriate licenses so that subject matter expressed in these patents can be commercially developed. But this policy does not in any way limit the Government's rights or powers to acquire and own patents and, as in the past, the Government, albeit to a different degree, is continuing to take and own title to patents.

#### GOVERNMENT OWNERSHIP OF PATENTS

Therefore, it can be safely said that the Government does have the right and power to acquire title to patents. But notwithstanding the fact that title ownership is necessary to sue for patent infringement, it does not necessarily follow, in the case of the Government, that ownership alone affords sufficient capacity to sue for patent infringement. This follows from the presumption that the Government's duty to preserve the public economic welfare is inconsistent with monopoly (exercising the right to exclude) inherently associated with our patent system. But this presumption can be rebutted by a showing that the Government suits on patents are in the public interest<sup>51</sup> and that there is a substantial benefit to the public notwithstanding the restric-

<sup>48</sup> 35 U.S.C. §§ 181-188.

<sup>49</sup> Forman, "United States Patent Ownership Policy and Some of Its Administrative Implications," 38 *JPOS* 380 (1956), at p. 490.

<sup>50</sup> *Government Patent Policy*, Memorandum for Heads of Executive Departments and Agencies, See § 1 (f), October 10, 1963, 28 F.R. 10943. This memorandum also favors awarding in some cases an exclusive right to the Government contractor as long as said contractor is diligent in exploiting the commercial possibilities of the invention.

<sup>51</sup> Many writers use the term "public interest" as a convenient tool to help justify their preconceived conclusions. But because the term has different meanings to different groups (each of which with its own idea of "who" the public is), the term should be defined before it is used lest the argument in which it is used becomes mere rationalization. In his book *Government and Business*, Ronald Press Co., 1958, Howard R. Smith says at ch. 1:

Public interest can not only be measured by whether a decision is right or wrong, good or bad; productive or detrimental to society's economic system; a most impor-

tion of a private activity resulting from the Government's suit against one infringer and not against another.<sup>52</sup>

But, at this point, it is necessary to ascertain the nature and characteristics of the patents held by the Government to see if they have the same attributes as those held by others. First, the legal question is examined concerning what happens to the power to exclude when the Government obtains title to the patent; and second, some of the Government's past uses of patents are reviewed.

### *Government's Power to Exclude*

Not long after the *Dubilier Condenser Corporation* case, there developed a popular position that any patent held by the Federal Government was automatically dedicated to the public. The Government had a difficult time coping with this position, and heads of governmental agencies wanted to avoid the uncertainty of whether or not an assignment of a patent to the Government was an effective dedi-

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tant factor is whether or not the decision is compatible with our particular belief in democracy.

And again at page 5:

Democracy is grounded on an instance upon the value of the civilized person. If, however, this fundamental premise is to have practical effect in the ordering of social relationships, both the individuals' pattern of values and his judgments regarding courses of action must be respected. Discussion for the purpose of altering values or broadening judgment is, of course, appropriate. But when discussion is over, and there can be no element of coercion, the resultant values and judgments must be honored. *To whatever extent they are not, democracy has been abandoned.* (emphasis added)

Smith goes on to recognize continuously existing conflicting private interests which try to pressure neutral tribunals into believing that "public interest" would be satisfied best by a ruling in favor of the group making the argument at the time. The final decision is with the Government; the people have established it and given it certain powers for this very reason. But we know Government is made of people whose opinions, rulings and beliefs can be persuaded by those who are interested enough to make the attempt at persuasion. This persuasion is accepted and encouraged as part of the democratic process. Hence, it is healthy for society to have as many different groups take an interest in a situation and express their desires so that hopefully the ruling most equitable and beneficial to society can be made.

It therefore follows that a decision made in the public interest can never benefit the *entire* public; either someone or a group is always injured to some degree. And, conversely, any decision will probably benefit some group which establishes some basis for saying the decision is made in the public interest.

Smith concludes:

... the public interest in a democracy is not wanted because it is the public interest, it is rather the public interest because it is wanted.

And as a practical solution he defines (at page 20) the term as follows:

Whatever is done democratically will be considered to be in the public interest.

Mr. Smith's definition is adopted for the purposes of this paper.

<sup>52</sup> 30 Op. Atty. Gen. (1938).

cation to the public.<sup>53</sup> Therefore, it became the general practice to have patents assigned not to the United States, but instead to the particular officer and his successors as the head of the respective governmental agency representing the Federal Government.<sup>54</sup> However, in 1938, in reply to a letter of inquiry from the Secretary of Interior which asked the effect of an outright assignment to the United States, the Attorney General issued the following opinion:

An ordinary assignment of a patent to the United States pursuant to a contract of purchase by the United States could not reasonably be construed as intended to effect a dedication to the public; and such an assignment is neither necessary nor the usual means of effecting such a dedication.

The Attorney General went on to say there must be express words of dedication in the conveyance to establish the Government as "a trustee . . . in trust for the use and benefit of the people of the United States."<sup>55</sup>

But this opinion of the Attorney General has not gone unopposed. Wille advanced the theory that once the Government obtains title to a patent, the patent power to exclude others instantly vests by operation of law in the people as individuals and therefore the Government cannot enforce any patent.<sup>56</sup> In applying this theory, Wille states, in effect, that the disclosure of the invention is considered as the dominant estate and the common-law right to make, use and sell a disclosed invention is the servient estate. The patent represents an easement enjoyed by the dominant estate owned by the patentee over the servient estate owned by the public. When the Government acquires title to the patent, it or the public has both titles to the dominant and servient estates and, therefore, a merger takes place. Wille bolsters his argument by pointing to the accepted<sup>57</sup> (and allegedly parallel) theory in real property law, by which, when an owner of the estate subject to an easement of another estate acquires title to the latter, the easement is extinguished.<sup>58</sup>

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<sup>53</sup> Justice Stone also admitted in his dissent in the *Dubilier Condenser* case the difficulty of the question:

Whether the public interest is best served by the dedication of an invention to the public or by its exploitation with patent protection under license from the Government . . . .

<sup>54</sup> 38 Op. Atty. Gen. 425 at 425.

<sup>55</sup> 39 Op. Atty. Gen. No. 44, May 10, 1938; 38 *U.S.P.Q.* 197.

<sup>56</sup> Wille, "Government Ownership of Patents," 25 *JPOS* 729 at 737; and 12 *Fordham Law Review* 105 at 112 (1943).

<sup>57</sup> Citing *Wells v. Garbutt*, 30 N.E. 978 (1892); 132 N.Y. 430; and *Fritz v. Thomkins*, 61 N.E. 893 (1901); 168 N.Y. 524.

<sup>58</sup> But one should not accept Wille's theory of merger merely because there is a similar workable theory in the realm of real property. Whether or not a



It is difficult to understand how natural rights, existing by virtue of natural law, can merge with legal rights created by statute. The very purpose of man-made statute is to create legal rights which *differ* in characteristics and purpose from rights based on human nature, and these two rights are not homogeneous.

The natural right involved here is each man's right to think and therefore "know" an invention of another and pass this knowledge along to others.<sup>59</sup>

The legal right is, of course, that power granted by the statute which enables *only the patentee (or owner) to exclude* not withstanding the knowledge of others.

Can there be a merger here?

It is submitted that a valid statutory right exists until superseded or eliminated by another statute and such a right cannot so easily be affected by natural law.

Another approach to the merger theory is based on the "contract theory"<sup>60</sup> which suggests that when the Government grants an inventor a patent, the transaction is in the nature of a contract whereby the applicant agrees to make a full and clear disclosure of his invention<sup>61</sup> in return for a seventeen-year right to exclude others from practicing the invention. In this way the public interest is served by inducing

merger takes place when the Government acquires title to a patent should depend on the nature and characteristics of patents as well as society's concept of Government. True, it would be a simple matter to use metaphors, similes and analogies to arrive at some conclusion; but this short-cut method suppresses profound thought on a difficult question. Eventually, the theory must come to grips with the nature and characteristics of patents. Robinson in his treatise on patents after reviewing a few erroneously applied analogies, observes:

Patent law ought to rest on its own theories and antecedents, and deal with its own problems according to its own principles, without being led astray, either in its enactments or interpretations, by false analogies or by attempts to follow systems which, in nature as well as origin, are unlike its own.

<sup>59</sup> At 6 *Writings of Thomas Jefferson* 180-181 (H.A. Washington Ed., 1854):

If nature has made any one thing less susceptible than all others of exclusive property, it is the action of the thinking power called an idea, which an individual may exclusively possess as long as he keeps it to himself; but the moment it is divulged, it forces itself into the possession of everyone, and the receiver cannot dispossess himself of it.

Robinson in his treatise on patents, Vol. I, p. 37 (1890) also stated:

In this stage [when only the inventor knows of his discovery or contribution] he has a natural exclusive right to his invention. No one can compel him to disclose his secret . . . But with his submission of the tangible result of his idea to the inspection of others, in such a manner that the idea itself becomes apparent, his control over it is gone . . . The inventor who voluntarily discloses his invention to the public, necessarily and freely dedicates it to the public; and that which formerly was his alone—becomes by universal possession the common property of all mankind.

<sup>60</sup> Stedman, "Inventions and Public Policy," 12 *Law and Contemporary Problems* 649, 656 (1947).

<sup>61</sup> 35 U.S.C. § 112.

inventors to make a full disclosure of their invention instead of by relying on secrecy. However, when the Government acquires title to the patent, the argument continues, the right to exclude can no longer exist because the Government cannot contract with itself.<sup>62</sup> But issue has been taken with this position by Forman in his article, "United States Patent Ownership Policy and Some of Its Administrative Implications":<sup>63</sup>

What did the Government promise in the original "contract" but merely the right to exclude others from practicing the invention for a limited period of time? Now that the Government has regained the promise the net result is that the original promise no longer can exercise the right, and the Government has the prerogative for its own direct use . . . , the promise has disappeared insofar as the original promisee is concerned, the Government having substituted other consideration (as when it purchases the patent) for the original consideration of the limited right to exclude which it gave the promisee.

Thus, the writer believes that the Government grants a right to exclude others from practicing the invention pursuant to Article I, Section VIII, of the Constitution and Title 35, and that Forman presents the better view that this power to exclude can be bought and held by the Government for a separate consideration apart from the initial basis of granting the power in the first instance. This view is consistent with the law requiring patents to be treated as personal property.<sup>64</sup>

Whether or not this power to exclude when in the hands of the Government diffuses to or exists in all people can be answered only by the Supreme Court. However, until an adverse decision is rendered by that tribunal, the Federal Government presumably will continue to regard its patents as having the same characteristics as those patents held by any private party.

#### *Past Use of Government Patents*

Private industry attempts to avoid long and costly patent litigation whenever possible, and therefore industries have sometimes found it advantageous to cross-license or exchange with one another patent rights related to a specified field. The Government, having interests to protect, has also entered into such agreements with certain industries, and it believes that the public has profited therefrom.

The first such arrangement occurred shortly after World War I

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<sup>62</sup> See *supra*, note 44, wherein the authors cite 1 Williston, *Contracts*, Rev. Ed., § 18 (1936).

<sup>63</sup> *Supra*, note 49, at pp. 417-418.

<sup>64</sup> 35 U.S.C. § 261.

when the Navy Department was given the authority to administer 102 patents and applications concerning the radio communications art. The Navy Department inquired of the Attorney General as to what right the Government had in this situation, and his opinion indicated that it could grant a non-exclusive, non-transferable and revocable license in exchange for licenses from private patent owners. The Department then proceeded to grant 57 cross-licenses, each revocable when it was determined to be in the public interest. The benefit to the public and to the Government is reflected by a statement made by the Naval officer who was responsible for administering the program:<sup>65</sup>

We felt, in the Navy Department, very secure, because . . . we did have an enormous number of patents from practically all of the engineering groups in that field that we could rely on, so that if we were sued by one company or another, we could have so many different alternate ways of making our radio sets that I believe the Government got a real good benefit from it [the cross-licensing arrangement].

In some instances, because of the imbalance of consideration, one of the parties to the cross-license agreement might be required to pay additional consideration arrived at by negotiation. Such was the case in a recent contract<sup>66</sup> wherein the Government agreed to pay an additional sum of \$7,500 to the other party.

It is present Government policy to readily grant royalty-free, non-exclusive, revocable licenses (not on a blanket basis but after a determination is made that the license would be in the public interest) to each party that approaches the Government and requests such a license.<sup>67</sup> Moreover, this type of Government activity was criticized by Wille<sup>68</sup> when he stated that the rights of the people dominate those of the Federal Government and that the right of the public to use inventions, title of which are in the Government, should not depend upon the grace and favor of the Government. But Wille's position was immediately outweighed by the Attorney General's Report (1947) to the contrary, which went so far as to state that the Justice

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<sup>65</sup> Report of Undersecretary of War Patent Conference, December, 1944, Aberdeen Proving Grounds, Maryland, page 65.

<sup>66</sup> Fairchild Contract No. DA-36-039-AMC-03590 (E), July 1, 1964, wherein Fairchild Camera and Instrument Corp. granted a royalty-free license under the following patents: Reissue 23,707; U.S. Patents Nos. 2,441,334; 2,631,200; 2,631,260; 2,826,717. In return, the United States Government issued a royalty-free but revocable license under United States Patents Nos. 2,562,295 and 2,594,104; and, as authorized by 10 U.S.C. § 2386 (amended), the Government agreed to pay an additional \$7,500 for past infringement and as part of the present consideration.

<sup>67</sup> *Supra*, note 49, at pp. 711, 712.

<sup>68</sup> *Supra*, note 56, at pp. 742, 743.

Department had the authority to pass on the question of which action was in the best public interest.

As mentioned above, the license granted on a washout arrangement is revocable by the Government if such action is determined to be in the public interest; however, a license granted to a party who has no patent position in that particular field becomes void *ab initio* if the licensee at some future time sues the United States Government on a cause of action based on some other patent owned by the licensee.

The Government has also held part interest<sup>69</sup> and on a royalty basis issued licenses to patents. The Alien Property Custodian was vested<sup>70</sup> with some 40,000 patents and some 5,500 pending applications formerly owned by nationals of enemy and enemy-occupied countries. Pursuant to existing Government policy, the Alien Property Custodian announced<sup>71</sup> that he would issue non-exclusive, royalty-free, non-transferable licenses under the patents for a sum of \$50 for the first patent and \$5 for each additional patent.

But the Government does not always issue a license upon request from a private party. The Government can elect not to grant such a license when it has determined that such action would not be in the public interest. Reasons given for such action are, for example, enabling an imbalance of competition where the benefits afforded by the license are not passed along to the consuming public, and where benefits accrue to one company and not to the industry at large. Thus, in this way the Government attempts to control industrial growth patterns.

Regarding exclusive license, prior to 1930, it was felt by some<sup>72</sup> that the authority to grant an exclusive license is too subjective and too subject to misuse to be in the hands of the Government. In a report by the Interdepartmental Patent Board to the President, it was concluded that, in the absence of legislative action, the Government did not possess the power to dispose of patents owned by the Government either by sale or license because a patent is a form of personal property, and the Government can dispose of personal property only with the authority of Congress.<sup>73</sup> However, the following year the Attorney General

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<sup>69</sup> In *Rogers v. Englehard Industries, Inc.*, 183 F. Supp. 573, the Alien Property Custodian held partial interest in patents and it was held such interest was sufficient to entitle the APC to receive royalty payments.

<sup>70</sup> Executive Order 9193, 7 Fed. Register 5205.

<sup>71</sup> Alien Property Custodian, *Patents at Work—A Statement of Policy* (January 1943), pp. 14-16.

<sup>72</sup> Spencer, *The United States Patent Law System*, Chicago, 1931, at p. 40.

<sup>73</sup> Interdepartmental Patent Board, Report to the President, November 30, 1923, at p. 1.

rendered an opinion indicating that Government departments did have authority to issue non-exclusive, revocable licenses not because this was a disposition of the property, but because it constituted mere regulation of property. But now, Government expressly possesses the authority to grant exclusive licenses. For example, the Tennessee Valley Authority Act of 1933 enables that agency to grant, in addition to non-exclusive licenses, exclusive licenses for such a term as necessary to develop the invention.<sup>74</sup> Also, the Attorney General, in his Report of 1947, indicates<sup>75</sup> there might be exceptional situations where the Government should, if in the public interest, issue an exclusive license as opposed to a royalty-free, or non-exclusive license in order to retain a tight control<sup>76</sup> over the particular activity exercised under the license, and in advocating Government power to grant royalty-free licenses, the Attorney General concluded at Vol. I, Section III (4) :

As a general rule, the licensing of Government inventions on a royalty basis is objectionable because it is difficult to fix a royalty which will be fair to all; it will necessitate detecting and prosecuting infringers; and it involves the imposition upon the public of a charge for the use of technology paid for with public funds. The financing of research by general taxation appears to be a simpler and more equitable method.

Thus it appears that the Government, without intervention from Congress, uses patents as does any private party: it has collected royalties, entered into cross-license agreements, and granted some exclusive licenses. The only reason assignments have not been made is because of a more dominant and controlling law which Government policy cannot avoid.

#### SUIT ON GOVERNMENT PATENTS

Notwithstanding its treatment of patents in the past, the Government has only recently,<sup>77</sup> for the first time, counterclaimed for patent infringement on patents that it owns. Hence, there is no development of case law on this subject, but there is some written opinion as to whether or not the Government can or should bring such an action. No statute could be found by the writer giving to the Government express power to sue on patents that it owns. However, no statute could be found which denies this power to the Government. Therefore, a presumption (legislative acquiescence), albeit rebuttable, arises that the Government, as any other private party, is entitled to rights under 35 U.S.C. § 271.

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<sup>74</sup> See § 8310 of Title 16.

<sup>75</sup> Vol. I, pp. 114, 124 *et seq.*

<sup>76</sup> We find this policy today. See note 50, *supra*.

<sup>77</sup> See note 1, *supra*.

In 1936 the Attorney General recognized the Government's right to sue on its patents in the event the situation warranted such a suit.<sup>78</sup> In a later opinion (1947) the Attorney General stated:<sup>79</sup>

But there would seem to be as little question of the right to bring suit of the authorized use of the Government's invention as of the Government's right to sue for trespass of its public lands.

and again:<sup>80</sup>

The right to acquire a patent involves the right to exercise it; hence, the authorities supporting the power of the United States to receive an assignment of a patent thereby support the Government's concomitant right to sue and enforce the patent.

Those advocating Government suit on its patents stress the importance of the defensive benefits derived by the Government when standing in a position ready to move forward toward counterclaim or set-off. Thus, Forman states:<sup>81</sup>

On the other hand, if the Government merely published or dedicated its patents and inventions, it would lose this bargaining power and be subject to the demands of such patent owners without any "counter-claim" or "setoff."

Forman goes on to recognize that if the Government were unable to obtain its *quid pro quo* by cross-licensing arrangements,<sup>82</sup> it could obtain such *quid pro quo* by counterclaiming or asking for set-off pursuant to Rule 21 of the Court of Claims.<sup>83</sup> Since the Court of Claims has the authority to award a reasonable royalty for patent infringement by the Government, the Court of Claims would have the responsibility of weighing each royalty based on the degree of use of the other party's patented subject matter.

The Court of Claims has jurisdiction to hear such counterclaim or set-offs<sup>84</sup> and such counterclaims can be either compulsory or permis-

<sup>78</sup> 30 Op. Atty. Gen. 425, at p. 428 (1936); citing *Hunt v. United States*, 278 U.S. 96, at 100 (1928); Second Report of the National Patent Planning Commission, *Government-Owned Patents and Inventions of Government Employees and Contractors*, p. 4 (Washington, D. C.).

<sup>79</sup> *Atty. Gen. Report*, (1947), Vol. III, at p. 132.

<sup>80</sup> *Atty. Gen. Report* (1947), Vol. III, at p. 131.

<sup>81</sup> *Supra*, note 49, at p. 490.

<sup>82</sup> *Supra*, this paper, p. 470.

<sup>83</sup> Rule 21 reads as follows:

If the defendant desires to plead any counterclaim, set-off, claim of damages, or other demand authorized by Title 28, United States Code, section 2508, such pleas shall be filed by the Attorney General within 40 days after the filing of the petition, unless the court, for cause shown, shall extend the time. The defendant may without special plea ask for a reduction or extinguishment of the plaintiff's demand by any matter arising out of the same transaction as that sued upon.

See Title 28, §§ 1503 & 2508 granting jurisdiction and authority to award judgments to the Government for counterclaim and set-offs.

<sup>84</sup> *Cherry Cotton Mills v. United States*, Court of Claims 1946, 66 Supreme Court 729, 327 U.S. 536; *Rodney Milling Co. v. United States*, 1948, 77 F. Supp. 707, 11 Court of Claims 625.

sive.<sup>85</sup> The Court of Claims always retains jurisdiction over the counterclaim except where there is improper jurisdiction for the plaintiff's claim in the suit. In this event, the jurisdiction of the counterclaim falls with it.<sup>86</sup>

Since the Government's presumed power to sue on patents is not expressly denied by law, the next question becomes "Should the Government sue for patent infringement and how would the Government choose its defendants without being arbitrary?"

An answer to this question is broken down into two parts: (1) the answer affecting private industry's economic welfare and (2) the answer affecting private parties' individual rights.

### *Economic Welfare*

Basically, this situation exists today. Government's willingness to act (and spend) is often encouraged, and commercial entities are eager to contract with the Government. Also, the magnitude of Government spending is so great that our economic system must be thought of as comprising two separate sectors:<sup>87</sup> (1) private, which produces for profit and is controlled by the market supply and demand, and (2) public, which produces for the common advantage of all and is controlled by political forces (Government). Each sector serves a different need of society but each aids the other in performing its respective function and both benefit therefrom.

Unlike the private sector, Government production (including Government contracting), does not seek profit for itself, but rather, it seeks to benefit the people as a whole. It usually takes a direction depending upon the collective pressures from different groups of society.

The entire program of Government economy is presented in the budget and is annually criticized by the public. Each group, depending on its place in society, has a different set of subjective standards for Government economy. Government spending which benefits one group usually does not benefit another competing group and it is often detrimental to the other group's interests. Therefore, each group demands continuation or change in Government spending policy in a way which best serves its interest. It should follow, then, that elected and appointed Government officials have a responsibility to the *entire* public to effect some equitable compromise for competing groups.<sup>88</sup>

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<sup>85</sup> Rules 21 (a) and 21 (b), Rules of the Court of Claims.

<sup>86</sup> *Baltimore and Ohio Railroad Co. v. United States*, 1899, 34 Court of Claims 484. *Boehm v. United States*, 1886, 21 Court of Claims 290.

<sup>87</sup> See Vol. 206, *The Annals of the American Academy of Political and Social Science*, November 1939, "Government as a Producer," Paul Studenski.

<sup>88</sup> *Ibid.*

Well, this is all very interesting, but how does it affect the basic problem dealt with here? To develop the answer more clearly, reference is made to the following factual example:

Because the Government and the public both want the best equipped military force in the world, the Government enters into a research and development contract with company X for the development of a new and complicated electronic system which has particular military uses but which, with minor modifications, has commercial uses as well. Since public funds were used for R&D, it is likely that the Government will retain title to the patents on the basic system resulting from company X's research and development. After the system is developed, certain quantities are supplied to the Government. Apparently, all parties, including the public, are satisfied at this point even though company X has been given a commercial edge (in the form of developing "know-how" and equipment with the use of public funds) to the industrial disadvantages of competing companies Y and Z. But this edge is also accepted as being in the public interest because (1) Government needed the electronic systems; and (2) Government had to provide the incentive and the money because industry would not take it upon itself to develop the system.

Company X continues to use its commercial edge to supply industrial needs with these electronic systems and derives great profits therefrom. And, as is quite often done, company X uses a portion of the profits to continue its own research and development in order to further improve the system. At this point, company X is producing a system better than the basic system in the hands of the Government and all *improvement* patents stemming from its *own* research and development remain in the hands of company X.

Inevitably, there comes a time when Government wants to replace all the basic systems it has with the new and improved systems because, again, the Government and the public want the best-equipped military force in the world. The Government makes it known to companies X, Y and Z that it will entertain bids for a procurement contract on the *improved* electronic system. As expected, company X's bid is for an amount greater than either company Y or Z because company X includes the moneys spent for its own improvement research and development. Moreover, company X may feel it can "get" more than its competitors due to its patent position.

Assuming company Y is awarded the contract, company X sues the Government in the Court of Claims for patent infringement on its improvement patents. The basis for company X's suit is apparent: after the first Government R&D contract terminated, it was company X who



risked its own capital to finance its own R&D for the purpose of improving the basic idea existing at the time. When the Government awards the procurement contract to company Y, company X sees company Y, a competitor, profiting and increasing its technical know-how because of the improvements developed by company X. Thus, company Y will be better able to compete with company X in the commercial market, primarily because company X made the effort and spent the money to improve on the basic idea.

But the Government cannot agree with company X's arguments because it feels that if it were not for the initial R&D contract and the use of public funds, company X would not have the aforementioned industrial edge over companies Y and Z. Also, since company Y put in the lowest bid, it should be awarded the contract. Lastly, it is in the public interest for company Y to be more competitive with company X since company X's technical level was enhanced by the aforementioned public need and funds.

The ultimate issue is this: the Government does not deny company X's right to sue for patent infringement in the Court of Claims; but the Government feels that it must, in order to avoid a judgment which is unfair to the public, counterclaim on the basic patents resulting from the initial R&D contract so that company X (or the Government) recover its *quid pro quo*. Stated differently, the Government is trying to have company X awarded an amount exactly in proportion to company X's *overall* change in position measured from the awarding of the initial R&D contract and taking into account *all* benefits and damages experienced by company X stemming from Government activity.

In view of necessary Government activity of the type described, the intended effect of the Government's counterclaim is a good one; Government is attempting to strike a compromise between competing interest groups in society,<sup>89</sup> and it cannot be logically said that the public does not benefit by the enhancement of company Y's competitive position in the above example. In this way, Government tries to resist forces which pressure it into commercially favoring one company over another. Although it is only right for company X to sue on its improvement patent, it is again only right for the Government to counterclaim on the basic patents so that the Court of Claims can effect the compromise and award company X an amount in proportion to its overall change of position.

In conclusion, counterclaim on patents resulting from fair and non-coercive discretion of the Government does not undermine economic

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<sup>89</sup> See *supra*, Note 87.

welfare of private industry, and if competition is healthy, industry may benefit therefrom as long as such counterclaim does not violate private rights.

### *Private Rights*

It should be recognized that the Government is a good target for patent infringement suits that are brought by private parties. In carrying out its assigned responsibilities and duties, the Government orders in large quantities, goods, commodities, and services and therefore, successful plaintiffs in the Court of Claims usually have the benefit of substantially large judgments.<sup>90</sup> It is expected that this fact makes patent infringement litigation against the Government a fairly good risk, notwithstanding substantial litigation expenses and attorneys' fees.<sup>91</sup> Furthermore, in the event plaintiff is successful in obtaining judgment at the Court of Claims or in arriving at some settlement agreement, the plaintiff knows that payment by the Government is certain and prompt. Therefore, one argument in favor of Government counterclaim is: since the Government *must* act for the benefit of the public and since such action affects the rights of private parties, the Government should have sufficient right to protect itself in litigation in the same manner as any other defendant.

However, former Commissioner Ewing<sup>92</sup> felt that if the Government sued on its patents, it would have an unfair advantage over private parties in regard to where the suit is brought and the cost of litigation. But more importantly, he felt that the duty the Government owes the public is inconsistent with monopoly and that the Government should not sue on its patents unless there is a need for it and a clear advantage to the public.<sup>93</sup> Ewing's conclusions that he could not see such advantage and that the desire for the Government to sue was outweighed by the lack of benefit to the Government suit for patent infringement in 1927 are not surprising; however, such a position would not be well taken today. Such a suit in counterclaim enables the court to make the important aforementioned compromise which results in monetary benefits to the public as well as probable justice to all parties.

Another approach is Wille's contention<sup>94</sup> that the basis for the

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<sup>90</sup> See Table I, *supra*, page 462.

<sup>91</sup> *Supra*, page 462, Table I. It can be seen from this table that although the number of judgments awarded plaintiffs remains substantially small, the number of new petitions filed in the Court of Claims has been increasing.

<sup>92</sup> *Supra*, note 26.

<sup>93</sup> *Ibid.*, p. 156.

<sup>94</sup> *Supra*, note 56.

patent statutes stems from the Constitution, Article I, Section VIII, which requires patent laws passed by Congress to promote the progress of science and the useful arts. He suggests that if the Government sued for patent infringement, it would be impeding instead of promoting the progress of science and the useful arts, and therefore, the Government would be acting inconsistently with express constitutional provisions. But this statement should not be accepted without first understanding how our patent system functions to promote science and the arts and then determining whether or not the system would continue to function if the power to exclude were in the Government as well as private parties.

It is generally accepted that one does not have a natural or inherent right to protect his ideas or thoughts once they have been made public,<sup>95</sup> and that some statutory right is necessary in order for that person to have an exclusive right to those ideas. Moreover, it is advanced that such a law does not remove any existing natural right from the public and, in fact, the public benefits by the incentive, protected by the law, which induces the individual to disclose his idea to the public.<sup>96</sup>

It is human nature to want something that is advantageous, and this is particularly true in the commercial world where industry feels that in order for it to stay competitive it must produce the best quality for the lowest cost in the greatest quantities. What happens, then, when a competitor creates or obtains exclusive rights to an invention that gives him a substantial advantage with regard to the particular market involved? A company faced with this question can do one of three things: (1) it can stop manufacturing the article; (2) it can take or request a license under the competitor's existing patent; or (3) it can try to improve it or design around it in order to enhance its own position. This last alternative is a most important one because, as is often the case, if the company follows it, then the progress of science and the useful arts is promoted, and Article I, Section VIII, is satisfied. Thus, Austin states:<sup>97</sup>

The efforts to get around the monopoly, to evolve something to compete with the invention, directs inventive attention and effort to a new field and frequently new and better ideas emerge which surpass the pioneer invention. Improvement begins long before the monopoly expires [referring to the seventeen-year patent period] be-

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<sup>95</sup> See note 59, *supra*.

<sup>96</sup> See note 59, *supra*.

<sup>97</sup> Austin, "The Patentable Invention," 18 *JPOS* 734 at 740; 84 *University of Pennsylvania Law Review* 943.

cause the public has full possession of the idea at the inception of the monopoly for pure experimentation even though commercial and general use is restricted.

And in reporting on the merits of our present patent system, the Science Advisory Board<sup>98</sup> stated:

By its [the patent system] substantial rewards it stimulates invention, and the assiduous study and persistent effort on which invention is based. That it has been successful needs no demonstration, for its results are all about us.

The Science Advisory Board went on to say that our present patent system functions efficiently to stimulate and protect new industries and fields.

Therefore, Wille's conclusion is not entirely accurate. Patents, when in the hands of the Government, and when the Government does not have a blanket licensing policy, stimulate thought and promote science in substantially the same manner as do patents held by any other party. Although the Government does not use the subject matter of its patents to compete with industry, the disclosure of the patent is available and, therefore, the ideas and concepts expressed by the patents are available for public experimentation and use. However, since no one competes with the Government, there is no compulsion to design around Government-owned patents and, to this extent, Wille's argument is on sound grounds.

The Government, however, as the single owner of the greatest number of patents in force at any one time, could, if it desired, harass many companies by policing its patents and by suing indiscriminately for patent infringement. However, this ruinous action would be detrimental to the Government as well as to the public, and Government exercise of such power in this manner is not anticipated.<sup>99</sup> Presumably, the Government would only sue when the public interest would be served and the primary purpose of such a suit would be to enable the Court of Claims to award each party its *quid pro quo*.<sup>100</sup>

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<sup>98</sup> Report of the Science Advisory Board, 18 JPOS 94 at 95 (1936).

<sup>99</sup> In March of 1965, the writer interviewed Mr. T. Haywood Brown, Head of the Patent Section of the Department of Justice. Mr. Brown indicated it was presently the Government's policy not to police its patents and, in fact, it was in the public interest for cross-license agreements with industry to be made, or for industry to freely infringe the Government patents in order for economic growth to continue unimpeded. However, if the Government is sued for patent infringement by a private party, and the Government determines that the private party is infringing one or more patents held by the Government, all patents related to the same field, then (if no settlement or cross-license can be reached), the Government would sue for counterclaim or set-off.

<sup>100</sup> *Supra*, page 470.

But what about the argument that if the Government sues one patent infringer, it should sue all private parties infringing that patent; otherwise, it would be acting prejudicially and arbitrarily. This position has merit because of our basic heritage, which demands that the Government must treat everyone equally whether the matter concerns criminal or civil rights.

But this does not mean the Government cannot exercise discretion. In *Canned Foods, Inc. v. United States*,<sup>101</sup> the plaintiff had a Government contract to supply the Government with 46,820 cans of peas to be furnished from the 1949 pack. The plaintiff certified to the Department of Agriculture that the cans supplied were from that pack, and after a delivery of a substantial number of cans, the Government determined that the delivered peas were from 1947 and 1948 packs. The Government exercised its discretion by dropping the matter and by not paying certain amounts on the contract. But it is important to note that the Government could have sued for plaintiff's violation of the False Claims Act in making bids. Shortly before the Statute of Limitations had run against the Government, plaintiff filed a petition against the Government in the Court of Claims and only then (when sued by plaintiff) did the Government choose to file an action (counterclaim) for plaintiff's violation of the False Claims Act. This counterclaim was filed shortly after the limitation period expired.

The Court of Claims held that plaintiff's filing his petition against the Government tolled the running of the Statute of Limitations and denied plaintiff's motion to dismiss.

It is important to note that the Government in this case exercised its discretion first not to sue under the False Claims Act and to merely let the matter drop without paying full consideration on what it considered to be a broken contract, and it was not until the plaintiff filed a petition in the Court of Claims against the Government on the contract that the Attorney General decided it was in the public interest to sue plaintiff under the False Claims Act.

Besides having the power of discretion in determining what parties to sue for allegedly infringing Government-owned patents, the Government presently has a policy<sup>102</sup> that applies equally to all private parties: i.e., the Government will, when in the public interest and when it believes patent infringement exists, counterclaim against *every* party who first sues the Government for patent infringement in the

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<sup>101</sup> 140 F. Supp. 771, C. Cl., May 1, 1956.

<sup>102</sup> *Supra*, note 99.

Court of Claims. The purpose of this policy is to enable the Court of Claims to award each party (plaintiff and Government) his *quid pro quo*.

#### CONCLUSION

No one wants to see the Federal Government use its vast power and resources to move against a single entity in a litigation proceeding unless there is a public need and a clear legal basis supporting the Government action. The present problems facing the Government regarding patent infringement suits may well supply this public need, while past Government use of patents and existing case law may form a good foundation for the legal basis. It can be said with some degree of certainty that the Government has the power to take and own title to patents without violating constitutional guarantees, and it is the better view that the nature and characteristics of patents acquired by the Government do not change in any significant degree so that the right to exclude remains in the Government and does not automatically vest in the people.

Consistent with its right to exclude, the Government has made wide use of patents it owns by cross-licensing, entering into royalty agreements and, in some cases, awarding exclusive licenses. Thus, the Government has treated its patents as would any other private individual with the implied legislative acquiescence of Congress due to its failure to pass legislation on a situation existing for many years.

In view of the Government's recognized power to own patents and its past use of patents, the writer feels there is no logical basis for denying the Government use of the defensive benefits thereof, particularly in view of the showing that (1) a public need exists for such use of patents; 2) economic welfare of a commercial entity is not indiscriminately undermined by such use of patents, and (3) the all-important private vis-a-vis Government acquisition of property for public use is not violated by the Government's counterclaim for patent infringement. Moreover, the argument supporting the *quid pro quo* resulting from cross-actions for patent infringement between the Government and a private party has merit, and this procedure might be a politically desirable one for striking a compromise between competing commercial interest groups in society.

# The Examination System and the Backlog Problem

W. SCOTT RAILTON\*

## SUMMARY

**I**T IS THE PURPOSE OF THIS ARTICLE to examine the basic problems which concern the mechanics of operation now confronting the present system. Its further purpose is to reach some tentative conclusions based on this analysis as to whether or not the present patent laws are able to cope with the stated problems. Whether they be real, fancied, or rephrased, we are compelled to ask: Is there any necessity for enacting a new code of patent law that is basically different from that under which the patent system has operated for the past 129 years?

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**I**N THE YEARS PRIOR TO 1952, the patent system was the subject of a great controversy; it was strongly criticized for its faults and stoutly defended on its merits by writers from various fields.<sup>1</sup> The result of such criticism was the enactment of the present Title 35 of the United States Code. However, since the enactment of the Code, many of the initial problems have persisted and the system's critics consequently have not relented from their persistent attacks. Their arguments continue because in their collective opinions the old problems are the same but other factors have been superimposed on them, thus adding more fuel to feed the fires of criticism.

Those who write about the problems of the patent system generally approach the subject from either one of two lines of attack. One group,<sup>2</sup> consisting essentially of economists, treats the problems of the

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\* Mr. Railton, while a senior in law school in 1964, submitted this paper in partial fulfillment of the requirements for the Seminar and Lecture Series given by The PTC Research Institute in conjunction with The George Washington University Graduate School of Public Law.

<sup>1</sup> Examples of problems concerning the mechanics of operation of the system are set out *infra* at page 489.

<sup>2</sup> *The Impact of The Patent System on Research*, by Seymour Melman, Study No. 11 of The Subcommittee on Patents, Trademarks and Copyrights of the Committee on the Judiciary, United States Senate (1958) and *Invention And The Patent System* by S. C. Gilfillan, Joint Economic Committee, Congress of the United States (1964).

system in an economic sense. These writers are basically concerned with answering the question of whether or not a patent system that is designed to protect the individual inventor (and by this they mean the garret inventor) is operable within the framework of the modern corporate economy. They are not concerned with the mechanics of operation of the system as a general rule; rather they confront only such questions when they relate to the basic questions of economics. A second group of writers,<sup>3</sup> which in some cases may include the first group, concerns itself with alternatives to the present patent system. This group believes that systems such as the deferred examination system, the opposition system or a registration system would serve the constitutional mandate of promoting the useful arts in a much better way than the present examination system.

Writers from both areas treat what they consider to be the faults of the examination system in a rather cavalier manner and rarely do they concern themselves with the question of whether or not the problems they mention are in fact bona fide problems. More often than not they assume the problems and then submit their own theories of dealing with them. Thus, some will say we should not have a monopolistic patent and others will say we should have patents but we should grant them "my" way or the Dutch way.

The problems cannot be so easily dismissed. It is the belief of the author that only by studying the metes and bounds of those sore spots that are called the faults of the patent system that an understanding can be achieved as to whether or not our present laws are workable. If they are not, we can, by understanding the problems, evolve a set of patent laws that may be workable for the next 129 years. We are then led to ask what is the basic criticism of the system?<sup>4</sup> This question was answered by a recent report of the Senate Subcommittee on Patents, Trademarks and Copyrights<sup>5</sup> where it was said:

"In the absence of significant administrative or statutory changes, the Patent Office projects a 1975 backlog of 535,000 applications with an average pendency period of 10 years. This compares with a current backlog of 218,000 applications with an average pendency of

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<sup>3</sup> "European Patent Convention: Guide to Modernizing Our System" by J. R. Duncan, 8 *IDEA* 405, No. 3 (1964); and 47 *JPOS* 220, No. 4 (1965); and "Common Patents for the Common Market" by Raymond C. Stewart, *Chemical and Engineering News* of June 15, 1964, at pps. 85 et seq.

<sup>4</sup> For the purpose of this paper, we refer to criticism of the system with respect to the manner in which the system actually functions. By functions we refer not to its effects on the economy vis-a-vis who gets patents and why, but rather we mean do the mechanical processes by which a patent is granted function in an effective manner or has the system broken down mechanically and does it therefore need replacement or can we patch it up?



37.5 months. . . . A 1985 backlog of 1 million applications is projected with a pendency period well over 10 years."

The Subcommittee concluded that on the basis of the aforementioned report of the Patent Office that although administrative improvements in patent procedure are necessary and desirable, it is doubtful that they will by themselves be adequate buffers against the existing and anticipated pressures facing the Patent Office.

The most significant problem confronting the Patent Office is the backlog. All other problems, often mentioned as critical with respect to the effectiveness of the examination system, are merely contributing causes. They may be represented as the component parts that make up the backlog question and, therefore, an examination of them should yield the answer as to whether the problem itself is solvable in a mechanical sense. The criticisms most frequently stated are as follows:

(1) Our technology is expanding at an exponential rate and it is becoming increasingly complex as our system fails to cope with it;

(2) The present body of technical literature is almost astronomical in size and, as a corollary, the holdings of the Scientific Library are woefully inadequate;

(3) The Office loses approximately 17 percent of its Examiners every year;

(4) The classification system is in a continuous state of obsolescence;

(5) The structure of the present patent involves an excessive number of claims, thus presenting complicated searching problems to the Examining Corps; and

(6) Procedural matters are complicated and too time consuming.

It should be obvious that some of these problems must of necessity overlap and consequently they cannot be studied in the abstract. The question is, what effect, if any, do they have, either directly or indirectly, upon the backlog and may they be dealt with in part or in whole so as to obviate any necessity for changing the patent laws? It is well to note at this juncture that it is assumed that the most desirable solution to the overall problem is that solution that requires the least amount of change in the present laws. This assumption is based upon the fact that all of the writers in this area have indicated that the patent system, as it is presently embodied, has produced tremendous economic growth.<sup>5</sup> They disagree only as to whether it can continue to produce such growth.

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<sup>5</sup> *Report No. 118 to the U.S. Senate by the Subcommittee on Patents, Trademarks and Copyrights*, March 10, 1965.

<sup>6</sup> For example Melman, *supra*, note 2 at page 57, has said: "The patent system has lost the effectiveness that it may once have had as a way of promoting science and the useful arts."

## OUR EXPANDING TECHNOLOGY AND THE BACKLOG

Commentators on the patent system frequently state that the system cannot keep up with a technology that is constantly expanding at an increasing rate both in mass and complexity. One such writer, James E. Merna, has indicated<sup>7</sup> that our present technology may be compared with the "mechanical age of the 1930's" by looking at a patent recently issued to the Bell Telephone Laboratories, Incorporated, for an electric accounting system and comparing the physical size of the patent to the size of the 1964 Spring and Summer Mail Order Catalog of Sears, Roebuck and Company. The patent consisted of 531 pages and weighed four and one-half pounds. The catalog on the other hand, had been widely advertised as being the largest issued by Sears in its entire history.

In comparing the size of the patent to the catalog, it turned out to be exactly as one might have imagined—they are essentially the same size. . . .

The Bell Laboratories' patent is not typical, for this writer has personally searched the computer arts and has frequently encountered other "jumbos" as the Patent Office calls them. The reader has only to look at the patents on file in the Communications and Register art (Patent Office Classes 340 and 235) to verify this fact for himself. Another writer John Boyle,<sup>8</sup> pointed out that:

200,000 articles on drugs are published each year . . . 40,000 articles on aerospace were abstracted and indexed during 1963, and that an estimated half a million scientists are at work in the world today turning out new facts at such a rate that the world's scientific knowledge doubles every eight years.

He further indicated that about one million research papers are published each year in one hundred thousand technical journals in many different languages. Finally, Raymond C. Stewart,<sup>9</sup> indicates that the number of abstracts published in *Chemical Abstracts* from 1953-1962 increased at an average annual rate of 9.35 percent.

It would, therefore, seem indisputable that the mass of our technology is increasing at a very great rate. It would be well to look at the burdens created by this mass of technical publications before we move on to the issue of the complexity of that technology because the pure mass of material has a direct bearing on the inadequacy of the holdings of the scientific library and the amount of time that must be spent

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<sup>7</sup> "A Current Look at the Business and Administrative Operations of the United States Patent Office" by James E. Merna, 46 *JPOS* 405, No. 6 (1964).

<sup>8</sup> "Long Delay in Granting Patents" by John Boyle, 46 *JPOS* 175, 178, No. 3 (1964).

<sup>9</sup> Ray Stewart's paper, *supra*, note 3 at p. 87.

in searching the prior art by the individual Examiner.

A 1958 report of the Senate's Subcommittee on Patents, Trademarks and Copyrights<sup>10</sup> stated:

The Patent Office program for collecting, translating, indexing and abstracting patents and publications obtained under the exchange program with foreign nations is grossly inadequate and must be improved and expanded considerably if the statutory requirements that a library be maintained for determination of patentability are to be met.

The report went on to illustrate the inadequacy by pointing out that Slavic and Japanese patents are not translated and are not sent to the examining groups; that foreign language scientific literature, excepting German and French, is not translated and moreover, the quantity of French and German literature subscribed to has not kept up with the increases in the amount of materials published in these countries. This report is just one among many statements concerning the inadequacies of the holdings. It can be verified as a problem by the individual who would take the time to examine the library and the examining groups. The point of this criticism is that to have a presumptively valid patent, the Office must examine all pertinent prior art and if the materials are unavailable to the Examiner, then there cannot be any guarantee that the search did uncover all the prior art. The fact that art is missing would not affect the backlog in itself, but it is a factor in that it affects the presumption of validity and must be called a problem confronting the system. However, it is submitted that the only way this particular problem could be vanquished would be by abolishing the system entirely because it doesn't seem likely that any other system could bring the library holdings to completion. Alternatively, it would seem that the problem is solvable by expending enough money to insure the adequacy of the library's holdings, and it is submitted that these expenses will be approximately the same no matter what type of system is adopted.

It should be obvious that as the mass of our technology expands, the amount of prior art to be searched by the Examiner per application also expands and thus decreases the Examiner's effective number of disposals per year. In this respect, the backlog must increase if the number of applications per year remains either the same or increases. It is a known fact that the number of applications per year has been constantly increasing, thus the inevitable conclusion must be that the backlog must be increasing.<sup>11</sup> The question is: Can any alternative to

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<sup>10</sup> Report of the Committee on the Judiciary, Patents, Trademarks and Copyrights, Report No. 1430 of the 85th Congress, 2nd Session (1958).

<sup>11</sup> See the "Annual Report of the Commissioner of Patents, Fiscal Year 1964," 47 *JPOS* 158 at 171, 172 (1965).

an examination system cope with the problem? The answer to such a question must be that whenever an Examiner *must make a search* he will be confronted with this same problem and he *must make a search for obviousness* under all systems except the registration system. Therefore, except for the registration system, all other types of patent systems must cope with this problem of mechanics and it is submitted that a change from the examination system to, say, an opposition system will not in itself solve the problem. The answer suggested by some is that the system could be computerized for search purposes and this solution would solve the problem of the mass of prior art. Even if this were true, it would not be the entire answer because a solution that includes the use of computers for searching must take into account the increasing complexity of our technology, and it probably is undisputed that our technology is becoming more complex. A look at a recent issue of the *Laser Letter*<sup>12</sup> should give some indication of how complex science has become. According to the *Letter*, this very recent invention is being used in medical applications for microsurgery of the eye where photocoagulation of the retina has been most notable and where dermatological and dental application have also been noted. Bell Laboratory has used the laser to produce polystyrene; IBM and Douglas Aircraft were reported as testing the laser in communications systems; laser gyros for low cost navigation systems for aircraft were reported; and the metal working industry is reported as "eyeing" the laser for metal working applications such as to provide data links between computer controlled machinery and in air pollution monitors. Thus, one of the most significant facts about the complexity of modern technology becomes immediately apparent and can be summed up as the cross-pollination of the sciences, i.e., a development in one science often leads to advances in another science. Computer programs must, it would seem, take this cross-pollination of science into account in order for them to serve as a solution to the problems of searching the prior art. Subsequently we will return to this proposed solution. For the moment we are concerned with the complexity of technology. Assuming that our technology is becoming even more complex, then we must ask ourselves: In what way does it affect the prosecution of an application? For the purpose of discussion, it will be assumed that the answer consists of two interrelated parts in that we can say it affects the classification system used by the Office to locate the prior art and it directly affects the Examiner using the classification system in varying degrees depending on his experience and ability.

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<sup>12</sup> *The Laser Letter*, Vol. 2, No. 5, March 30, 1965, published by American Data Processing, Inc.

#### CLASSIFICATION—THE LONG SEARCH—THE BACKLOG

A factor often pointed out as instrumental in increasing the backlog is the present classification system. It has been said that it is highly inaccurate as well as obsolete when used for the purpose of locating pertinent prior art to apply against pending patent applications. An inadequate classification system must necessarily result in longer searches by one Examiner handling an application. This means that more time that might have been spent on other applications and thus used to reduce the backlog is spent on each application by each Examiner. This then necessarily results in an increase in the backlog.

Warren Weaver stated in 1955 that:

There are over a million items of backlog awaiting reclassification, which it has been estimated would require 2,000 man years to accomplish.<sup>13</sup>

Patents requiring reclassification were then increasing at an average annual rate of 40,000 per year and the Office was quoted as saying that it would take one million dollars per year just to keep up with the increase. Thus as Weaver put it: "Unlike the Red Queen, we are not even running fast enough to stand still."<sup>14</sup>

A recent article<sup>15</sup> indicated that in the period 1960 to 1964, 181,910 patents were established in new classes while 202,567 patents were issued. By comparing these figures with Weaver's figures, it will be noticed that the Patent Office has to some extent reduced the 40,000 per year figure. But Commissioner Brenner in July of 1964,<sup>16</sup> stated that the backlog had risen to 216,000 applications and added, "We have been losing ground at the rate of about 10,000 applications per year."<sup>17</sup> The Commissioner's projections for fiscal 1965 indicated the Office will receive about 90,000 patent applications.

A recent report<sup>18</sup> does show that under the compact prosecution program the Examining Corps at its present size and operating at its present pace can dispose of 100,000 cases a year. Thus the backlog can be reduced at a maximum rate of 10,000 cases per year assuming that the number of new cases does not increase. The assumption, in reality, cannot be made. Since the present backlog<sup>19</sup> is about 203,000 cases, it

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<sup>13</sup> "The Patent Office Problem" by Warren Weaver, 37 *JPOS* 613, 621, No. 9 (1955).

<sup>14</sup> *Op. cit.*

<sup>15</sup> *Supra*, note 3, "The European Patent Convention: Guide to Modernizing Our System" at pps. 405 and 420.

<sup>16</sup> Address of Commissioner Edward J. Brenner, 46 *JPOS* 463, No. 7 (1964).

<sup>17</sup> *Op. cit.* at page 463.

<sup>18</sup> "Progress of Patent Examining Program," 57 *JPOS* 782, No. 9, Sept. 1965.

<sup>19</sup> The number of pending cases as of October 26, 1965, was 118,368 excluding 5,017 design cases, 819 *O.G.* 1345.

would take approximately 29 years at this disposal rate to liquidate it. Of course the new application rate will exceed 100,000 cases per year long before that point is reached, thus the Office will remain "unlike the Red Queen."

It would be well to note at this juncture that some of those that have criticized the patent system for reasons of their own did not approach the problem from the standpoint of the system. Thus, S. C. Gilfillan asks the question: "Why are so many bogus patents granted?"<sup>20</sup> He proceeds to answer the question by stating that 75,495 paid applications for fiscal year 1958 were handled by 1053 Examiners, assistants and higher ranks, making a total of 71 applications per man per year for an average of 24 hours<sup>21</sup> per application. He then noted that under these conditions little progress could be made on reducing an existing backlog of 207,000 applications. He went on to support his conclusion that "so many bogus patents are granted" by making the usual criticism of those who generally want all patents abolished. The inference is that:

On each application the Examiner must supposedly search out all pertinent parts of the eight million American and foreign patents on file, plus the whole libraries of technical literature, in numerous languages, and cover all practices known but unpublished, then make one sound judgment on each claim, numbering dozens perhaps on one application, and on every word and drawn element of it.<sup>22</sup>

Thus, Gilfillan manages to conclude that the Examiner must search all of this great mass of material in order to issue a presumably valid patent. He is somewhat more accurate than others in that he did at least qualify his statement by using the words "pertinent parts." However, it is to be noticed that he did use the figures eight million plus millions. Criticisms of this sort camouflage the issues by concluding that it is necessary for an Examiner to search the entire body of scientific knowledge. This sort of criticism would have us believe that an Examiner handling a computer application must necessarily check all the patents dealing with furniture to make sure that no prior art on computers exists among the furniture art. The conclusion destroys itself because it ignores the classification system and although that system has its faults, it is useable to some extent by experienced Examiners.

What then is the problem of an Examiner faced with an application

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<sup>20</sup> The Gilfillan paper, *supra*, note 2 at page 95.

<sup>21</sup> The time is actually about 15 hours. See Assistant Commissioner Wahl's Address to Patent Examining Corps, September 24, 1965, 819 O.G. 893, 895.

<sup>22</sup> *Op. cit.*, *supra*, note 20, pps. 95 et seq.

involving art of the type described above? For the purpose of illustration, let us say that the Examiner must search an electrical motor having a transistorized control circuit of the silicon controlled rectifier type. If the Examiner were to go to Class 318, the generic place for electrical motor systems, he would not be able to find either a subclass or subclasses directed toward solid state control devices for motors. He would find that motor controls are classified according to the function of the controls used with the motors, e.g., plugging for quick braking. Thus, if the solid state device is in a speed control system, the Examiner must attempt, utilizing a word index, to ascertain those subclasses showing silicon controlled rectifier devices utilized as motor speed controls. Now class 318 is in Examining Group 210. This is a different group than the group in which Class 307 is located (which is in Group 250).<sup>23</sup> Just to complicate matters even more, let us assume that our Examiner is essentially inexperienced and by this we mean an Examiner having less than four years in the Office. The purpose of this assumption will appear subsequently. Our inexperienced Examiner must know to ask another Examiner where he might find art showing solid state control circuits and, indeed, if such art is or would be pertinent to the problem confronting him. The inexperienced or novice Examiner should be told that SCR controllers are scattered throughout Class 318 but that there is an unofficial breakdown, Subclasses 21.5, of Class 307, Subclass 88.5 which happens to be a silicon controlled rectifier unofficial digest. The Examiner's search will not be complete until he makes this search and if he doesn't make this search, he may grant a "bogus" patent. Similarly, a man working with the computer art must know that gating circuits, logic circuits, and such can be found in Class 307, Subclass 88.5. Other unofficial digests located in this subclass include miscellaneous power supplies, miscellaneous amplifier circuits, and so on, and of course, there is an amplifier class, Class 330, and a power supply class, Class 321, and inexperienced Examiners in these last two classes might also be well advised to search the unofficials.

The ability to deal with the classification system, comes only with long experience and the knowledge of what people are doing in other arts in the Patent Office.

Presently the classification divisions of the Patent Office have the responsibility for routing all new applications to the different examining groups. They base their decisions as to which group receives what applications on the manner in which the new applications are claimed. Under this system, screen devices for color television may go

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<sup>23</sup> Group 210 is the Electrical Power group whereas Group 250 is entitled: Electronic Component Systems and Devices.

to Class 178, telegraphy; Class 88, optics; Class 313, electric lamps; or Class 315, electric lamp systems, depending upon the manner in which the claims in the application are drafted. The point of this is simply that it takes a great deal of time to become familiar with the classification manual and the arts. Until an Examiner becomes familiar with the tools of his profession, he is going to lose time in making his searches. It thus goes without saying that lost time is a material factor influencing the backlog. Examiners, probably in self defense build their own unofficial subclasses which may or may not include all the pertinent references that they are likely to require when they examine an application. But the Examiners who build these unofficial subclasses are, generally, the Office's most experienced Examiners and most likely are not the inexperienced Examiners who spend the largest amount of time searching.

As has been stated previously, it is the hope of the Office that information retrieval studies will provide the answer to the problem of searching the prior art to obtain the most pertinent references but this means computer programs must have such flexibility that they will cope with the influx of applications and in both mass and complexity, the veritable torrent of issued patents. Computer classification is not easy. An example of the problems confronting the programmers was given by Joseph Stitelman in a recent issue of the *Journal of the Patent Office Society*.<sup>24</sup> The Patent Office's Office of Research and Development had established an experimental search system for the patents in Class 307, electrical transmission or inter-connection systems, Subclass 88.5, transistor and non-linear conductor systems. The subclass had, at that time, 3,500 patents, including originals and cross-references available for study. These patents are directed to gating, logic counting, comparing and other miscellaneous electronic circuits which use transistors, and to tunnel diodes, cryogenic devices and other miscellaneous non-linear conductor devices. Stitelman also indicated that there were 1,800 pending cases occupying about two-thirds of the time of 12 Examiners. Thus, the pure volume of material requiring translation into machine language constitutes a first major barrier to computer classification. Furthermore, the art in this particular subclass is miscellaneous in nature and its vocabulary is still very much in the process of development. Thus a second major barrier to computer classification of a new art is the very fact that the art is new and the terminology for the art is also new and, therefore, far from being standardized. The writer also noted that "the subject matter de-

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<sup>24</sup> "Information Retrieval Studies of Electronic Patents" by Joseph Stitelman, 46 *JPOS* 390, No. 6 (1964).



scribed above is representative of electronic arts in general." Finally, as was pointed out by Stitelman, the exhaustive indexing of these patents required considerable time, and he has concluded that:

The studies of the electronic digital computer as a tool in information retrieval will indicate the limits of keyword approach for electronic patent searching and will indicate how much can be done for circuit schematic search or automatic indexing by computers.<sup>25</sup>

The problem occurs because:

The patent document differs from most other types of documents in the completeness of description of apparatus and its operation and the careful use in textual descriptions of reference numbers to the elements of the apparatus in the drawings.<sup>26</sup>

Stitelman is optimistic in stating that the above characteristics provide a unique opportunity for successful information retrieval. On the other hand, it must be noted that the programming problem is immense in proportion in that the classified set of United States patents contains an estimated eight million patents including approximately 3.18 million United States patents cross-referenced approximately two times per patent. When it is realized that millions of articles on technical matters are drafted each year and that millions of foreign patents must also be classified, then the problem is a true colossus that faces those who would program the computers. It would seem that the job of programming the present art presents such formidable barriers that the chances for success can be stated only as remote. Alternatively, if the structure of the patent itself is changed for the purpose of facilitating programming, then there might be a chance of computerizing the future art.<sup>27</sup> On the other hand, the only alternative to computerization of technical publications for the purpose of bringing the classification system up to date, maintaining it there and easing the Examiner's search load must be an ever-expanding involvement of money and manpower that is directed solely to this proposition.

Earlier in the paper<sup>28</sup> an assumption was made that a large percentage of the Office's Examiners are inexperienced. It would be well to examine this question and to determine what the effect of the assumption would be on the backlog.

#### THE EXAMINER AND THE BACKLOG

Vannevar Bush said:

The great advances in science since the patent system began to operate in this country are reflected in the fact that many inven-

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<sup>25</sup> *Op. cit.* at page 403.

<sup>26</sup> *Op. cit.*

<sup>27</sup> With respect to the computerization of the future art see *infra*, pps. 504, 505.

<sup>28</sup> *Infra*, at page 495.

tions today are highly technical. They cannot be grasped in a moment by a layman. They can be understood, in their trends and implications only by men of long experience in science and technology.<sup>29</sup>

Of course, neither the Examiner handling the application nor the attorney who drafted the application can be called a layman, but it can be concluded that an expert in the art would be required in order to adequately examine an application of complex technical subject matter such as a computer application. One is then led to ask what type of men are actually examining pending applications in the Patent Office? Part of the answer to this question necessarily involves another question which will be dealt with subsequently, namely, the high rate of turnover in the Examining Corps.

Last year Commissioner Brenner reviewed the effectiveness of the various examining operations and determined and listed those areas in which the backlog is greatest and those where it is much smaller. He stated:

This review shows that in operation III (Mechanical) and operation IV (General) the period of pendency of patent applications is about two and one-half years. . . . On the other hand the review also indicates that in Operation I (Chemical) and Operation II (Electrical) the period of pendency of patent applications is now approaching four years . . . and that the increase in backlog is very substantial in these two operations. More particularly it appears, that unless the current buildup in the backlog in these two operations is checked, that in about two more years the period of pendency of applications in these two operations may approach as much as five years. . . .<sup>30</sup>

It has been the personal experience of the writer that as a general rule, the older more mature and most experienced Examiners are to be found in the mechanical and general operations groups of the Office while the youngest and least experienced Examiners are found in the chemical and electrical examining groups.

What then is the experience profile of the Examiner in these two groups? It is common knowledge that the turnover in the Examining Corps is greatest among the chemical and electrical Examiners. In fact, the tenure of these Examiners closely approaches the length of time necessary to obtain a law degree in one of the local (Washington, D. C.) law schools. These Examiners come, in the main, to the Office straight from their college or university (or the armed forces) without spending any time practicing their technical skills in an industrial

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<sup>29</sup> "Some Proposals for Improving the Patent System" by Dr. Vannevar Bush, 39 *JPOS* 11, 28, No. 1 (1957).

<sup>30</sup> *Supra*, note 16 at page 464.

environment. Thus, the young Examiner has no actual working knowledge of the art to which he is assigned and in general, his only experience with his art must be that brought to the Patent Office from the classroom and the school laboratory. The question must be asked: What type of training does the young engineer, chemist or physicist receive at the university or college from which he was recently graduated? This writer assumes that the Examiner's education is much like that of the writer, namely, a four-year course which essentially introduces the technical student to his major field. An electrical engineer would then be expected to have had a year in basic electronics, fields, antennas, AC and DC power machinery, and a lot of courses outside his major field of development such as courses in thermodynamics, fluid mechanics, general engineering, materials, and so on.<sup>81</sup> It can hardly be expected that an Examiner trained in such areas will be equipped to act in an efficient, competent manner on an application such as that of the Bell Laboratories electronic accounting system. It may be assumed that young electrical Examiners will have little if any knowledge with respect to the operation and inter-operation of the various logic circuits involved in an application of the type mentioned and it goes without saying that it takes time to acquire these skills. If the young Examiner is typical, he is undoubtedly conscientious, and he will want to do a good job. He will, therefore, probably devote a great deal of time trying to properly examine his docket. The mere fact that he is conscientious, and perhaps very intelligent, will not make up for his lack of experience in matters of classification, technology and patent law. He will lose time in learning the subject matter of his docket and, in fact quite frequently, the attorney who drafted any particular application before the Examiner will have to devote a great deal of his own time trying to teach the Examiner the electronics of the application.<sup>82</sup> The Examiner will lose more time in making his search because his lack of technical knowledge will make it difficult for him to recognize anticipatory art and his lack of knowledge with respect to classification will make it difficult for him to locate the proper subclasses. Finally, more time will be lost in the conferences which necessarily must follow between the assistant examiner and the supervisor in determining how those references that have been found are to be applied in proper conformity with statutory requirements

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<sup>81</sup> To verify this statement, the reader need only consult the bulletins of the various engineering schools.

<sup>82</sup> It has been suggested that the attorney also attempt to acquaint the Examiner with the prior art involved in the case. See generally on this subject "Lightening the Load of the Patent Examiner," by John A. Dienner, 47 *JPOS* 148, No. 3 (1965).

against the application. It is submitted that herein lies one of the major keys to the problem of the increasing backlog. This last factor, conference time or teaching time, illustrates another way in which the inexperienced Examiner helps the backlog to grow: He must necessarily lean upon the knowledge and experience of the more experienced Examiners. But that means that the experienced Examiner must utilize time, time that could be better spent on his own actions than in training the new Examiner. It necessarily follows that the experienced Examiner does not act on as many applications as he could and by this negative factor, he increases the backlog.

Commissioner Brenner, in an attempt to reduce the backlog in the chemical and electrical areas, has stated that he intends to take steps to alleviate this situation by shifting 50 Examiners from mechanical and general operations to chemical and electrical operations through the age old tactic of utilizing his budget to recruit more chemical and electrical Examiners to replace mechanical and general operation Examiners as they retire or leave the Office. It is the hope of the Commissioner that:

The net result of these changes will be to increase the level of the examining staff in our chemical and electrical operations by about 15 percent.<sup>33</sup>

It must be submitted that a solution of this kind cannot affect the overall increase in the backlog for the simple reason that the Commissioner has suggested that he will hire many more new, young, inexperienced, and immature Examiners who must learn their arts and technology. Such a solution would reduce the backlog and speed up or reduce the pendency of applications before the Office only if the Examiners could be retained in the Office as permanent personnel but such is not the case.

#### THE HIGH RATE OF TURNOVER OF EXAMINERS AND THE EFFECT UPON THE BACKLOG

One of the most frequently stated problems facing the Patent Office is that of Examiner turnover. Thus, it has been stated by Duncan:

The high rate of turnover within the Examining Corps . . . results in the maintenance of a high proportion of inexperienced Examiners with low production capabilities coupled with a loss of time to experienced Examiners who must closely supervise and instruct the inexperienced men. Many new Examiners attend evening law school and upon graduation, leave to enter law firms and corporate patent departments.<sup>34</sup>

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<sup>33</sup> *Supra*, note 16 at page 465.

<sup>34</sup> Article by Duncan, *supra*, note 3, at page 418.

Mr. Duncan goes on to state that Examiners leave the Office because they receive higher pay, greater opportunity for ultimate advancement, better working conditions, and greater status in law firms and corporations. He also mentioned the poor working conditions under which the Examiner must operate.<sup>35</sup> It is submitted that it has been the writer's own recent experience that Mr. Duncan is absolutely correct in his assertions, particularly as they apply to the young Examiner in the chemical and electrical operations. Starting salaries ranging from \$11,000 to 13,500 a year and more are generally given to young men with two or more years experience in the named arts upon graduation from law school. The Patent Office, on the other hand, is not able to compete in this sort of marketplace and thus, after spending four years in training them it loses those young Examiners.

As long as firms and corporations by paying higher salaries and offering better working conditions continue to outbid the Office in those areas that seem to count with the young Examiner he, in the critical examining operations of the Office, will continue to be a transient figure. He spends approximately four years learning the ropes, so to speak, and then takes his experience into the outside world. The Patent Office must necessarily hire his replacement who will typically be a member of the current crop of technical school graduates and thus be totally inexperienced in all the matters previously mentioned. Commissioner Brenner's suggested solution would be sufficient if the people employed by the Office were, in the main, people experienced in their technology, in Patent Office classification, and in patent law, but such is not the case. Thus, the solution is at best only a stop gap measure that could conceivably increase the backlog even further since more time will be required by supervisory personnel to train the expanded Examining Corps.<sup>36</sup>

If we assume that legislation affecting the patent system will not abolish the system but rather will look toward alternatives to the

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<sup>35</sup> This argument, or point, was mentioned in the *Washington Evening Star* of May 6, 1965, at page 4, as a factor responsible for the backlog. The article was specifically directed toward the relocation of the Office. The point is of interest because the writer exhibited, with remarkable clarity, his own lack of knowledge of Patent Office problems in that he attributed the backlog to this single causation factor.

<sup>36</sup> Commissioner Brenner has also stated that he hopes to reduce Examiner turnover, from its present 15-20 percent per year rate to 10-12 percent, by creating more supervisory positions. If this works, and there is no reason why it shouldn't reduce the figure somewhat, then it may be assumed that the Office will gain more experienced help and can reduce the backlog to a certain extent, at least for a few years. See: "Current and Future Programs In the Patent Office," 47 *JPOS* 139, 144, No. 3 (1965).

examination system, then we can safely conclude that of all the known alternatives the registration system is the only one that does not include a search and an action on the merits of a pending application. In this case we are forced to ask: Would any other system solve the problem of inexperienced Examiners, through their inexperience, adding to the backlog? Most systems, with the exception of the registration system, require a search by the Government Examiner. Quite obviously, factors contributing to the Examiner's inexperience will not be changed by adopting a system different from the present examination system because these factors have their roots in the individual's training prior to his employment with the Office. Unless we are prepared to tell the universities and colleges what they must teach a prospective Examiner or unless we set up a Government college or technical school that is prepared to take high school graduates and bring them up as Examiners, we cannot, by simply changing the patent laws, solve the problem.

It has been stated that it is not the intention of this paper to discuss the merits, whatever they may be, of the various alternatives to the examination system. But we feel constrained to say that those who would pin their hopes on a deferred examination or opposition type of patent system should remember that such systems do not guarantee that third parties will intervene to aid the Examiner. The old saying that "if one wants a job done right, one should do the job oneself" is probably a most apt statement concerning the matter at issue. Those who advocate the above-named systems must remember that although alternative systems may sound good in theory, the chances are very good that to insure a presumption of validity whether or not an opposition materializes, the Office must be prepared to fully examine all applications itself. Even if an opposition does come forth, who could guarantee that such an examination will be of sufficient quality to compare with the examination system now in force?

#### PROCEDURAL MATTERS AND THE BACKLOG

It is sometimes stated that procedural matters, such as the period of an interference proceeding, constitute a major factor contributing to the backlog. Thus, Duncan has said:

Any party forced to fight through a succession of interference proceedings pays heavily in delay and legal expenses.<sup>87</sup>

Others, such as Gilfillan, have pointed out that:

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<sup>87</sup> Article by Duncan, *supra*, note 3, at page 423.

<sup>88</sup> Article by Gilfillan, *supra*, note 2, at page 97.

A large part of the delay is from tardy replies by the applicant or by his deliberate contrivance, in order to postpone the end of the patent . . . or to involve rivals in interference proceedings. . . .<sup>38</sup>

And others tie procedural delays into arguments tending to show by inference that the backlog is responsible for the high rate of court invalidity holdings, thus, Geniesse has said:

A factor tending to force allowance of applications for patents results from . . . (the) delay incident to obtaining patents.<sup>39</sup>

As to critical comments made with respect to delays created by the procedures involved in interference proceedings, no comment is necessary because the rules involved in this practice are presently being reviewed for the express purpose of obviating this criticism.<sup>40</sup> As to delays created by the statute, 35 U.S.C. 103, it must be said that Congress in its wisdom decided that an applicant should have at most six months to reply to an action and the Commissioner has reduced this response period to four months.<sup>41</sup> It is submitted that no matter what form of patent system the country adopts, excepting the registration system, that some delay in responding to an action will be necessary in that invaluable property rights are created by the patent grant and it is necessary that he who would have the grant be given a reasonable period to evaluate his position relative to that of the Office.

Granted this answer ignores the fact that an early publication under a deferred examination system does not impose procedural delays in the exchange between the Office and the applicant prior to publication; nevertheless, it must be noted that the substantive rights created by a deferred examination *are not actually created* until this exchange takes place. Thus, it is suspected that those who make this criticism will merely shift their attack in point of time.

The other major area of procedural criticism falls within what could be called patent mis-structure. Thus, Rossman has stated:

A radical overhauling of our existing claim practice will simplify the examination of patent applications and clear up the existing log jam of pending applications in the Patent Office. . . .<sup>42</sup>

His attack is based not on excessive claims but rather on the difficulty of claiming modern technology for he goes on to state that when technology was simple, an inventor could, with a good prior art search,

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<sup>38</sup> *The Examination System in the U.S. Patent Office* by Eugene W. Geniesse, Study No. 29 of the Subcommittee on Patents, Trademarks and Copyrights of the Committee on the Judiciary, U. S. Senate (1961).

<sup>40</sup> The proposed changes were published at 29 F.R. 15, 866 and 810 O.G. 1.

<sup>41</sup> A further reduction to a response period of three months can be expected in the very near future, *supra* note 21.

<sup>42</sup> "Patent Claim Practice Needs Overhauling," by Joseph Rossman, 45 *JPOS* 363, No. 5 (1963).

know and thus distinctly claim his invention in an objective way.<sup>43</sup> The suggestion Rossman makes is exactly the same as Dienner's.<sup>44</sup> It is the position of Dienner that the rules should be changed to require an applicant to draft one subjective claim and base his application on that claim. He argues that the courts essentially handle patents as if they have this type of claim structure;<sup>45</sup> that claims of this nature should relieve the burden on Examiners because under the subjective theory, they would only have to search "inventive concepts"<sup>46</sup> and finally, by using a subjective claim, we would be a step closer to machine searching.<sup>47</sup>

In addition to the difficulty or complexity of the matter claimed in an objective sense, Dienner also indicates that the practice of claiming the doctrine of equivalents vastly complicates the work of the Examiner in that the Examiner is forced to search each claim; and it is basically for this reason that he argues for a one subjective claim patent.

The criticisms raised are valid, but they do not affect the choice of a patent system because no matter what type of a system one might wish to discuss, one must consider the basic question of how the claims are to be drafted. In regard to this, it is true that Examiners are forced to search all the claims in an application and this could add to the search load. This is particularly true for inexperienced Examiners. On the other hand, if more than one invention is truly embodied in the application, the statute<sup>48</sup> requires a division of the application. Thus, there is a single invention embodied in the claims and the real job of the Examiner, for search purposes, is to *recognize* that inventive concept and then make the search. This means that in actuality the Examiner should be searching first for the broad concept and then for the equivalents or, that is, a picture. If the Examining Corps is making its searches in this manner, then the argument for changing the claim structure is, at least, weakened.

There may be one good reason for changing the present structure of claims and that is to aid the encoding process for machine searching. This would not automatically eliminate the hand search of the prior art because as Dienner noted<sup>49</sup> it will be necessary to search those patents and references that cannot be encoded. And, it probably will

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<sup>43</sup> *Op. cit.* at page 369.

<sup>44</sup> "Simplifying the Examination of U.S. Patent Applications" by John A. Dienner, 45 *JPOS* 79, No. 2 (1963).

<sup>45</sup> *Op. cit.* at page 90.

<sup>46</sup> *Op. cit.* at pps. 86 and 93.

<sup>47</sup> *Op. cit.* at page 94.

<sup>48</sup> 35 U.S.C. § 121.

<sup>49</sup> *Supra*, note 47.



not be true that in 10 to 15 years there will no longer be any necessity for making a hand search because even today, as any searcher can testify, 19th and early 20th century references are still very much in use as anticipatory art on inventors' disclosures. Most searchers are well aware of the fact that a percentage of their novelty work is based on reinvention or rediscovery. Finally, the mere changing of the basic claim structure will not aid an Examiner when he searches the literature and foreign art and, of course, as previously noted, there would be the problem of encoding this type of material for computers.

It might also be well at this point to note that a factor, that we will for the lack of a better name call computer psychology, may enter the picture if all searching, or at least all new art searching, can be accomplished by machines. It is a well known fact that man relies on his machines to do a complete job when that is supposed to be their function. It is also a well-known fact that machines are not completely reliable. It is possible, considering these factors, that a completely computerized search would result in examiner letdown with respect to random cross-referencing of prior art, and that Examiners would rely on the computer for this purpose. Since computers are essentially memory devices, it would seem that if a patent is to be presumed valid, meaning that *all the pertinent prior art has been considered*, a computer solution can act in practice only as an aid to a hand search or vice versa.

#### DEFENSIVE PATENTS—THE BACKLOG

It is often said that one of the major roadblocks confronting the Examining Corps in its efforts to reduce the backlog is the defensive patent. Gunter A. Hauptman takes the position that defensive applications are generally the subject of attack because they are the most dispensable form of patents.<sup>50</sup> By this, he means that an inventor who acquires such a patent merely intends to use his grant as a shield and not as both a sword and a shield. The inventor is afraid that if he does not file on his borderline innovation a competitor will do so and then foreclose the inventor from realizing his costs and profits. Hauptman notes that about one-third of all applications are filed for defensive purposes.

Quite obviously, a large burden could be removed from the Office's load if some way could be found to provide defensive applicants with the assurance that they will not be hurt if they don't file. The hope is that if this could be done, the Office could then reduce the backlog. It is for this reason that many believe that a deferred examination would

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<sup>50</sup> "Publication Instead of Filing" by Gunter A. Hauptman, 45 *JPOS* 733, 734, No. 11 (1963).

be beneficial because such a system publishes a provisional patent prior to a full examination. The key word here is publication, and it must be noted that the Office did try this solution, or a form of it, at one time. The attempt was not successful and it is to be noted that publication under a deferred system in itself might not be a solution because it would not provide some of the other benefits that Hauptman noted as reasons for a defensive patent. Specifically, a provisional patent might not give the inventor a bargaining token useful for obtaining licenses from dominant patent holders, and it might not be as useful an item for obtaining financial aid for developing his products.

Even though defensive, these last-named reasons for obtaining patents are not to be taken lightly. If such patents have these values, they might still stimulate the economy in that more money and a competitor's knowledge through a license agreement could create further innovations which, in the aggregate, could lead up to another major invention, that is, an invention of the type that might be valid if it came before the Supreme Court.

Defensive patents are a problem, but they seem to have some value to their owners. The problem may be somewhat alleviated by the increase in fees, effective since October 25, 1965. However, if a defensive patent has the bargaining value heretofore noted, it may be expected that wealthy corporations will not vastly change their policies relative to defensive patents.

Thus, any system alternative to the examination system must produce a disclosure that not only publishes the innovation, but it must also produce a disclosure that has bargaining value.

It would seem safe to conclude that any system that does not provide the inventor with these rewards would be unacceptable as an alternative because inventors, or their backers, would probably do whatever is necessary to recoup this advantage. Therefore, we cannot know that under a different type of system inventors will not request a full examination either in the Office or in the courts, and, of course, if they do the burden will not be removed from the Office.

#### CONCLUSIONS

This examination of the problems confronting the Office has in the main led this writer to believe that a change from the present examination system to any alternative system would not materially affect the backlog. The problems stated and explored indicate by their very nature that they would, in principle, be generic to any process whereby patents are granted. There is nothing to indicate that the rate of technical development will decrease and quite obviously all systems must

cope with this problem in both its mass and its complexity. It, as a problem, relates not to the type of system but rather to its effectiveness in such matters as the ability of the Scientific Library to cope with the mass, and the ability of individual Examiners to cope with the complexity.

The same sort of reasoning must apply to the position of the classification system in that no matter what type of patent system is involved, there must of necessity be a classification of art. The problem is not solved *ipso facto* by changing the system, rather it will be solved only by finding some line of attack that automatically takes into account changes in the sciences. But as has been indicated, this is very difficult indeed and more realistically, it would seem that the problem can be solved only by spending more money. The author cannot see how a change in the type of patent system would take into account the question of the inability to deal with patent applications of a large percentage of the examining force. Examiners in the electrical and chemical operations are going to continue to be transients in the office just as long as there is a shortage of this type of personnel in the business community. Consequently, the Office must train and replace and train again these young technical school graduates who are unfamiliar with their art, the classification system, and the patent laws while these people are obtaining a legal education. This same problem must be confronted by every type of patent system.

The same thing is generally true with respect to procedural matters. Thus, every patent system must struggle with the form of the claim, and every patent system that grants a presumptively valid patent must cope with delays involved by the time lag in communications between the Office and the applicant. Nevertheless, it is this area of procedural delay that gives rise to a valid argument for at least one alternative to the present examination system and that alternative is the deferred examination system. The hope is that such a system will eliminate defensive patents but as was noted, this hope is based on the fact that all a defensive patentee wants is publication. As was pointed out, he also wants a bargaining position and early publication in itself will not provide this result. Thus, it would seem that, in principle, the defensive patentee under a deferred examination system would still call for a full examination and thus he could not be easily dismissed as a problem with respect to the backlog.

Although the system has mechanical problems, any patent system would be confronted by these same problems. Therefore, instead of looking at other pastures, we may just as well look for solutions to these problems within the framework of the present system.



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## RETROSPECTIONS

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This section will include biographies and other reviews of careers, discussion and documentation of events important to the history of inventions and discoveries, and anecdotal or historical material pertaining to judicial opinion and legislation.

### Highlights in the Careers of Inventor Award Nominees

*We are sharing with our readers excerpts from the rich information in a number of the letters nominating candidates for the 1964 Inventor of the Year Award. Collectively, these present a broad spectrum of characteristics that make for creativity. The letters cover a wide range of contributions and experience: from an inventor of 24 years of age to one of 91; from stretchable paper to a junction transistor; from a wife proudly nominating her inventor husband to a large industrialist heralding the acuity of one of his scientists.*

**H**E IS A YOUNG MAN [Joseph P. Bell] with ideas,\* who has struggled against odds which at times seemed overwhelming; his initiative and hard work have overcome his lack of engineering training; his faith that, in America, inspiration united with perspiration results in success; and, his invention is a contribution to motoring safety.

In the patent description for *Illumination Means For Automotive Wheels* is the following paragraph:

A primary object of my invention is to provide for vehicle illumination of the hub caps or tires so that the vehicles equipped therewith are more readily visible to approaching drivers during night driving and under other conditions of poor visibility. The illuminating device of my invention, in a manner described more specifically here below, provides a safety signal to approaching vehicles and thereby reduces accident hazards accompanying night driving or similarly poor visibility conditions.

Joseph P.  
Bell

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\* Quoted from a letter sent in by Robert F. Dober of Maple Heights, Ohio.

Eight years ago as a youth of 17, Joe surmised that if a side running light could be placed on a vehicle, especially on a moving part, it would be an attractive and invaluable aid to motoring. He immediately set to work on it, first building an ultraviolet-reflecting device suspended from beneath a vehicle's fender. In 1958 he applied for a patent on this device. It was later abandoned, however, in favor of the superior design and construction his invention now embodies.

These were years of struggle for him and he even had to borrow money to continue his efforts. He worked at part-time jobs in order to have time to work on his invention. He made models, sought advice, contacted many manufacturers and spent hours reworking his plans. He estimates that, conservatively speaking, the total cost in finally getting his invention developed and patented was well over \$5,000.

In the beginning, Joe felt that he could actually manufacture his own product and he even leased space in a building in Bedford, Ohio. He soon discovered, however, that small-scale manufacture of a device of this nature was an impossibility. One day, while still seeking a solution, he read an article in the *Cleveland Plain Dealer* about an industrial designer in Bath, Ohio, and decided to contact him to draw up manufacturing specifications and materials, lists, et cetera.

F. Eugene Smith, ASID, of Bath, was kind to the young man and Joe discovered that his grandiose plans of manufacturing the Lite-a-Wheel had been in reality very naive. Mr. Smith suggested contact with Charles E. Coltrin, President of Dyer Products Company, Canton, Ohio.

Mr. Coltrin was impressed; Joe had conducted his own research and development program, obviously had initiative, and even had working models. On that November day in 1961 Mr. Coltrin told Joe that within one year's time their combined efforts could see his invention in production.

Many difficulties ensued. Mr. Coltrin and Joe sought a suitable manufacturer for his product and after extensive investigation and many problems, agreement was reached with a steel-products company.

The remaining engineering problems were to be resolved by that company. As it turned out, however, Joe who is not an engineer and had pursued an English major, had to spend many additional hours redesigning and inventing new parts to keep the Lite-a-Wheel mechanism simple and adaptive to various automobiles yet commensurate with the manufacturing facilities of that company.

The product was finally put into production in July, 1964.

**M**OST MEN TODAY take it for granted that their shirts, shorts and pajamas—if they bear the tag “sanforized”—don’t shrink after laundering. Their wives and daughters wear cotton dresses that are pitched into washing machines again and again without losing shape. Millions of families sleep on fitted bed sheets that would be impossible without shrinkage control. Nonshrinking fabrics are all over their homes—curtains, drapes, slip covers.

Now the inventive genius [of Sanford Cluett]\* that made “Sanforized” a household word has added another word to our language: “Clupak”—paper that stretches, that gives before it breaks. At supermarkets, groceries are packed in bags that carry heavy shifting loads without bursting. Magazines are delivered in a wrapper made of this stretchable paper. So are many mail order catalogs. It is used to make boxes for cosmetics, for packaging meats for storage in freezers, for wrapping mattresses, boxsprings, furniture, tires. Also this new paper is now beginning to open a whole new world of disposable nonwoven fabrics that are cheaper to throw away than to launder. Bed sheets made of it are now being tested and one day will doubtless be standard equipment in hotels, motels, trains, and ocean liners. Homes will use them, particularly in guest rooms. Throw-away handkerchiefs are on the way. Pillow cases made of this paper can be profitably marketed for 10 cents apiece; men’s throw-away shorts can be sold for 15 cents.

Sanford  
Cluett

All these changes, which actually comprise revolutions in two different industries, have come about because of a short, wiry man who, until he was 45 never had any contact with either the textile or paper industry. Now, at age 91, Sanford L. Cluett is one of the least known of our important inventors, although portions of his name have been carried all over the world in the trademarks “Sanforized” and “Clupak.”

Born in Troy, New York, Cluett has been one of the most versatile men of our age, with accomplishments in painting, sculptoring, surveying, hydrography, navigation, construction, ballistics, exploration, and business management. He was a whiz kid half a century before the term gained currency. At eight he made large drawings to illustrate an uncle’s scientific lectures. At 10 he surveyed and mapped a lake in the Adirondacks with an irregular 99-mile shoreline, actually constructing his own surveying instruments from a carpenter’s level, some

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\* Mr. Henry R. Ashton, an associate of the New York office of Fish, Richardson & Neave, sent in the following documentary material which is reprinted from *Chicago’s American*.

metal screw eyes, and a music stand given him for violin study. At 11, watching the body of General Grant being brought down from the mountains, he advised grown men on how to fire the saluting cannon.

In poor health from 14 to 18, he did not go to school, spent most of the four years around Palm Beach when the section was a wilderness. The boy Cluett hunted ducks, deer, and alligators, fished for sharks, explored the swamps, sketched with skill, made friends with the Seminole Indians, learned their language, became expert with small arms, could drive a tack with a pistol at 40 feet.

But mostly he was out on Lake Worth in a boat, endlessly sailing, rowing, drifting. Some observers thought he was lazy, said what a shame for a boy to be permitted to waste his time. Actually, Cluett was studying buoyancy, wave behavior, the influence of design, the effects of wind pressure, getting the fundamentals which were to serve him later in the design and handling of yachts and sails. He watched the soaring of gulls and hawks, studied their wing structures, designed a crude airplane years before the Wright brothers went to Kitty Hawk. Decades ahead of his time, he figured that with sufficient speed a plane wouldn't need large wings.

Cluett once said "You can't do anything that you can't imagine first, and curiosity cultivates imagination. If more people would get curious and open their eyes and ears and minds, they would be much happier and, incidentally, more successful." His own curiosity, nurtured in the Florida wilds, did not wilt on entering prep school. When a teacher explained how the muscles of the esophagus forced food and liquid into the stomach, Sandy wanted to know whether this would work if a person were standing on his head. The teacher wasn't sure but thought so—an answer insufficient for Sandy. That afternoon the first thing he did after getting home was to attempt swallowing water while standing on his head. He persisted until finally he heard the "clunk, clunk" of a valve in the esophagus trapping the water in the stomach.

In college Cluett's curiosity led him to make original investigations in ballistics—65 years later he was trying to improve shotgun shells with his extensible paper. He devised a formula for measuring train resistance—still used in textbooks. He invented a bubble sextant for use in celestial navigations when the horizon is invisible. Later he became an expert navigator, was welcomed on the bridges of many a large trans-Atlantic liner, given a desk alongside the ship's officers, consulted about his findings.

While still a schoolboy Cluett for a time considered being a doctor, read books on anatomy, diseases and surgery, watched operations, be-



came familiar with surgical instruments. He dropped all this, studied engineering at Rensselaer Polytechnic Institute, and just as he was graduating went into the Spanish-American war as a lieutenant in the Engineering Corps. He was sent to Puerto Rico to engage in military construction. There he put his schoolboy medical gleanings to good use, serving as battalion "doctor" when the outfit was without a surgeon. To make sure he sewed up flesh wounds correctly he practiced taking stitches in his own arm.

While building a seacoast fort in Puerto Rico he got curious about the tides there, set about making observations which provided the first correct information ever recorded on the tidal phenomena of the northern Caribbean Sea. Two years later, at 26, he was asked to take a position as assistant engineer on the Government's Big Sandy River Dam project in Kentucky. When a civil service regulation prevented his getting the position, Cluett took a job on the project as a \$2 a day rodman. He designed the steel work for locks and invented a self-operating valve—the first of some 200 patents issued in his name.

At 27 he became chief engineer of an upstate New York harvesting machine company with 1,200 employees. He began turning out inventions and modifications which drastically changed the design of mowing and reaping machines. But he was never the lone, garret-type inventor, shut up in his own research. He had business talents too—soon became vice-president and general superintendent.

Many of Cluett's characteristics seem contradictory. Along with his wide-ranging curiosity he developed a methodical preciseness about ordinary things. He treated every move he made as if it were a scientific investigation. When he packed for a trip he made a list, bag by bag, of every item he carried. On shipboard he made lists of the wines he liked, of the names of all the ship's officers, of his tips—in two columns, one showing tips "proposed," the other tips "gave." Cluett even made a list of traits desirable in a wife. When, at 42 he found an 18-year-old girl who fitted these exacting specifications, he meticulously wooed and married her.

He has filled his home with clocks and checks their accuracy by using a special short-wave radio to pick up time signals from the Washington naval observatory. Recently a visitor noticed a slip of paper at the base of one clock: on it Cluett had written, "This clock 10 seconds late." When the great 1938 hurricane swept through the east he set down barometrical readings every hour. On plane trips he records the take-off time, course flown, name and address of the person sitting next to him.

An attorney told me that as a witness, Cluett was a lawyer's dream.

He has everything written down. Once, after a luncheon with business men discussing his stretchable paper invention, he went back to the restaurant, got the tablecloth on which he had penciled sketches, had it notarized and filed away. Later this tablecloth was telling evidence in a patent suit.

In 1919, at 45, Cluett changed careers—from mowing machines to collars, specifically Arrow collars, made by Cluett, Peabody & Co., a firm started by three of his uncles. Cluett knew the mowing machine firm was in trouble, partly because World War I had wrecked its foreign business. He never dreamed that the war had wrought a change which was to wreck the collar business too, and that out of the wreckage he was to pluck golden fame. In 1919 the stiff, detachable Arrow collar was as well known as the Ford car; it came in 400 different models; was popularized by the Arrow Collar Man whose idealized manly face drew a sustained flow of fan mail and marriage proposals from thousands of lonely girls. The factory in Troy had 6,000 employees turning out three million collars a week. But four million American men were coming out of the service where they had grown accustomed to a soft collar-attached shirt. They refused to wear a stiff collar. In 1921, Arrow Collar sales dropped drastically; in 1922 dropped again. The company vainly tried to stem the tide with a detachable soft collar, then with one called semi-soft. Cluett perfected a new system which prevented the scorching of collars, reducing discards by thousands of dozens a week. He invented an automatic collar cutting machine which reduced both labor costs and wastage.

But it was too late; the detached collar was on the way out and the company in desperation was turning to shirts—collar-attached shirts which had the big defect of shrinking when laundered. Separate collars were laundered in the manufacture and therefore had shrunk before they were sold; but customers wouldn't buy pre-washed shirts because they looked "used." How to shrink the cloth without washing it, that was the problem.

Sandy Cluett found the solution in 1923 after asking himself two simple questions. First, "What makes fabrics shrink?" The answer was that in the weaving and finishing, fabrics were continuously being pulled and stretched. When laundered the fibers relaxed and the fabric reverted to normal dimensions. Second, "What is the exact opposite of pull?" Push, he said.

"So I took a piece of fabric, laid it on my desk, and tried to push it together, but it buckled. I said, you've got to hold it. So I fashioned a half-circular piece of thick wood and stood it up on the desk, measured off a six-inch strip of fabric, dampened it a little, laid it over the

wooden thing. Then I took a rubber band as wide as the strip of fabric, stretched it out, laid it stretched upon the fabric, and held it down tight. I let the band shrink back somewhat, peeled it off, measured the fabric and it only measured  $5\frac{1}{2}$  inches. It had shrunk and it was perfectly smooth. There were no wrinkles—and that was the invention."

The perfected process, technically known as "comprehensive shrinkage" soon became recognized as the greatest development in cotton textiles since the coming of fast dyes in 1905. Rather than confine it to Arrow shirts, the company made the process available to the entire textile industry through a licensing system. The trademark "Sanforized" was coined, not to identify the process or the machines which do the shrinking, but to signify that a licensee's fabrics have been pre-shrunk to certain standards. By 1938 there were 95 licensed textile firms, putting the "Sanforized" label on 50 million yards of fabric. Today there are 415 licensees in 49 different countries (53 in India alone). They include almost all the major textile mills in the free world, with a total "Sanforized" labeled production of nearly 3 billion yards a year. Cluett, Peabody's earnings from its skilled handling of Sandy Cluett's initial efforts have already totaled more than 70 million dollars.

Cluett received a handsome settlement for his patents, and is still on the payroll. He still has access to laboratory facilities and assistants, freedom and research expenses to look into anything that arouses his curiosity.

At 75 when men a decade younger than he are retiring, Cluett began looking into an entirely new field—stretchable paper. He had a hunch that the principles used to take the stretch out of textiles might be employed to put stretch into paper, thereby strengthening it. Cluett began working longer than ever in his lab. To save time, he brought his lunch from home—corn flakes, milk, an apple. Some people in the company thought he was wasting time, others smiled indulgently. But Cluett kept on working, studying paper, searching out its characteristics, testing samples in some of his textile shrinking equipment.

He built a small laboratory machine using the same type of heated steel rolls and rubber blanket as his textile shrinking equipment. Then he put dampened strips of kraft paper through the machine and pushed the fibers together while exposing them to the heated rolls. When this paper dried Cluett pulled it—and it stretched.

Now nearing 80, holding what events were to prove a fabulous discovery, Cluett had to go out and peddle it like an unknown. He visited

four different paper companies, showed them his amazing strips, found none of them interested in developing his invention. Cluett kept on testing, evaluating, building up stress diagrams showing strength and resistance to impact. On May 26, 1954, he got an appointment with David L. Luke, then president of the West Virginia Pulp and Paper Company. Luke was startled when the aged little man shoved a strip into his hands and ordered him to pull it. But Luke pulled—and felt his heart skip a beat when the smooth paper stretched instead of breaking. The result was that West Virginia and Cluett, Peabody formed a new company (Clupak, Inc.) to license the development to the paper industry.

In January, 1958, the first smooth-surfaced stretchable paper in history was produced for commercial use at West Virginia's Charleston, S. C., mill—a 20-foot-wide sheet rolling out at a speed of half a mile a minute. Since then virtually all major kraft paper firms in America and a majority of the leading ones in other free countries have taken out licenses to manufacture Clupak paper.

All this is impressive—but not more so than the man himself, sitting at his desk on the eve of his 90th birthday, puffing on a cigar, and saying: "I think I had more pleasure in the world than anyone I know."

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**M**R. CSICSATKA,\* who lives in Utica, New York, has invented a system of FM stereo broadcasting which is the subject of United States Patent No. 3,122,610, issued February 25, 1964. The patented invention is incorporated in the Nation's FM stereo broadcasting standards as established by the Federal Communications Commission.

**Antal  
Csicsatka**

The invention was made under challenging conditions. The inventor was not satisfied with the existing FM stereo broadcasting systems that had been proposed. At that time, a dozen or so systems had been proposed in response to a request by the Federal Communications Commission for a system that would be best for FM stereo broadcasting. The proposed systems had one or more undesirable aspects, such as reduced efficiency, lack of full-range stereo response, inability to include a commercial program signal, and expensive circuitry. These proposed systems had come from companies and individuals prominent in the radio industry

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\* Mr. Antal "Tony" Csicsatka (pronounced Chi-chat-ka) was nominated by Norman C. Fulmer, Patent Counsel for the Radio Receiver Department of General Electric Company, Utica, New York. Mr. Fulmer's letter is quoted above.

and represented the best the radio experts could devise. Therefore, it seemed unlikely that anything could be done to provide a better system for this Nation's stereo broadcasting standards. However, the inventor was determined to arrive at an improved system that would overcome disadvantages of the best systems then known.

And he succeeded. His new system provides novel transmitter and receiver circuits for transmitting and receiving a new combination signal in which a "sum" of the stereo signals and a "difference" of the stereo signals are arranged apart in the frequency spectrum to provide a suitable empty frequency gap between them. A pilot signal is provided in this frequency gap for use in special receiver circuits for decoding the stereo signals. This pilot signal is at one-half the frequency of a suppressed subcarrier on which the "difference" signal is modulated.

The new system was built and tested to prove its worthiness, and was then proposed for consideration. In comparative testing under auspices of the Federal Communications Commission, systems incorporating Mr. Csicsatka's invention were found to be best, and hence the invention became incorporated in the Nation's stereophonic broadcasting standards.

Thus, the inventor has, in the face of seemingly impossible odds, made an invention which contributed substantially to the advancement of the broadcasting arts. Now, approximately 300 radio stations broadcast FM stereo programs, utilizing transmitters in accordance with the invention, and people receive these stereo programs on receivers made in accordance with the invention.

Mr. Csicsatka has an interesting and unusual background. Fifteen years ago he was a successful electronics engineer and was president of the Csicsatka Electronics Laboratory in Budapest, Hungary. After the Communist government seized control of his company, and following the unsuccessful anti-Communist revolts in Hungary, the disheartened Antal Csicsatka and his wife and child crowded onto a motorcycle and fled to Austria. Subsequently, he and his family arrived in the United States, as refugees, inept at the English language, without a job and with very little money and few possessions. With the help of the National Academy of Science, he contacted some United States corporations and was hired as an engineer by the General Electric Company at its Radio Receiver Department in Utica, New York.

When he applied for his patent, on the Oath form where it asks for the country of citizenship, he had to write "no country." Since then, Antal Csicsatka has become a United States citizen, and is continuing to invent. Communist tyranny's loss is free America's gain.

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**L**EROY S. DEMART'S\* COUNTLESS INVENTIONS over the years have resulted in some twenty-six patents being issued to him. His inventions include valves, controls, control systems, stud tensioners, and soot blowers; but the one of which he is most proud and for which this nomination is being made, is the "DeMart Translational Ball Screw."

Some years ago, Mr. DeMart's attention was drawn to the "conventional" ball screw because of its clean-cut engineering principles and the very limited market it appeared to reach. After months and months of analyzing its advantages and disadvantages, determining how else it could be used, and investigating different ways an improved ball screw could be made, he finally developed the "DeMart Translational Ball Screw" (he frequently refers to it as "Tangential" because the base line of the helical and longitudinal flats or ball raceways are "tangent").

**LeRoy S.  
DeMart**

Not only has he expended his personal time and finances on design and patent expense, he is truly a man of great faith in the eventual wide acceptance of the "DeMart Translational Ball Screw" when it is properly presented to the public.

It is noteworthy that one of the major obstacles successfully overcome by the DeMart patents was sustaining the market potential of the present ball screw. In reality, they complement its use throughout industry and will most certainly provide impetus to stimulate wider application of the ball screw principle in new products and fields where utilization was formerly impossible.

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\* James W. Dunkerly "with pride and honor" submitted the above nomination of LeRoy S. DeMart of Lancaster, Ohio.

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**J.** PRESPEER ECKERT AND DR. JOHN W. MAUCHLY,\* on April 9, 1943, submitted their plan for the first electronic digital computer to the United States Army Ordnance Department for the construction of what, in less than three years, became ENIAC—Electronic Numerical Integrator and Calculator—the world's first electronic general-purpose digital computer.

This computer solved problems about 1000 times faster than any other calculator. It was put to work at the Aberdeen Proving Ground,

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\* The above is quoted from a letter by E. J. Light, Patent and Licensing Services, UNIVAC, New York.

Maryland, on problems in weather forecasting, wind tunnel design and the study of cosmic rays, as well as on turning out ballistic tables for the Army and Air Force, the specific purpose for which Eckert and Mauchly had first designed it.

**J. Presper**

**Eckert**

**John W.**

**Mauchly**

When World War II ended, Eckert and Mauchly formed their own company. They soon produced BINAC, which was faster and cheaper to operate than ENIAC. Among other things, it could handle magnetic tape instead of punched cards. Their next project, in 1950, was the Universal Automatic Computer, better known as UNIVAC. At this point, Remington Rand Division of the Sperry Rand Corporation acquired the Eckert-Mauchly Computer Corporation.

At first, computers were considered entirely a means of making mathematical and scientific calculations automatically, accurately, and at high speeds. Mathematicians, physicists and chemists were able to tackle problems that previously had defied solution because of the sheer volume of detailed labor.

By the mid-1950's, computers began to find a place in the area of industrial and military controls. For example, a digital computer provides the necessary combination of speed and accuracy to "seat" a missile in its trajectory. A computer guiding a missile must, in a fraction of a second, transmit to Earth any deviation in course and compute corrections instantaneously.

Computers fill a major role in business and industry as keeper of records, controllers of inventory, collectors and payers of bills, bookkeepers for banks, and dozens of other activities. Computers available today can be used to help a business predict its future by calculating the effects of changing forces on a complex of situations. They are used to give management timely and accurate information on which intelligent decisions can be based.

New applications of computer techniques, on which work already is underway, includes mass analysis and recording of symptoms for more accurate medical diagnosis; information storage and retrieval, and the storage and classification of encyclopedias of facts for teaching applications.

Eckert and Mauchly are still very much involved with computer development and application. Eckert is a vice president of the UNIVAC Division of Sperry Rand Corporation. Mauchly is president of Mauchly Associates, Incorporated, Fort Washington, Pennsylvania, a firm concerned with both the application of mathematical and computer techniques to management problems, and with the development of new special-purpose computers.

*(Brief biographies of Mr. Eckert and Dr. Mauchly were also submitted by Mr. Light. They were prepared in 1961 for their 15th Anniversary celebration of ENIAC. We include them for the individual cartilage they add to the skeletal team structure.)*

When J. Presper Eckert was a student at William Penn Charter School in Germantown, he designed a high fidelity sound system for the Music Department. At the age of 17, he incorporated into the system advanced circuits of a type not to be used commercially for several more years.

Today, as a vice president of the Remington Rand Division of Sperry Rand Corporation, Eckert still does his best to stay ahead of the crowd. In the privacy of his office, at staff meetings, and on the production floor, his thinking is in terms of electronics and its applications to computing systems.

Even when he is on vacation, his mind turns to computers. Once, during a trip to the Mojave desert, he saw for the first time a shrub called Devil's Tongue, so named because each leaf is forked, with two more branches emerging from it in invariable geometric progression. When he saw it, Eckert exclaimed, "Why, it's a binary bush!"

J. Presper  
Eckert

Electronics may have been only a hobby in Eckert's prep school days, but he decided to make it his career when he left Penn Charter. He enrolled at the Moore School of Electrical Engineering of the University of Pennsylvania, where he took his bachelor's degree in 1941 and his master's two years later.

At Moore, Eckert worked on, among other things, techniques for improving the efficiency of a large mechanical differential analyzer. This project led him inevitably to working on ENIAC, the world's first electronic computer, with Dr. John W. Mauchly, assistant professor of electrical engineering.

ENIAC (Electronic Numerical Integrator and Computer) was Dr. Mauchly's idea. Professor and student discussed the equipment frequently, then, with the aid of the Ballistic Research Laboratory of the United States Army Ordnance Department, turned their plans into reality.

In October, 1946, Eckert and Dr. Mauchly formed a partnership, the Electronic Control Company, setting up shop in downtown Philadelphia. Fourteen months later, they incorporated themselves as the Eckert-Mauchly Computer Corporation. Work on new electronic computer equipment, dubbed UNIVAC (Universal Automatic Com-



puter), was well underway when, in March, 1950, Remington Rand assumed control of Eckert-Mauchly Corporation, later renaming it the UNIVAC Division.

Eckert was honored for his pioneering work in electronic computer developments when he received the Howard N. Potts Medal of the Franklin Institute, Philadelphia, in 1949. In 1956, he was elected a fellow of the IRE.

Dr. John W. Mauchly is a true man of the world in the sense that his interests and capabilities are almost as various as the world around him. He is co-inventor of the first electronic computer, an internationally recognized authority on the reduction of weather data and, at the present time, head of a firm which is engaged in applying new mathematical techniques to the scientific control of business operations and large-scale projects of all types.

The first electronic computer came into being because of Dr. Mauchly's interest in the weather. By the late 1930's, Dr. Mauchly, then head of the Physics Department at Ursinus College, had his head well in the clouds. Two papers published simultaneously in 1939 on a significance test for ellipticity in the harmonic dial brought him immediate recognition in this field. (They have since come to be regarded as classics.)

**John W.  
Mauchly**

Wherever his head might be, Dr. Mauchly's feet are always on the ground. In the late 1930's, he wanted to find a way to speed up the reduction of the enormously complex data with which he was working. There were then in existence mechanical differential analyzers, but these were very expensive and only a few universities owned one. Even punched-card equipment was beyond the economic reach of a small college and, besides, it took punched-card equipment eight seconds to perform a multiplication, an eternity in terms of the numbers of calculations that Dr. Mauchly wanted to perform.

Dr. Mauchly knew that fellow physicists had devised numerical and gating electronic circuits for counting and differentiating cosmic rays. He began to build experimental circuits to determine whether the existing circuits could be applied to arithmetic and statistical operations. This may well have been the first attempt to devise electronic digital computing circuits.

In 1941, Dr. Mauchly gave up his job as a department head and went as an instructor to the University of Pennsylvania's Moore School, where, the previous summer, he had met a bright young graduate engineer named Presper Eckert.

This meeting is important only in the light of hindsight, however. Dr. Mauchly was attracted to the Moore School because it had a mechanical differential analyzer.

During the war, this analyzer was put to work grinding out firing tables for Aberdeen Proving Ground. The analyzer could not keep up with the war-generated workload, however. Soon it was supplemented by 100 girls using desk calculators—and still newly developed guns sat idle because there were no firing tables for them.

The Army people had been told about a “chap upstairs” who had an idea for speeding things up and at this point they deemed it the better part of valor to gamble. A research contract was let to the University which every one hoped would lead to the development of an electronic computer. The result was ENIAC, the first all-electronic computer. It was developed by Dr. Mauchly and Eckert.

In retrospect, the gamble was huge. At the time, radar systems containing 200 vacuum tubes were considered extremely difficult to maintain. ENIAC contained more than 19,000 vacuum tubes, weighed nearly 30 tons and occupied more than 15,000 feet of floor space. But it worked and it was 60 times faster than the mechanical differential analyzer.

Dr. Mauchly is leading a pioneer movement, this time in the application of new mathematical techniques to the scientific control of business operations. One of these techniques, the Critical-Path Method of project planning, scheduling, and control, has been widely applied in industry, especially in large-scale construction. A still newer technique, the Resources Planning and Scheduling Method, also is gaining enthusiastic acceptance and Mauchly Associates are rapidly becoming acknowledged leaders in the field of management services.

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**I** WOULD LIKE TO PRESENT for your consideration the name of Marion W. Harman.\* . . . Although little known and shunning lime-light, Mr. Harman is the gifted inventor of Santocure<sup>®</sup> accelerator, N-cyclohexyl-2-benzothiazole sulfenamide, acclaimed throughout the rubber industry. The United States Patents 2,191,656 and 2,191,657 were recognized throughout their entire life. The aforesaid accelerator, now available under a variety of trademarks, is extensively used throughout the world. With respect to accelerators which delay

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\* R. O. Zerbe of Nitro, West Virginia, sent in the above letter.

scorching and give processing safety, Fisher said, "A much-used derivative is N-cyclohexylbenzo thiazole-2-sulfenamide... known in the trade as 'Santocure,'" *Chemistry of Natural and Synthetic Rubbers*, Harry L. Fisher, Reinhold Publishing Corporation, 1957, p. 46. It played a prominent part in making possible the use of styrene butadiene copolymer rubber in the tires of large trucks and combat vehicles. With compounds containing furnace carbon black, it was virtually impossible to make a large truck tire without N-cyclohexyl-2-benzothiazole sulfenamide.

Marion W.  
Harman

Mr. Harman was for many years a research chemist at Monsanto Company, formerly Monsanto Chemical Company, at Nitro, West Virginia. He retired in 1962 and is now 68 years of age. He received a Bachelor of Chemical Engineering from Ohio State University, worked briefly as rubber research chemist in the Miller Rubber Company of Akron, Ohio, and joined Monsanto in 1920. He holds 70 United States patents as either sole or joint inventor as well as approximately 83 foreign patents.

His commercially successful inventions include herbicides discovered jointly with Dr. John J. D'Amico during the later part of his career; namely, Vegadex® herbicide, 2 chloroallyl diethyldithiocarbamate, United States Patent 2,191,182 and Avadex® herbicide, 2, 3-dichloroallyl diisopropylthio-carbamate. The United States patent is still pending. The former is used for controlling weeds in vegetable crops. The latter is used for pre-emergence control of wild oats. Because wild oat is a serious pest throughout large sections of the world, discovery of effective chemical control agents was economically significant.

The undersigned has prosecuted Mr. Harman's patent applications for more than 25 years and throughout this time has come to have the highest respect for his inventive ability. His notebooks are a model of clarity and completeness. His experiments could always be readily reproduced. During his long career in the laboratory he kept the problems of the chemical plant constantly in mind. What he made in the laboratory could be made in the plant. Of his many inventive contributions, only the most important have been mentioned: The extensive use of N-cyclohexyl-2-benzothiazole sulfenamide and the alacrity with which others began manufacture when the patents expired attest to its importance. The more recent discoveries in agricultural chemicals with which he was associated have already proved to be valuable inventions.

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**M**R. HORTON\* IS NOMINATED because of his outstanding creativity, and his contribution to military and civilian technology. He is the inventor and holder of the basic patent as well as various improvement patents for the pure fluid amplifier.

Like many great inventions, the pure fluid amplifier seems essentially simple in the light of hindsight. The basic concept involves a stream of fluid, conveniently termed a power jet, emitted from a suitable nozzle and directed toward one or more receiving apertures. Provision is made for one or more small jets, called control jets, to impinge on and deflect the power jet, and thereby to vary the distribution of the power jet with respect to the receiving apertures.

A small amount of energy in one of the control jets can control a much larger amount of power-jet energy as received by a receiving aperture. The effect is thus one of amplification. The operation can be compared to that of a triode electron tube or of a cathode-ray tube.

**Billy M.  
Horton**

The basic fluid amplifier concept as just described has led to a whole new family of fluid amplifiers, oscillators, servo and control systems, logic and computer elements, and the like. These systems, all invented by Mr. Horton or based on his invention, are known as "pure fluid systems," meaning that they operate solely through the action of fluid streams and require no moving parts. Because no moving parts are needed, these pure fluid systems approach the ultimate in dependability and long life and offer important advantages over electronic or mechanical systems in certain applications not requiring the speed of electronic systems.

When he made his basic invention in 1959, Mr. Horton was a physical science administrator in charge of one of the laboratories of the Harry Diamond Laboratories (formerly the Diamond Ordnance Fuze Laboratories), a research-and-development component of the Army having some 1,500 civilian scientific, technical and supporting personnel. His work and that of his branch was largely concerned with electronic systems, including radio proximity fuzes, and not with fluid systems. His inventive concept, initially pursued on his own time, was essentially unrelated to his official duties. Because of his faith in his invention, and because of his effectiveness in educating his official superiors to the potential importance of the invention to defense as well as to civilian technology, an official project was subsequently estab-

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\* Lt. Col. M. S. Hochmuth, commanding the Ordnance Corps of the United States Army Materiel Command at the Harry Diamond Laboratories in Washington, D. C. sent in the above letter.

lished to develop and apply his invention. There is now an active Fluid Systems Branch at the Harry Diamond Laboratories, pursuing the new technology invented by Mr. Horton.

Mr. Horton's invention has stimulated wide interest and major research and development effort in industry as well as in Government. Numerous private companies, including General Electric, Sperry-Rand, United Aircraft, Minneapolis-Honeywell, Bendix, Marquardt, and IBM, are understood to have become active in the field and to have invested substantial company funds in fluid systems research and development based on Mr. Horton's invention. Numerous improvement and application inventions have resulted. Supplementing HDL in-house fluid systems work, HDL has awarded fluid systems research-and-development contracts to private organizations including Case Institute, Catholic University, Corning Glass, Franklin Institute, Illinois Institute of Technology, Johnson Service Co., Minneapolis-Honeywell, Oklahoma State University, Purdue University, Sperry-Rand, United Aircraft, University of Maryland, and University of Nebraska. Further evidence of a widespread conviction among qualified persons that there is an important future for Mr. Horton's fluid systems lies in the fact that several HDL fluid systems personnel have left the Government to work for a new corporation (Bowles Engineering Corporation) organized by one of them to pursue the development and exploitation of pure fluid systems; that corporation is understood to currently employ some 40 persons.

Nor has activity in the pure fluid systems technology been limited to the United States. There are indications that the USSR has become active in the field. It is interesting to note that Interference No. 92,349 was between Mr. Horton's application Serial No. 51,754 filed August 24, 1960 for Fluid-Operated System and an application filed by Lev Abramovich Zalmonson, whose post office address is USSR, Moscow, Smolenskaia naberezhnaisa 2, apt. 89, and whose assignee is Pneumo-Hydraulic Automatic Control Laboratory of Automatic Control and Telemechanics Institute of the Academy of Sciences of the USSR, Moscow, USSR. (The interference was dissolved on Horton's motion on the ground that Zalmonson's disclosure was insufficient to support the count.) The United States Government has an irrevocable royalty-free nonexclusive license under all of his patents. Various related patent applications are pending.

Mr. Horton received a B.A. degree in physics from the University of Texas in 1941 and an M.A. degree in physics from the University of

Maryland in 1949. In 1941 he served as a civilian instructor at the Air Force Technical School, Chanute Field, Illinois. In 1942 and 1943 he attended Service Schools at Harvard University and Massachusetts Institute of Technology. From 1943 to 1946 he served as a Radar Officer with the U. S. Signal Corps. From 1946 to 1951 he was with the Naval Research Laboratory as a physicist, doing research on electronic components for airborne equipment. In 1951 he became a Radiation Physicist in one of the Ordnance Development Divisions of the National Bureau of Standards (these Divisions became the Diamond Ordnance Fuze Laboratories in 1953 and subsequently were re-named the Harry Diamond Laboratories). He became responsible for the development of proximity fuzing for some of the highest priority missiles in the country. His invention of a certain modulation system was a breakthrough in the field of countermeasure-resistant radar systems and fuzes, and he has received a Notice of Allowability of his patent application for this method.

Mr. Horton's outstanding inventorship has been recognized within important scientific and technical circles. He received the 1960 Arnold O. Beckman Award of the Instrument Society of America for his invention of the fluid amplifier. With two colleagues, he has received an Army Research and Development Award for work on pure fluid systems. In 1961 he was appointed Technical Director of the Harry Diamond Laboratories, which position he now holds. There can be little doubt that his selection for this top position was related in no small measure to the recognition and acclaim that his basic and improvement fluid amplifier inventions had received from knowledgeable persons within industry and Government.

Except in rather specialized circles of knowledgeable persons, however, there has until recently been little awareness of the burgeoning new fluid amplifier technology and of its great potential. Even among those members of the wider public who are now beginning to become aware of this remarkable invention, few have probably heard of Billy M. Horton. For example, the feature article from the front page of *The Wall Street Journal* for August 25, 1964 may well have alerted several hundred thousand intelligent and influential readers to the existence and importance of fluid amplifiers. Yet the reader of this article will find no indication that fluid amplifiers were invented by an inspired individual inventor, Mr. Billy M. Horton, to whom the basic fluid amplifier patent has issued.

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**M**R. MEARS\* WAS BORN in Minneapolis, Minnesota, in the year 1904. He is presently President of Buckbee-Mears Company in St. Paul, Minnesota. Over the years he has been a prolific inventor and has filed approximately twenty-five patent applications some of which have issued and others are still pending. Sixteen patents in which he is sole or co-inventor have been issued to him.

Mr. Mears' patents are for machines and processes for producing precision products using photographic reproduction and etching techniques as well as the products themselves. A survey of the industry would probably find general agreement that Mr. Mears was a forerunner in this industry and was a substantial contributor to its growth. Because of his contributions, precision articles can be and are now fabricated at mass production rates in an economical and profitable manner.

**Norman B.  
Mears**

One of Mr. Mears' earliest and most significant contributions occurred during World War II when he developed the means and methods for fabricating high precision reticles etched in glass for use in fire control and bombsights by the armed services. Other of his outstanding inventions relate to machines and methods for economically mass producing shadow masks for television picture tubes which require a high degree of accuracy and precision. This can be attested to by the large scale producers of television sets in this country.

His activities as an inventor and businessman have not kept Mr. Mears from participating actively in community affairs.

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\*In nominating Norman B. Mears for the Inventor of the Year Award, Marvin Jacobson, of Stryker and Jacobson of St. Paul, Minnesota, submitted the above.

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**I**F SELF-NOMINATION for such an award is permitted, perhaps you may be interested in appraising my own inventive achievements as a self-financed, independent inventor in the fields of missile guidance (1911-12), aircraft radio (1916-20), electrophonography (1920-22), AC powered vacuum tube, radio and other apparatus (1922-30), and electronic musical instruments (1930 to the present time).

"Who's Who in America" and in Engineering, "American Men of Science," National Cyclopedia of American Biography, et cetera, give the bare details of my career,\* involving the receipt of some 200

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\* The above letter from Benjamin Franklin Miessner of Miessner Inventions, Incorporated, of Miami Shores, Florida, is self explanatory.

United States and foreign patents, many of which are in world-wide use. The recognition of their merits by licenses and sales has resulted in earnings of almost two million dollars.

Benjamin  
Franklin  
Miessner

I have contributed many technical papers and articles and two books, *Radio Dynamics* (Evan Nostrand, 1916), and *Hum in All Electric Radio Receivers*, (1928). A third, *The Early History of Radio Guidance*, a 100-page monograph, is now being printed (San Francisco Press) as the second of a series on *The History of Technology*.

Beyond the above, I have some 75 300-page laboratory record books which, in great detail, tell the R&D stories, not alone of my *patented* inventions, but also of a great many which could not be patented for want of available financing. Every penny for those patented came from my own earnings, first as an employed engineer, and, since 1927 as a self-dependent inventor. My company is a no-stock type, a "personal holding" one—wholly owned by me.

I left my Indiana home at 17, joined the Navy as "Landsman for Electrician" (\$16.50 per month) for a year's training in general electricity and wireless telegraphy. Honorably discharged on my 21st birthday, July 27, 1911, I was then recommended for re-enlistment as Chief Electrician, Wireless. I planned to have sufficient savings to finance two or three years at Purdue University—the reason for my enlistment. But, instead of entering Purdue then as planned, I accepted an intriguing offer to collaborate with John Hays Hammond, Jr., in torpedo-control R&D work. This culminated in late 1912 with a very successful demonstration, at Gloucester, Massachusetts, before the heads of our United States Coast Defense Department.

Because my employer filed many patent applications on my pioneering inventions in this field a controversy developed and I terminated my employment. Following this, I matriculated as a freshman at Purdue. Because Purdue offered no courses in wireless, I left at the end of my junior year (1916) to get married and to accept a Navy offer to head, as "Expert Radio Aide for Aviation," an R&D project at its Pensacola, Florida, air training base. My work there and during World War I in New York resulted in a standardized ½-KW aircraft radio transmitter, manufactured by several civilian radio contractors.

When World War I ended in 1919 I pioneered in a new field, electrical phonograph recording and reproduction, as the head of a laboratory I set up for the Brunswick Balke Cullender Co., in Chicago. When radio broadcasting emerged in 1921 I produced for Brunswick the first uni-control, tuned-radio-frequency radio receiver in a com-



bination radio phonograph which they failed to commercialize because they had no faith in this "new fad"! With the inroads of radio, the phonograph industry fell virtually apart and Brunswick terminated my work, which already had produced high-fidelity recording and reproduction several years ahead of the Bell Laboratories developments for the Victor Company.

It was in this 1920-22 period when I also began my work on the generally recognized insuperable problem of powering the battery operated radio receivers from the home AC light socket. This led in the late 1920's to some 25 radio licenses and a final sale to RCA of the entire portfolio of some 50 issued and pending patents and the licenses under them for three-quarters of a million dollars.

Since 1930 my R&D activities and patents, some 150 in number, have been in the field of electronic musical instruments of many types, manufactured under licenses by several manufacturers, notably the Wurlitzer Company (organs and pianos) who bought my then unexpired patents in 1959. "Retired" here in Florida since then, I am continuing improvements on the stringless, reed-type electronic piano which has been manufactured commercially in large numbers by Wurlitzer since 1952.

Aside from the above technical pursuits, I have been interested for many years in the welfare of other inventors, both independent and employed. As President of Patent Equity Association, I helped spearhead the (civilian) patent-extension bills of the 1950's. Lately, I have been an appointed member of the ad hoc Patent Panel of the Department of Commerce. This is set up to recommend and to implement, by a Presidential Commission, patent system reforms, both administrative and legislative, and is chaired by Dr. Stark Draper of M.I.T.

In February 1963 the Veteran Wireless Operators Association gave me its DeForest-Audion (gold medal) Award "for achievement in Radio and Electronics Invention." In September 1963, my native town, Huntingburg, Indiana, held a "Ben Miessner Day" celebration in my honor. In appreciation, I donated \$10,000 to the Huntingburg-Miessner Purdue Scholarship Foundation, which was set up by local organizations and citizens.

On May 25th the Northwest Miami Boys Club dedicated the new "Miessner Science Building" for which I had donated \$5,000 to bend these teenage twigs into careers in science and technology, where before only athletic activities had been available.

A couple of years ago, on hearing of the fine educational work being done by the Miami Museum of Science and Natural History, I donated \$5000 for a life membership. Thereafter, they insisted on electing me

to the board of trustees; I declined their efforts to appoint me treasurer of the Museum. (I don't even balance my own check books!)

I have some 25 large clipping scrap books covering my activities through about 50 years. These tell my story as others have written it (but without benefit of any press agency!)

Perhaps the challenge of an illustrious inventor, after whom I was named, explains my life-long dedication to "lone wolf" invention.

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**O**N THE BASIS of his contribution to research and his development of our program of graduate instruction and research in the field of automatic control, I would like to recommend that Dr. Rufus Oldenburger\* of our staff be considered for the "Inventor of the Year" award.

His patents issued and pending include pneumatic differentiator; signal stabilization device (stabilizer of hunting systems through use of extra signal); new type hydraulic governors for substantially improved performance; hydraulic differentiator (rate computer); new line of Woodward magnetic amplifier waterwheel governors; nonlinear optimum governors and controls of electric, magnetic, pneumatic and hydraulic types; gas turbine governors.

His latest and one of the most important inventions has been the first hydraulic governor for prime movers in which governor parameters, namely lead, gain and lag are independently adjustable. This makes a single governor design applicable to a wide variety of different prime movers and large engines. Before this invention a single governor would not suffice, and a large number of different governor designs had to be stocked in order to meet the demand. In the conventional governor there is only one adjustment for changing the parameter to match different prime movers. In the new governor invented by Dr. Oldenburger there are three parameters which can be adjusted individually, which greatly adds to its versatility. The new governor is reliable, relatively not more expensive than the old type, and it is as simple to install and maintain.

**Rufus  
Oldenburger**

This governor is significant in the field of hydraulic governors for large prime movers. It is the latest in a long series of improvements initiated by Dr. Oldenburger in this field.

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\* Richard J. Grosh, head of the School of Mechanical Engineering of Purdue University, in recommending Dr. Rufus Oldenburger submitted the above resumé.

*(Dr. Grosh also included comprehensive biographical data on his nominee.*

*Dr. Oldenburger, proficient in 10 languages, has been United States representative to innumerable European, South American and Far Eastern meetings and congresses; has been editor, co-author and author of countless scientific papers as well as several books, and has worked as Science Editor for the Chicago Sun and Sun Times for six years, and later as Association Editor to Applied Mechanics Reviews.)*

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I BELIEVE THAT DAVID S. SHERIDAN of Argyle, New York typifies the relatively unknown dedicated inventor who overcomes obstacles as a result of his determination to push forward with his inventions and, motivated in part by the knowledge that his work can be protected against piracy by the operation of our United States patent system, expends his own resources to produce noteworthy inventions which substantially contribute to the economy of our country.

The story of Mr. Sheridan's accomplishments is indeed inspiring, and if related nationally to potential inventors, could not help but spur on such potential contributors to the general welfare to fully exploit their talents on behalf of not only their own financial improvement but the welfare of society in general.

David S.  
Sheridan

Mr. Sheridan is a middle-aged man of little formal education. I believe that family financial circumstances did not permit him to complete his high school education. However, Mr. Sheridan was gifted with a high mechanical aptitude and inventive ability which he had the courage to utilize in making some substantial improvements in the art of medico-surgical devices.

I first met Mr. Sheridan on a deer hunting trip in upstate New York in the winter of 1953. At that time, he was making a living for his family by farming a small farm which he owned at Argyle, New York, a small rural town located a short distance below Lake George, New York. He had been brought into contact with surgical catheters through association with a company located at Glen Falls, New York, that manufactured surgical catheters by braiding fabric tubes and

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\* Carroll Palmer, a partner in the law offices of Kemon, Palmer, Stewart and Estabrook in Washington, D. C., submitted the above letter.

coating these with coating compositions. However, he discontinued his association with this company to take up farming.

In the course of his farming, he developed some ideas about the manufacture of medical catheters and other medico-surgical tubing by plastic extrusion. Being a frugal person, he had saved enough in personal savings to permit him to give up the farming operations and engage in research and development work to exploit his ideas for the manufacture of catheters and other medical tubing. Without any outside financial aid and using his own personal savings, he purchased and built equipment to first test out and prove his ideas for catheter production and then to actually place in commercial operation the inventions which he had made in the field of medico-surgical tubing.

The art of catheter and related medico-surgical tubing is a highly developed one, going back many years. Historically, catheters and similar devices have been expensive to make under the techniques known for their production. There had been a long standing desire in the industry to permit these devices to be made with improved manufacturing techniques reducing the cost of the catheters and similar devices to the point where they could be economically used on a "one-time" or disposable basis. Mr. Sheridan directed his attention to providing the trade with methods and apparatus for producing the catheters in a highly economical manner from readily available plastic materials so that they could be sold at such low cost that they could be employed as "disposable items."

Mr. Sheridan's inventions led to the filing of a number of applications and ultimate issuance of six patents. As a side light, the issuance of patent 2,931,358 illustrates the ingenuity of Mr. Sheridan in his chosen field of invention plus an indication as to how each patent that has issued constitutes a stepping stone for further developments in any given field. When Mr. Sheridan started manufacturing operations involving his inventions, he surveyed the field to appraise competitive items which might be included in his line of products. Certain nasal cannulae made of plastic material were being sold in substantial quantities, and he wished to duplicate one of these products and sell it in his line of goods. As his attorney, I reviewed the patent situation regarding the competitive nasal cannulae and advised him that he would possibly involve himself with infringement liability if he produced this competitive product. This only prompted him, then, to devise a new and improved form of nasal cannulae which not only avoided infringement of the prior existing competitive products, but was capable of patent protection in its own right. This resulted in the issuance of U.S. 2,931,358.

Mr. Sheridan converted a barn on his farm into a manufacturing plant and in about 1956 began to make and sell catheters and related medical tubing items. He used his own money entirely to finance the purchase of equipment and materials. A small corporation in which Mr. Sheridan owned all but a token share of the stock was formed for the purpose of manufacturing and marketing his invented products. This was known as the Sheridan Catheter and Equipment Company of Argyle, New York.

Sales continued to expand with Mr. Sheridan marketing his products primarily through established dealers and manufacturers in the field of medico-surgical tubing. The volume of sales became continually larger and the potential market appeared great enough that he realized a substantially improved method would be required for marketing and selling his products. Motivated by this and also by the capital gains aspects of the Internal Revenue Code of 1954, i.e., Sections 1221 and 1235, Mr. Sheridan considered the desirability of selling out his entire interest in his acquired patent rights and manufacturing operations to some established corporation. Negotiations extending over several years and involving four large companies with nationwide distribution facilities in the medico-surgical tubing field, ultimately resulted in Mr. Sheridan selling his patent rights and merging his corporation with Brunswick Corporation of Chicago, Illinois.

The manufacturing operations initiated by Mr. Sheridan continue at Argyle, New York. The company is now known as the Sheridan Corporation, a division of the Aloe Division of Brunswick Corporation. The parent company purchased a portion of Mr. Sheridan's farmland and constructed new manufacturing facilities. The plant now employs 200 persons and constitutes a major factor in the economy of the small rural community of New York. Although a great deal of Mr. Sheridan's time is consumed by administrative duties in his position as President of Sheridan Corporation, he continues to make inventions in the field of the company's operations and a substantial number of patent applications are currently pending in his name.

Mr. Sheridan's accomplishments as related above are impressive not only because they reflect the ability of a man to successfully exploit inventions commercially if he will dedicate himself to this purpose, but to do so even in a field of complicated technology in competition with established concerns which have infinitely greater economic and technical resources than a lone inventor ever possibly could have.

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**R**ECENTLY I CAME ACROSS your article "Patentee's Prize." I would like to nominate my husband, Mr. Robert Steven Witkoff\* for the Inventor of the Year award.

Since 1958 Mr. Witkoff has been designing and developing a unique application of a gripping device. This device has the potential of being used in the household, as a surgical instrument and as a prosthesis. The product serves the same purpose as a tong but is more efficient. There are no places for dirt or germs to collect due to the absence of mechanical joints.

The product was developed while attending Parsons School of Design and Pratt Institute. Mr. Witkoff is 24 years of age, a graduate of Pratt Institute, class of 1964, and is now employed as Industrial Designer for Emerson Electric Robert Steven Company, Western Builder Products Division in Prescott, Arizona. Witkoff

He has obtained three patents on the various applications of this device. I am sure that it is quite rare for a person of 24 to have achieved the above.

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\* Toby S. Witkoff of Prescott, Arizona, nominated her husband, Mr. Robert Steven Witkoff, in the letter above.

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## REVIEWS AND ANNOTATIONS

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### Recently Published or Reported Material Relating to the Research Institute's Work

#### Periodicals and Reports

Allen, David B., "Protection of Product Identity Abroad: Some New Light on an Old Problem?", *The Trademark Reporter*, Vol. 55, No. 9 (September 1965), pp. 707-723.

"Perhaps the most difficult aspect of this general problem is seen in the very first question faced by persons responsible for the management of trademark protection—the very practical 'how, when and where' judgment question that should and usually must be answered before proceeding with any protection program. . . .

"Probably the best compromise at the present time is to develop priority lists by joint consultation between counsel and business management and use these lists as guideposts in planning programs that are somewhere in between the 'all-out' and 'protect-as-you-go' procedures."

175th Anniversary Symposium U.S. Patent System, Washington, D.C., *Journal of the Patent Office Society*, Vol. 47, No. 8 (August 1965). The following are edited proceedings of the afternoon session

of a symposium, Seminars III-VII, held on April 8, 1965, in Washington, D.C., commemorating the 175th Anniversary of the U.S. Patent System:

Seminar III, "Mechanical Invention," Moderator, Eugene S. Ferguson, p. 519;

Seminar IV, "Electrical Invention," Moderator, Bernard Finn, p. 558;

Seminar V, "Chemical Invention," Moderator, Robert W. Ball, p. 607;

Seminar VI, "Pharmaceutical Invention," Moderator, Harry Goldsmith, p. 648;

Seminar VII, "Metallurgical Invention," Moderator, John Howard Joynt, p. 683.

Austern, H. Thomas, "Umbras and Penumbras: The Patent Grant and Antitrust Policy," *The George Washington Law Review*, Vol. 33, No. 5 (June 1965), pp. 1015-1030.

"Perhaps that preliminary and somewhat dreary dirge of past and potential future diminution of patent rights has been too condensed to be comprehensible. Instead of throwing up more red

flags bearing only the names of familiar cases, it is preferable now to deal, less summarily, with some five currently active sectors in the war between the patent grant and antitrust.

"These embrace the period to be allowed for collecting royalties; contributory infringement and the present confusion of *Mercoïd* (*Mercoïd Corp. v. Minneapolis-Honeywell Regulator Co.*, 320 U.S. 680 [1944]; *Mercoïd Corp. v. Mid-Continent Inv. Co.*, 320 U.S. 661 [1944]) and section 271 of the Code; package licensing and patent pooling; the guide-lines, if any, that are left between patent misuse and anti-trust; and compulsory royalty-free licensing as the consequence of error."

Boys, George W., "Changes in the Rules of Practice and in Procedures Relating to Interferences," *Journal of the Patent Office Society*, Vol. 47, No. 9 (September 1965), pp. 761-771.

"The purpose of this article is to acquaint patent practitioners and Patent Office personnel with the effects the recently adopted changes in the Rules of Practice relating to interferences will have on Office procedures and to a limited extent their effect on actions by parties to an interference.

"The changes may be divided into five basic groups by the subject matter to which they relate, namely:

- I. Declaration
- II. Access
- III. Preliminary Statements
- IV. Motions
- V. Miscellaneous

Conner, M., "Second Aro Case: A Realignment of the Supreme Court on the Matter of Contributory Infringement of a Combination Patent (*Aro Mfg. Co. v. Convertible Top Repl. Co.* 84 Sup Ct 1526)," *University of Cincinnati Law Review*, Vol. 34, (Spring 1965), p. 123.

Cramer, A. P., "International Copyright and the Soviet Union," *Duke Law Journal* 1965, (Summer 1965), p. 531.

Crawford, H. P., "Antitrust Problems of the American Exporter Vis-a-vis the European Common Market," *Tulane Law Review*, Vol. 39, (Fall 1965), p. 227.

Crews, Maurice A., "Structured Patent Specifications an Imperative Need," *Journal of the Patent Office Society*, Vol. 47, No. 9 (September 1965), pp. 772-781.

"... proposal which was made to the Patent Office Practice and Procedure Committee on August 15, 1960 and approved by it in a series of meetings later that year. Subject: Plan for Prompt and Positive Patent Application Prosecution and Examination—Suggestion for Practice and Procedure Committee."

Decker, G. H., "Industry Expectations—What Industry Expects of



the Patent System," *Journal of the Patent Office Society*, Vol. 47, (May 1965), p. 304.

Derenberg, W. J., "Eighteenth Year of Administration of the Lanham Trademark Act of 1946," *Trademark Reporter*, Vol. 55, (August 1965), p. 609.

DeSimone, Anthony R., "Anti-Dilution Concepts Abroad," *The Trademark Reporter*, Vol. 55, No. 9 (September 1965), pp. 724-739.

"But this concept of protecting unique and famous trademarks and trade names from adoption and exploitation by others on unrelated goods is not a new one. Such marks and names have often been protected in the past in many countries either by court decisions, or by statutes. The motivation in all of these situations is the desire to protect the famous or celebrated mark from encroachment by a newcomer where the latter's mark is applied to non-competing goods, however strained the effort of the court to find some connection in the course of trade."

Dulin, Jacques M., "Statutory Design-Rights: Solution to the Unfair Competition of Piracy," *The George Washington Law Review*, Vol. 34, No. 1, (October 1965), pp. 110-133.

"This note will review the limitations of the existing channels of design protection and discuss the merits of and objections to

the presently proposed bill."

Dulin, J. M., "Design Protection: Walking the Private Plank?," *Bulletin of the Copyright Society of the U.S.A.*, Vol. 12, (August 1965), p. 321.

Eckmann, J. K., "Antitrust Problems in Trademarks Franchising," *Stanford Law Review*, Vol. 17, (May 1965), p. 926; *Trademark Reporter*, Vol. 55 (October 1965), p. 835.

"Experiment in Preventive Anti-Trust: Judicial Regulation of the Motion Picture Exhibition Market under the Paramount Decrees," *Yale Law Journal*, Vol. 74, (May 1965), p. 1041.

*Federal Funds for Research, Development, and Other Scientific Activities*, Fiscal Years 1963, 1964, and 1965, National Science Foundation, NSF 65-13.

"This report continues the annual measurement of Government obligations and expenditures for scientific activities. The report, principally statistical in nature, places major emphasis on basic research, applied research, and development. The data convey information on what amounts the agencies are spending, what programs and fields are receiving support, and what organizations are performing the work. Federal funds are also reported for dissemination of scientific and technical information arising out of research and development. In addition, the Foundation has in-

cluded Federal obligations for collection of general-purpose scientific data on social and natural phenomena. Such data represent an important source of information made available to the public for use in conjunction with scientific activities including research and development."

"Finance Bill and Close Companies," *Law Journal*, Vol. 115, (July 9, 1965), p. 462.

Hayes, A. J., "Independent Inventor's Interest," *Journal of the Patent Office Society*, Vol. 47, (May 1965), p. 298.

Ingersoll, R. S., "Glimpse at the Moral Rights of Artists," *Oklahoma Bar Association Journal*, Vol. 36, (June 26, 1965), p. 1157.

Jordan, R. L., "Robinson-Patman Act Aspects of Dual Distribution by Brands of Consumer Goods," *Cornell Law Quarterly*, Vol. 50, (Spring 1965), p. 394.

Kellman, L., "Life Plus Fifty in American Copyright Law," *American Bar Association Journal*, Vol. 51 (August 1965), p. 721.

Kestenbaum, Lionel, "The *Sears* and *Compco* Cases: A Federal Right to Compete by Copying," *American Bar Association Journal*, Vol. 51, No. 10 (October 1965), pp. 935-939.

"Since the Supreme Court decided the *Sears* and *Compco* cases in 1964, holding that the copying of articles not covered by Federal

patent or copyright is protected by Federal law against state interference, commentators have been acclaiming or censuring, but sometimes without having fully analyzed the cases. Mr. Kestenbaum explains what the court held, what the decisions mean as to state-Federal relationships and what implications the cases hold for the future."

Kiron, Allan, "New Vistas for Industry," *Journal of the Patent Office Society*, Vol. 47, No. 9 (September 1965), pp. 736-760.

"In this article I tried to point out how the Patent Office files can serve industry with important information for developing new methods and products for today's highly complex and competitive economy. In addition, I have tried to show the task of the patent Examiner in the Patent Office and how his role as an unexplored asset for creative thinking can be applied to help industry."

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Klein, Andrew R., "Report on the Conference on International Trademark Problems," *The Trademark Reporter*, Vol. 55, No. 9 (September 1965), pp. 752-757.

". . . report was submitted to The United States Trademark

Association by Mr. Andrew R. Klein, who was designated to represent the Association by its President, Mr. W. G. Reynolds, at the Conference on International Trademark Problems held May 19, 1965 at the Department of Commerce. . . .

"Representatives of the Department of State, the Department of Commerce and the Patent Office presented topics which they regarded as being of primary importance and invited the participants in the conference to add topics or to debate those presented. Twenty-five corporations having important trademark interests abroad were included among the participants."

Knudsen, F., "Norwegian Trademark Law and Practice," *Trademark Reporter*, Vol. 55, (July 1965), p. 556.

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"Regional arrangements is a general expression covering a variety of situations. I propose to deal with the following:

- (A) The Scandinavian Uniform Trademark Law.
- (B) The African and Malagasy Convention for the establishment of a Central Office of Industrial Property.
- (C) The Benelux Trade-

mark Law.

- (D) The draft of a Common Market Trademark Law.
- (E) The proposal for a Central American Trademark Law.
- (F) The proposed Model Trademark Law for Developing Countries."

Ladas, S. P., "Foreign Territorial Arrangements and the Theory of Exhaustion of Trademark Rights," *Trademark Reporter*, Vol. 55, (October 1965), p. 820.

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"In the nineteenth century, the United States was pre-eminent in inventive ingenuity, and names like Fulton, Whitney, Morse, Bell and Edison are still household words. Today, the United States ranks seventh in the number of applications for patents for new inventions. Mr. Lassagne believes that the reason for this is the fact that 95 percent of our professional engineers and scientists are salaried employees, either of industrial concerns or the Government, and the rights to their inventions usually belong to their employers. He explains how German patent law works to provide incentive for new inventions and suggests that a similar system might be adopted in this country."

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- Papaconstantinou, H., "Legal Protection for the Titles of Literary Works: A Comparative Study," *Columbia Journal of Transnational Law*, Vol. 4, (1965), p. 28.
- "Patents, Trademarks and Copyrights," *Journal of the Patent Office Society*, Vol. 47, (May 1965), p. 313.
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- Pickett, C., "Anti-Dilution Litigation in the United States," *Trademark Reporter*, Vol. 55, (October 1965), p. 785.
- Russell-Clark, Turner, Flecher, Foot, Wilson, "Panel Discussion of the Institute of Trademark Agents, London 'Brains Trust Meeting' of November 3, 1964," *Trademark Reporter*, Vol. 55, (July 1965), p. 538.
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- "This report summarizes the final results of the National Science Foundation's survey of scientific and engineering personnel employed in institutions of higher education in the United States in 1961. The Foundation has published preliminary findings of this survey as well as final reports on two previous surveys covering the employment of such personnel for the academic years 1953-54 and 1957-58.
- "Periodic surveys of scientific

and engineering employment in colleges and universities are an integral part of a program that also encompasses surveys of industry, the Federal Government, and other nonprofit organizations. Together, the surveys of these four sectors yield data on the scientific and engineering manpower resources for the economy as a whole."

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"This article will not describe the administrative procedures of the program or its relationship to the activities of other Government agencies having specialized interests in this field, such as the Federal Trade Commission, the Department of Health, Education and Welfare (Public Health Service) and the Department of Agriculture. Such information appears in: Joseph M. Lightman, *Protection of Generic Words Against Trademark Registration Abroad*, 54 TMR 80 and George W. Fiero, *Report on Program of Common Names for Pesticides*, 53 TMR 553. This article will analyze the significance of the program to firms trading abroad and provide information on policy considerations governing the initiation of protests."

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"I suggest there be created an office to be known as The Office of the Public Patent Counsel whose primary function would be to protect the public interest. All applications passed by the chief examiners as warranting the issuance of a patent would be referred to The Office of the Public Patent Counsel before the patent issued. If within an established period of time no action was taken the patent would issue. If The Office of the Public Patent Counsel should determine that a proposed patent should not be granted, and that the public interest warrants, then an adver-

sary proceeding would be held before the Patent Office Board of Appeals whose jurisdiction would be enlarged to hear such cases or before a new board created for that purpose. Both the attorneys in The Office of the Public Patent Counsel and members of the hearing board should be attorneys who have specialized in patent litigation for a minimum number of years, or possess equivalent qualifications and technical background. If the hearing board decided the patent to be invalid, an appeal would lie to the Court of Customs and Patent Appeals and its decision would be final. If the hearing board decided the patent was valid it would issue without recourse to any other court, and would have the same status as patents issued by the Patent Office without an adversary hearing.

"All patentees would have the right to bring suit against an alleged infringer in a District Court as at present, with the right to appeal from the Judgement of the District Court to the Circuit Court and with the further right, of course, to petition the Supreme Court for a writ of certiorari. But once the issue was resolved against him the patentee could not relitigate the same issues in another district and circuit even against a different party."

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## NOTES

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### Second Decade Fund Drive Conference Held in Boston

To pilot a series of promotional activities, The PTC Research Institute's first regional conference was held on November 17, 1965, at the Sheraton-Boston Hotel in support of its Second Decade Fund Drive.

Attended by representatives of leading Boston companies, including corporate executives and attorneys, the conference dealt specifically with intellectual property, its protection and exploitation. The presentation and discussion periods were designed to increase the usefulness of patent, trademark, and related assets for promoting United States and international trade and business growth.

Mr. Earl P. Stevenson, Chairman of The PTC Research Institute's Advisory Council, moderated the conference. Director L. James Harris reviewed the Institute's 10 years of research into the industrial property systems and reported on current and future studies. An address on "Surgery for the Patent System" was given by Mr. Harry R. Mayers, General Patent Counsel of the General Electric Company.

Special Consultant Horace B. Cooke highlighted plans and programs important to business leaders.

A discussion panel was moderated by Mr. Helge Holst, corporate counsel and head of the Legal Department of Arthur D. Little, Inc.; the panel consisted of Dr. Edward L. Bowles, President and Chairman of the Board, Whitin Machine Works and Emeritus Professor of Electrical Engineering and Business Management of M.I.T.; and Mr. Melvin R. Jenney, patent attorney and partner in Kenway, Jenney and Hildreth. They surveyed the significance and prerequisites of the patent system in terms of: 1. the role of patents and related property in the newer technologies, 2. challenges confronting the professional, and 3. expectations of national policy. A Critique was supplied by Mr. Merwin F. Ashley, former General Patent Attorney of the United Shoe Machinery Corporation and Chairman of the Boston Area Committee; and Mr. Stanley P. Lovell, inventor and President of the Lovell Chemical Company.

### J.P.O.S. Publishes 175th Proceedings

Shortly after the first of the year, the *Journal of the Patent Office Society* will complete a two-volume publication of the "Proceedings of

the 175th Anniversary of the Patent System, 1790-1965." Both volumes as a unit will sell for \$15.00.

Volume I will contain the record of the Commissioner's Conference on Patents "A Look to the Future," held March 1, 1965 at the Gramercy Inn, and of the 175th Anniversary Symposium held April 8, 1965 at the Sheraton-Park Hotel, Washington, D. C.

Volume II will contain the Proceedings of the Ninth Annual Public Conference of The Patent, Trademark, and Copyright Research Institute "Evolving Needs for the Protection of Industrial and Intellectual Property," held June

17-18, 1965, at the Washington Hilton Hotel as well as those of the International Assembly "A Critical Look at the Patent Future," held October 17-20, 1965, at the Sheraton-Park Hotel and at the Department of State. This publication will be the only source of the complete record of "Proceedings of the 175th Anniversary of the Patent System, 1790-1965."

Orders for copies may be placed with the *Journal of the Patent Office Society*, Box 685, Washington, D. C. 20044. Checks should be made payable to the *Journal of the Patent Office Society*.

## Institute Represented at World Peace Through Law Conference

Director L. James Harris organized and moderated Section II, Working Session V, covering the topic "Industrial and Intellectual Property" at the Washington World Conference on World Peace Through Law. The Conference, sponsored by the World Peace Through Law Center, Washington, D. C., was held at the Washington Hilton Hotel from September 12 through 18, 1965.

The panelists in Director Harris' group included The Honorable Keba M'Baye, President of the Supreme Court of Senegal as Honorary Chairman; L. S. Davar (India) and Stephen P. Ladas (USA) as Co-

Chairmen; James E. Toomey (USA); Benjamin Matip (Cameroon); David Rangel Medina (Mexico); Walter Oppenhoff (Germany); Leonard Robbins (USA); Ross Woodley (England); and Francis Browne (USA), Rapporteur.

The Conference focused on the importance of the role of law as mankind's most practical hope for a peaceful and orderly universe. The theme of Section II, Session V was "Industrial and Intellectual Property for Prosperity and Peace."

More than 2000 conferrees of the Bench and Bar from all over the world were assembled for this international Conference.



## Dreyfus Wins Student Award

This year's Patent Office Society Student Award was presented to Edward D. Dreyfus of Bethesda, Maryland, for his paper on "Government Counterclaim for Patent Infringement." The award consists of a citation and \$100 donated by the Society. Mr. Dreyfus' paper was selected as the best submitted by a student in the Research Institute's 1965 Seminar and Lecture Series. It is published in this issue of *IDEA*.

Recipients of previous Patent

Office Society Student Awards were Jerry Cohen who wrote on "The Constitution and Enforcement of Government Owned Patent Rights"; R. Steven Pinkstaff, "Copyright Notice Requirements for Foreign Works Published Abroad"; Don W. Martens, "Trademark Registration of Patented Articles—Extension of Monopoly?"; and John Robert Duncan, "The European Patent Convention as a Guide to Modernizing our Patent Examining System."

## International Assembly Sponsored By Commemorative Committee

The last of a series of three Washington meetings sponsored by the Commemorative Committee of the 175th Anniversary of the United States Patent System 1790-1965, took place on October 17-20 at the Sheraton-Park Hotel. Many distinguished foreign guests from all parts of the world participated in the International Assembly which had as its theme "A Critical Look at the Patent Future."

The Assembly was formally opened at noon on Monday, October 18, by Secretary of Commerce John T. Connor and Commissioner of Patents Edward J. Brenner. At the afternoon session, moderated by Judge Giles S. Rich, United States Court of Customs and Patent Appeals, the topic under consideration

was "Is Patent Litigation Good Business?"

The Tuesday morning session, moderated by Helge Holst, Corporate Counsel of Arthur D. Little, Inc., dealt with "Patents as an Incentive to Investment." John P. McGowan, Director of the Franklin Institute Library, moderated the afternoon session which was concerned with the subject of "Optimizing Patents as a Source of Technical Scientific Information."

Wednesday's meeting, designated "International Day," took place in the West Auditorium of the Department of State. Moderated by Eugene M. Braderman, Deputy Assistant Secretary for Commercial Affairs and Business Activities, Department of State, foreign officials

and industrialists of both developing and industrialized countries expressed their views on "Patents as an Instrument of Government Policy in Economic Development" and "The Importance of Patents to Business Decisions on International Trade and Investment."

At one o'clock, the State Department's top floor Franklin Room was the scene of the luncheon session presided over by Francis C. Browne, President of the International Patent and Trademark Association. The luncheon speaker was Dr. Jose A. Mora, Secretary-General of the Organization of American States.

Situated again in the West Auditorium, the afternoon session discussed the "Critical Appraisal of

the Patent Systems of the World—Problems and Possible Solutions," and was moderated by Gordon Grant, Comptroller-General of the United Kingdom Patent Office.

Wednesday evening climaxed the conference with an International Reception and Dinner held at the Sheraton-Park Hotel. Commissioner of Patents Edward J. Brenner was Master of Ceremonies. The address of the evening was delivered by Dr. Harry Hunt Ransom, Chairman of the Presidential Commission on the Patent System.

The receptions, exhibits, tours and concerts which interspersed the daily business sessions provided the setting for a rewarding intellectual and cultural exchange.

# Letter from the East

CHRISTOPHER BIRD AND HERSCHEL F. CLESNER\*

*Problems facing a U.S. executive in dealing with Communist nations are "solve as you go" for as yet are no "book" answers.*

IT WAS JUST ANOTHER DAY at the Bullock Company, a successful engineering firm (special equipment for chemical plants) in the Mid-West. The president, as he turned to his morning mail, thought with satisfaction that the company's sales and earnings had shown a more than satisfactory rise over the past several months. In fact, a considerable backlog of orders was building up.

Suddenly he noticed an envelope quite unfamiliar in shape and color in the stack before him. Fishing it out, he tried to decipher the odd letter combinations of the return address.

The letter inside, however, was more informative. In stilted English it "suggested" (that was the word used) that the Foreign Trade Organization, *Mashinexport*, of the Polish Ministry of Foreign Trade was interested in Bullock-designed equipment and processes for installation in a series of large chemical complexes which were "to build in our country."

The president was dumbfounded. Up to this moment Bullock had all but confined its sales to the domestic American market. The only exception had been the licensing of equipment and process to the British chemical construction firm, Brown-Simon, Ltd., for sale in the United Kingdom and the European Economic Community countries. Brown-Simon already was in the process of building a plant with Bullock-designed and patented process items and the company was actively bidding for new contracts. The president was not sure what the British deal would bring. He was even skeptical. But a business friend, a member of his Board of Directors, had assured him that the British firm was reputable, capable, and abreast of the exploding

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technology. The president was "waiting to see" what results Bullock would obtain in this, its first step overseas.

And now, without warning—Poland? Wasn't that an "Iron Curtain" country? The president tried to recall what he had seen in the papers a few weeks back about a deal with the "Communists"—Firestone, that was it. Why, even a company of that size had been picketed and harassed through the mails and had dropped the whole idea of building an entire plant somewhere in Eastern Europe. Could Bullock afford to offend its customers—or, for that matter, its own community—by getting mixed up with the Reds?

He turned again to the letter: ". . . we suggest that your late-designed products are of great interest to include in an important number of large chemical complexes which are to build in our country."

This did not seem like an order. Was it only a query for information? Was it directed to equipment or a license request? Was it the result of a bid to build a chemical plant in the East by Brown-Simon, Ltd.? How many of the processes and specialized equipment listed at the bottom of the page were required?

An "*important number of large chemical complexes . . .*"? The president could not easily conceive what was meant. Bullock was used to shipping items in individual lots against a firm order or to custom-building and providing service for United States companies completely familiar with the Bullock capability and sure of what they wanted. Would this be a sale? All on one order? Over a period of time? Or did the Poles like the British, want a licensing agreement?

What about patent protection? Could you trust Communists to abide by the code? Would they pay in dollars? How would they pay royalties? What kind of production output and sales figures did they have? What about their selling prices? And what if they used Bullock-designed equipment to compete with Bullock and its licensee?

A swarm of thoughts filled the president's mind. He glanced at the letter again to see just who had written it. At the bottom was only an illegible signature over the words Mashinexport. Who should he talk to first? The Board of Brown-Simon, Ltd.? His patent attorney? His congressman? The Government probably would have to know about this deal if he took it up. Would his congressman know?

The president reached for the phone. . . .

\* \* \*

A hypothetical case such as the above could apply to almost any United States manufacturer today, especially those producing lines of

sophisticated equipment for industrial purposes. If present trends continue, United States firms and their subsidiaries and licensees will be subject to an increasing number of inquiries from Communist countries which are constantly seeking for the latest and best plant and equipment to include in the numerous projects to be built during their present planning period, 1966-70.

Like the Bullock president, executives will be up against a host of unknowns. The purpose of this note is to summarize some of these unknowns and to clarify what is known to date and—in an extension of the hypothesis started above—to show how a United States firm with no experience in dealing “behind the Iron Curtain” might react when presented with a proposal from that quarter of the world just as European, Canadian and Japanese firms have been solving them over the past five or 10 years.

The variety of Communist Eastern-European deals with United States allies has been expanding rapidly. Secretary of State Dean Rusk in his 1965 “Battle” Mutual Defense Assistance Act Report submitted to the Congress that overall East-West trade had increased to \$6.8 billion in 1964. A survey of only the past year’s activities discloses examples touching almost every important industrial country, East and West. Thus:

*British* farmers, as well as their counterparts in the Commonwealth countries, will soon be plowing, sowing and harvesting with *Hungarian*-made tractors equipped with British engines.

A *Swedish* firm is importing refrigerator cases from *Poland* and fitting them with electrical equipment prior to re-export.

One *Swiss* enterprise is sharing half the cost of a new assembly and sales complex in Zurich with a *Yugoslav* entity. It will handle Yugoslav-designed metal-milling machines and other types of machine tools.

A large *German* producer of modern recording equipment has reached a joint-venture agreement with *Poland* to license the manufacture of its line.

*Bulgaria* has agreed to set up mixed companies in conjunction with firms in the *Netherlands* to increase exports of machinery to Western Europe.

A joint *Soviet-Belgian* company was set up in Brussels to cooperate in sales of tractors, motors and machinery from all the Communist countries.

An agreement between a *Rumanian* state enterprise and

an *Austrian* firm to manufacture gears for Rumanian motor vehicles has been reported.

*French* and *Belgian* firms are discussing coproduction in Eastern Europe of a wide range of products including electric safety razors, transistor TV sets, electric irons, household washing machines, vacuum cleaners, et cetera.

In *Japan*, a local firm is looking into the possibilities of technical cooperation in the production of clothing in *Poland* to be exported to markets in Western Europe, the United States and Latin America.

*Italy's* Fiat recently signed a protocol on scientific and technical cooperation in auto manufacture with the *USSR's* State Committee for the Coordination of Scientific Research. This may lead to Fiat's licensing the Russians to build its cars as it has already done with the Yugoslavs.

The Simmons Machine Tool Corporation of Albany, N.Y., *USA*, has entered into an agreement with the *Czechoslovak* Skoda Works to buy and distribute massive Czech machine tools to its United States customers.

Many other examples could be supplied to create a veritable spider web of negotiations and concluded agreements between enterprises in every Western industrial country and all of the Eastern nations (and vice versa) in which the licensing or sale of technology, data, and know-how plays the chief role.

A body of experience is building up which, if ordered and analyzed, could be of immense assistance to our Bullock Company president and to all other United States executives coping with the problems of dealing in the new and unfamiliar Eastern markets.

\* \* \*

What, then, are the main problems likely to be?

Surrounding the whole problem complex, of course, is a shroud of *unfamiliarity*. New territory in the East is likely to put Bullocks into the position of the early explorers of the American West, in the commercial sense at least. For the first time the Bullocks may be up against a strong monolithic organization empowered to deal for an entire nation, controlling all the resources—financial, technical, the knowledge of world markets, the cognizance of a wide range of competing products, having the “corporate” strength available to keep a deal “cooking” and “wait out” the opposition, the ability to play one bidder off against another and to increase pressure to “close,” et cetera—that this implies.

This leads directly into the second problem: *communications difficulties*. The style, method, language of printed communication—whether by letter, telegram or telephone—is likely to be as totally different from what the Bullocks are used to as the underlying motives of the Eastern foreign trade organizations are from those of individual Western enterprises.

While the latter usually not only share a fairly simple common interest with, but also speak the same language as, Bullock, the former are likely to correspond in a manner which, more often than not, will seem opaque, equivocal and confusing. A telegram containing 10 queries seeking to clarify different aspects of a proposed deal sent to the East may elicit a reply to only two of those queries, leaving the others not only unanswered but completely unalluded to.

This is hardly surprising. The United States executive confronted by the mysteries and frustrations of dealing with the Eastern world should realize that there are individual (s) on the other side of the "Curtain" (or, at a later stage, on the other side of the table) who are probably as confused as to how his business world works as he is puzzled as to how their presently changing centralized economy operates, even discounting the more obvious cultural differences separating Americans and East Europeans.

An Eastern foreign trade organization is a giant complex including many separate sections and sub-sections, each dealing in separate classes of products, all coordinated by, and working to implement, a master plan for the national economy. Each item contracted for abroad fits into this plan. Scarce foreign exchange must be allocated to finance individual items or blocs of imports justification for which rests with the individuals (s) concerned who must compete with other representatives in every sector of the economy.

The United States executive, then, is not dealing with his opposite alone but with that individual and all the various pressures which surround him. If, after initial contact, Eastern interest seems to flag, peter out or appear ambiguous, this may not necessarily be the case. Delay on the part of a foreign trade organization may mean that individual foreign trade representatives are awaiting the outcome of skirmishes at home which must be won before the battle abroad can be properly and decisively joined.

Like their United States counterparts, Eastern foreign trade organizations are probably more tractable "face to face" than "through the mails (wires, phone)." At one point the Bullock representatives will no doubt receive a suggestion that the deal could be more easily clarified and advanced by a "visit to the Eastern capital." This poses a di-

lemma to the United States firm whose executives may not only feel ill-equipped to operate in a strange new environment—with a different language, at the mercy of interpreters, confronted by a formidable bureaucracy (consider the misgivings of business firms and the know-how needed in battling for Government contracts here at home)—but may be flooded with pressing demands upon their time in their day-to-day business. There is no assurance in advance that the “trip abroad” will be any more productive than the now mounting, and perhaps perplexing, maze of correspondence.

The resolution of this difficulty will depend upon the circumstances of each individual company. Either it will lead to a break-off of negotiations or to an eventual face-to-face confrontation. In the latter event, other difficulties will present themselves.

Bullock will want to consider the use of specialists, brokers or trading companies familiar with East-West trade. Should it turn to one of these for help in negotiating sales with an Eastern buyer, paying a commission for services rendered? Even the largest companies, Mitsui, Mitsubishi, and Sumitomo, in Japan, negotiated through a trading firm, Toho Bussan, until they were assured of the good faith of Eastern parties, the reaction of the domestic and international community, and had acquired the know-how to negotiate on their own.

Perhaps the inquiry had come because of a bid by the British licensee? Would it be wise, then, to rely on the licensee's experience in dealing with the East and let it handle the negotiations? The sale might be facilitated by virtue of more flexible guarantee and credit terms obtainable in the United Kingdom by the Eastern buyer. This approach would eliminate the danger to the company of “Firestone type” protests.

All these considerations would naturally depend on Bullock's evaluation of the time, effort and expense involved in a decision to negotiate alone in new surroundings.

Whether it “goes-it-alone” or depends on help, the next difficulty facing Bullock will be to ascertain how its products and know-how mesh with or are affected by United States *Government controls*. At first sight, the maze will seem no easier than that laid before Theseus by the Minotaur. United States trade (guarantees, credits, import tariffs and other aspects) with Communist nations is subjected to the Trade Agreement Extension Act, the Johnson Act, the “Battle” or Mutual Defense Assistance Control Act, the Export Control Act, the Foreign Aid Related Agencies Act, the Trade Expansion Act, the Agricultural Trade Development and Assistance Act and other various and sundry Acts. In addition to written laws, there are unwritten enjoin-



ders inherent in such considerations, such as the impact of an "Eastern deal" on the thinking of Bullock's domestic purchasers.

The problem is basically two-headed: Which Acts apply and at *what stage* of negotiation?

Of central interest is the Export-Control Act, the administration of which is a responsibility of the Department of Commerce. Over the past year the Department has liberalized its regulations. However, its licensing pattern, buttressed with hazily expressed and somewhat indefinite guidelines, has been erratic at times, and hard to comprehend. Nevertheless, an examination of the items on the strategic materials exception lists are a must for Bullock and its attorneys. With respect to Poland specifically, the export-control procedures have been eased. But this is not true for other Eastern European countries.

To hypothecate the end result of the control problem, let us say that Bullock will receive a general license for the export of all items not included in the exception lists. But even then the United States export controls are likely to be more stringent than the lists of NATO's Coordinating Committee for International Controls (COCOM), countries which take a more liberal view of what is and what is not a strategic item.

It is to the Commerce Department's credit that despite the pressure of the Viet Nam conflict, it is processing most license requests with dispatch. In 1964 it approved 262 licenses for the export of technical data to Eastern Europe and the USSR as compared with only 81 in 1963. These licenses relate to authorization, based on the use of technical data originating in the United States, for bids in reply to inquiries received directly from the East *or* from other Western countries desiring to bid for East European business. The percentage of requests rejected, over the past two years, has dropped from about 20 percent to roughly 3 percent. The number of requests rejected for Poland are fewer still.

In solving the control problem, Bullock would have to ascertain exactly what the Eastern trading organization wanted and then submit its request for an export license.

While waiting for action on the license, the company, if it decides that the export-control license will present no problem and it feels on firm enough ground to push forward with the East, will face the next, and perhaps principal, difficulty, that of *protecting its interests*, i.e., patent and marketing rights to its equipment and know-how as well as the enforceability of such rights and agreements.

One of the first queries that Bullock might have at this point is whether it should extend foreign-patent coverage of its new technology

to include Poland, the Soviet Union and/or the other states of Eastern Europe.

In making this decision the company will not be able to rely on precedent, for specific experience of United States firms in patenting in Eastern Europe is very limited. However, a review of pertinent legal material published by Poland and the USSR relating to patents has convinced the authors that it would be inadvisable for a Bullock to take out patents in the East because of:

- a) the *dubious protection* afforded by patents in these countries in light of conflicts in existing laws;
- b) the fact that the state honors a negotiated agreement, such an agreement *subordinates* invention and patent protection or renders it unnecessary;
- c) an evaluation of the overall *intentions* of the Communist countries of Eastern Europe, such as Poland, in entering into agreements with United States firms.

Bullock executives should understand a basic premise, namely, that in Communist countries domestic economic operations are entirely different from our own. Though the language of their patent laws may appear to be similar to ours in many instances, it must be interpreted by taking into consideration the economic framework within which it has evolved. Not only patent, but all basic laws and party decrees must be considered. Though the granting of a patent gives the right to the exclusive use of the invention industrially and commercially throughout Poland and the USSR, the legal exceptions, the means of enforcement and the total system can destroy the force and effect of this right.

The law of these nations makes clear that the patent holder may not make use of his patent in any way which infringes upon the principles of the public interest in the Communist state. What does that mean? Is it an application based on guidelines of patent misuse similar to those of the Sherman Act and other antitrust laws in this country of which the Bullock president and his corporate counsels have working knowledge?

In actual fact, these nations have not yet had to determine what their conflicting statutes mean in such a context since until very recently practically all the patents were assigned to the State and foreign entities did not seek patent protection for their inventions in the East.

Furthermore, the holder of the patent (or a license under the patent) is under the obligation to work the invention in Poland within three years from the date of issuance of the patent to the extent re-

quired by the national economy. If Bullock, as the patentee, does not fulfill this obligation, the Polish Patent Office may inform the public that licenses can be obtained for working the patented invention and/or could grant a compulsory license to use the invention. The Office, in granting such a license, gives its scope, duration, conditions, amount and manner of payment.

Much of the statutory language and patent requirements are similar to that of certain countries of the West where Bullock had been accustomed to filing patent applications. However, can they be interpreted similarly? What is the scope and meaning of working the invention as required by the phrase "extent required by the national economy"? What can Bullock do to carry out this requirement in a centrally planned and managed national economy? Furthermore, patent rights may be expropriated in whole or in part, or limited, either for the benefit of the State or for the purposes of defense *as well as for the fulfillment of a national economic plan*.

A Polish or Soviet patent may be revoked in whole or in part, at any time during its term, if the invention was not patentable at the moment the application was filed.

In addition to these considerations, Bullock should be warned that the act of enjoining others from using and making the patented invention in the commercial marketplace does not exist in Communist countries as it does in the United States.

Since all manufactured items are presently made and distributed by Government-run entities, the patentee cannot undertake to make, produce and/or distribute the patented item in the Soviet Union or Poland. Therefore, the Bullock invention will not be utilized unless it is asked for by an Eastern plant manager, approved by various authorities and allocated as a part of the overall national economic plan.

Bullock, however, can protect itself as fully in the East as in the West through licensing or contractual agreements with the Communist State's Foreign Trading Organization because the agreement, unlike a patent, can be negotiated to assure the fact that the invention will be put to use in the national economy as a part of the national economic plan. As a result, this action may exclude, if necessary, other competitive or substitute items. The agreement should, also, spell out the compensation to be arrived at after arms-length negotiation at terms agreeable to the parties.

Once a licensing agreement is concluded, Bullock could apply for a patent if only to relieve the Communist enterprise from any possible embarrassment resulting from a third party's filing on the technology to be supplied under the agreement. The acquisition of such a patent

position subsequent to the agreement, as a demonstration of good will, might improve Bullock's bargaining position in future negotiations. It is conceivable that the cost of filing, issuing and maintenance fees relating to such patents might even be negotiated as a benefit under the contractual agreement.

Bullock should not interpret the foregoing to mean that a Communist negotiator or Communist laws are aiming to trip it up or strew its path with difficulties. The experience of Western foreign enterprises and countries (together with that acquired by United States firms) points to the conclusion that the Poles (as well as other European Communist states) are conscientiously attempting to adhere to business practices and contractual relationships to which they commit themselves. All the more, then, will a good contract minimize the "risk" involved. The Poles are members of the European Arbitration Convention and the contract should contain arbitration clauses and stipulate the arbitration mechanism desired.

One drawback to East-West trade which may handicap Bullock's ability to compete with Western European firms is the absence of United States guarantees to help Poland obtain permissible short- and medium-term credit or financing. The Export-Import Bank of Washington is authorized to guarantee, insure, coinsure and reinsure United States exporters, conducts an export guaranty program to facilitate United States exports, and participates with the Foreign Credit Insurance Association, an unincorporated association of United States insurance companies, in a program of credit insurance covering United States export transactions (a Bullock sale would fall under such exports). However the Foreign Aid and Related Agencies Appropriation Acts have, over past years, put limitations on the authority of the Export-Import Bank to participate in financing United States exports to Communist countries. Final determination of guarantees (allowable under the Act) rests with the United States President.

The United States now extends "most favored nation" (MFN) treatment to Poland. Therefore, the Poles do not have to pay the full 1930 United States tariff rate, are not subject to this serious competitive disadvantage in United States markets and are able to sell their products here more easily than other countries of Eastern Europe. This makes it easier for the Poles to finance payment for purchases from firms such as Bullock.

However, if the Poles have difficulty in arranging payment, Bullock could use a foreign trading company or broker who is able to get guarantees or financing from his own sources, or could consider having the purchase order supplied from its British licensee, as the British do ex-

tend export credit guarantees and medium or long-term credits to Poland.

Let us say, at this point, that, in spite of all difficulties, Bullock successfully concludes the licensing deal with the Poles, one difficulty may still remain. How are royalty payments to be determined? Royalties for processes, patents (inventions), data and know-how are, as a rule, negotiated with Eastern Foreign Trade Organizations as part of the license agreement.

In the past, the royalty payment has usually been a lump sum or a lump sum plus subsequent royalties in the 3 to 10 percent range. However, since there may be no basis for checking on the exact volume produced and sold, minimum royalty payments per year would be required. In this connection, it is to be noted that several British companies have reported no difficulty in inspecting Polish production facilities to determine royalty payments.

Several new developments are now playing an important role in licensing. In order to intensify their export program and attack increasing unemployment, the Poles have concluded arrangements with various Western firms to *cooperate* in the production of equipment which is then sold on the home market of their partner or is exported to third markets. Poland has entered into such agreements with Italian, Austrian, Swedish, Belgian, British, and West German companies. Under this type of arrangement, Poland exports industrial equipment, sub-assemblies and other items to its Western partners. The Poles have shown a willingness to consider many different variables to expedite trade such as barter payments, management arrangements, over and above the customary technical assistance provided in many licensing agreements. Accordingly, a negotiated agreement with the Poles will call for a degree of innovation ("new thinking") on Bullock's part.

In any event, problems of negotiation should entail a knowledge of the way in which an Eastern Foreign Trade Organization, such as *Mashinexport*, acts within the Polish economy for the individual enterprise (plant, factory) that seeks to utilize Bullock's process or equipment. This is only part of a larger puzzle which, if put together, would give a clear picture of how the managed economy of a Communist Eastern country functions.

The knock on Bullock's door by *Mashinexport* may well have been instigated by a specific plant manager or engineer personally acquainted with Bullock's processes and equipment. The impossibility of dealing *directly* with the individual Eastern enterprise—instead of with a larger governmental organization—has not eased the negotiation problem.

But the hierarchy of considerations involved in dealing with the East set forth here should be taken as the image of what is seen when the projection of a movie is halted and attention can be focused on one frame. For the situation is changing daily.

There are definite signs that, with the increase in specific East-West commercial contacts, individual Eastern enterprises (factories, plants, combines, cooperatives, research stations, et cetera) are being given more authority to enter into negotiations with Western firms on a direct basis without passing through the intermediary of a higher echelon of Foreign Trade Organization.

As the movie of commercial practices continues to run, the trend is worth following. There is a desire to trade which slowly makes it possible to do business with each other. Difficulties become resolved. Revolution, in turn, brings a host of changes such as managerial systems, undergoing radical reform in the East, alter in the direction of reliance on profit in order to produce increased efficiency of operation and goods that are competitive price-wise and quality-wise in export markets.

While waiting for more evidence to be assembled on the multifaceted and varied ramifications of East-West deals, we would suggest to Bullock and to other United States firms facing the problem brought in that strange looking envelope in the morning mail that—in the words of one American executive specializing in trade with the East—you can do business there “only by really trying.” Protracted negotiations are a *sine qua non* of the game and “trying” will also involve “patience” to wait for the prize which it anticipates.

# Commentary on the New French Law on Trade and Service Marks

ANDRE ARMENGAUD\*

## SUMMARY

**F**OR MANY YEARS CHANGES HAVE BEEN CONTEMPLATED in the French trademark law with a view to suppressing an existing juridical uncertainty which resulted from the fact that ownership in a mark could, under former legislation, be acquired in two different ways, i.e., by the registration of the mark chosen or simply by using the mark.

This uncertainty was of course most detrimental to those who wished to adopt a new trademark for launching a product on the market, since nobody could be sure that the mark adopted had not been used before.

After extended discussion, the French governmental authorities, supported by lawyers specializing in legislation on industrial property rights, came to the conclusion that rights in a mark shall, in the future, be acquired by registration, said rights being limited by the obligation to use the mark.

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## HISTORY

**T**HE NEW LAW ON TRADEMARKS, which was promulgated on December 31, 1964 and which came into force on August 1, 1965, brings to the century-old French legislation far-reaching changes which have been prompted by a deliberate resolve to renovate.

But the aim of those who have endeavoured, for more than 50 years, to modify the conditions under which property rights in a mark can be acquired, has never been to deny the doctrine nor the Court rulings which have hitherto governed the protection of the signs which constitute a mark. In this respect, the future case-law that will emerge from the new legislation will be the image of the former case-law.

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\* The author is a member of the French Senate and a partner in the law firm of Beau de Lomenie, Armengaud, Houssard, Boissel, de Haas, in Paris, France. The original trademark bill was prepared and proposed in 1951 by Senator Armengaud. After numerous modifications the bill was adopted in July, 1965, and it has been in effect since August 1, 1965.

However, the aim of all those who, since 1907, have filed reports or submitted new bills to the French Government, has been to harmonize the law with existing economic conditions, which are far different now from what they were in the second part of the last century, at a time when the flow of international trade had not the magnitude it attains today. The major changes embodied in the new law are in this area.

#### THE MAJOR PROVISIONS OF THE NEW LAW

##### *Signs Capable of Being Protected as Marks*

These signs are enumerated in Article 1 of the law. Excepting family names, which will be the subject of a subsequent paragraph, the enumeration given by the new law does not bring any changes to the list of the signs capable of protection under the former law of 1857 and the relevant case-law.

Among these signs, the new law mentions, in particular, selvedges and edgings, the distinctive form of products or of its packaging (i.e. flasks, boxes, bottles, containers) and also the combinations or arrangements of colors.

##### *Protection of Family Names*

Our French law of 1824 protects the tradename of a firm against imitators to the extent that the products they both deal in may have the same customers.

Our French law of June 23, 1857, which protects registered marks against imitators on all the French territory, refuses to acknowledge protection of a family name used as a mark except if care has been taken to give it a "distinctive" appearance, i.e., by a particular drawing, or in combination with another name—for instance the name of the products, by the addition of a Christian name, or by a particular arrangement of ornamental elements.

The limited protection allowed a family name often led to abusive practices to the detriment of the first user of a family name in a given trade sector, and the case-law to which this aspect of our legislation gave rise is very subtle.

Only the family name of foreign firms could escape the severe measure of this provision since by virtue of the International Convention of Paris of 1883, they had to be admitted as trademarks in France provided they had been allowed protection in their country of origin.

The new law brings this situation to an end and recognizes that a family name in itself is capable of protection subject to the impor-



tant stipulation contained in Article 2. This stipulation makes it clear that the registration of a family name as a mark shall not prevent another person, bearing the same name, from using it in the exercise of his business, but that the registrant of the family name as a mark is entitled, if the use of said name is prejudicial to his rights, to obtain the control of such use or even its prohibition.

#### *Powers of Office Regarding Rejection of Marks*

The new law retains, in its Article 3, the same dispositions as the law of 1857 and follows relevant case-law with regard to the signs that cannot be admitted as valid marks, i.e.:

(1) Signs whose use is contrary to public order or proper conduct, as well as those signs prohibited by Article 6 of the Paris Convention such as armorial bearings, flags, State emblems, official hall-marks and heraldic signs.

(2) Those signs which are composed *exclusively* of the necessary or generic designation of the product, or which are liable to deceive the public, and those which are composed *exclusively* of terms indicating the essential quality of the products or services, or the composition of the product.

By this, one must understand that a word such as "bonbonnière" (candy-box) cannot be adopted to protect candy or sweetmeat boxes, nor "Station-Service" for a gasoline station, or a mark such as "Anis X" to cover products other than anis liquors.

The new law gives authority to the Trademark Section of the Patent Office for refusing to register marks such as those described in the last categories indicated above. But the minutes of the parliamentary conferences that preceded the adoption of the law indicate that the Trademark Section of the Patent Office will have to be extremely cautious on this point, except when the signs proposed are precisely those prohibited by Article 6 of the Convention. As the function of the Patent and Trademark Office will therefore be confined essentially to drawing the applicant's attention to the lack of validity of the mark, absolute refusal will seldom occur.

In addition, any decision the Patent and Trademark Office takes in this respect will have to be communicated to the applicant who will then be given three months, renewable once, to offer his comments. Furthermore, the usual legal means provided for opposing any decisions of the Patent and Trademark Office shall be available to the applicant. And finally, Justice Courts alone have the authority to decide whether a mark that might have been registered by mistake by the Patent and Trademark Office is invalid or not, i.e.,

whether it has been registered contrary to the stipulations of Article 3.

Considering the spirit of moderation that will preside over the exercise of the right of refusal now bestowed on the Patent and Trade mark Office, such controversies will in fact continue to be settled by our Courts of Grande Instance.

*Registration Creative of Property in a Mark (Article 4)*

One of the more important reforms of the new law consists in that the registration, which was hitherto declaratory of property in the mark (i.e. the affirmation of an alleged right), shall, from now on, be creative of property in the mark.

This solution permits, whatever may be the circumstances, easier settling of disputes and it gives a new value to the trademark concept. As France is a member of the Paris Convention, a foreign registrant is of course given a period of six months, running from the date of filing in his country, to file the same mark in France.

However the law tempers the rigour of this provision by reserving the rights of the owners of exploited trademarks, as well as the rights of the owners of well-known trademarks, even though these trademarks have not been filed in France. Thus (Art. 35 & 36) transitory measures stipulate that whoever has used a non-registered mark prior to August 1, 1965, shall be entitled during the next three years, i.e. before August 1, 1968, to obtain confirmation of the rights acquired by the earlier use by registering the mark with a claim to the earlier rights acquired thereon. In case of litigation, proofs of these earlier rights would be required.

The expression "rights in the marks are acquired by *first filing*" which is contained in Article 4 of the law means that if A files the mark X for the period of 10 years stipulated by the new law (instead of 15 years under the law of 1857), and if B files the same mark as A in the course of these 10 years, A will be considered as the holder of the first registration and, in that capacity, as owner of the mark. But if A lets the mark become abandoned by failing to renew it for instance, and if A during the period of validity of the mark X did not request cancellation of B's identical mark, B's application will legally become the first one and will confer upon him ownership of the mark X.

It follows that, from now on, registrants will be well advised to stay abreast of applications made by third parties in order, if need be, to apply for their cancellation, thereby avoiding the risk of see-

ing their own marks anticipated by later filings, should they overlook the renewal of their own marks in due time.

### *Well-Known Marks*

By a "well-known mark" one must understand a mark so publicly known that it is practically impossible to ignore its existence, such as, for instance: Gillette, Waterman, Ford, Kodak.

Of course, decisions that the Courts will be called upon to render regarding whether or not a given mark can be considered "well-known" will reflect in large part the discretionary powers Courts enjoy.

The privilege accorded to the owners of well-known marks, recognized by the International Convention and by French law since August 1, 1965, (Article 4) is a sort of international right of use enabling the owners of a mark of foreign origin, which is well known as "Gillette" for instance, to sue, for its cancellation, a third party who files the same mark and uses it, even though the mark may not have been deposited in France. However, the French law stipulates that the right enjoyed by the owner of a well-known mark to sue a subsequent registrant can be exercised only during a period of five years from the application date of the mark alleged to be fraudulently applied for (minimum time limit set forth by the International Convention).

It must however be noted that in view of the requirement of confusion in Article 4, the privilege granted to well-known marks does not apply, in principle, to products other than those manufactured by the firm which promoted the mark. For instance, if the trademark Gillette had not been deposited in France, the Gillette Corporation would be entitled to sue only that registrant who subsequently attempted to cover razors and blades under the same mark, but they would be unarmed against a subsequent registration of the mark Gillette for machine-tools, cars, etc.

In fact, there is already a tendency in Court decisions now rendered to consider that whoever files a mark as well-known as Gillette, even for quite a different product, may, in some way, prejudice the prestige attached to that mark and be regarded as committing unfair competition.

### *Service Marks*

The concept of a service mark had already been introduced in the Union Convention. But, up to now, the provisions of international agreements relating to service marks were not applicable in France

due to the lack of national legislation on this point. The new French law now meets the situation (Article 1).

### *Obligation to Use a Mark*

One of the drawbacks of the French law of 1857, equally as serious as its uncertainty as to the right resulting from the use of a mark, was the tremendous volume of applications which encumbered the Trademark Registers. In spite of the rights that the use of a mark conferred upon whoever used it first, trademark applications in France were becoming more and more numerous during the last few years, with the double effect of protecting for all purposes a denomination or a sign without exploiting it, or of filing a trademark in all 34 classes of the classification although applicants only intended to use it in one class.

The new law intends to remedy this situation by providing that a mark which is not used within the five years following its registration may be declared invalid (Article 11). In other words, anyone is now entitled to request a Court to declare a mark invalid if the owner of the mark cannot bring forth proof that he has used it during the five-year period preceding the invalidity application.

Thus, the new law establishes that the ownership of a mark rests on the two following principles: the obligation to file the mark in order to acquire rights therein, and the obligation to use it in order to maintain the ownership thus acquired.

The provisions regarding the obligation to use a mark need some explanation:

a) First of all, the Government has clearly specified that the marks filed under the benefit of the law of June 23, 1857, i.e. before August 1, 1965, would not be subject to an invalidity action for lack of exploitation before August 1, 1970, for the reason that the five-year term preceding an annulment action cannot apply to a period during which no legal provision for such action was provided by the law.

b) The proof of exploitation of a mark can be furnished by any means and is the responsibility of the owner of the mark for which the invalidity declaration is sought.

c) One can also wonder how the term "exploitation of a mark" is to be construed: Will the use in only one class of a mark filed to cover 34 classes be sufficient to maintain coverage in all the other classes or, on the contrary, will the use of a mark on products of one class only render the mark invalid for the products of the other 33 classes?

The new law is adaptable enough in this respect. It says that the exploitation in a single class of a mark filed in several classes shall be sufficient to prevent annulment which should otherwise affect the other classes covered and in which the mark is not used.

It nonetheless adds that the extension of the effect of the exploitation to classes other than those in which the mark is used will be admitted to prevent annulment only if there is likelihood of confusion to the detriment of the mark filed but partially exploited and if a filing effected in one or several of those classes, by a third party, might create confusion in the public mind.

d) Legitimate excuses may be invoked by the holder of a mark against which an invalidity declaration is being sought. It is difficult to define the circumstances to which this provision will be applicable. However, by way of illustration, reference was made to a manufacturer who launches a product on the French market under the mark X. He deposits the mark X in France, but he cannot register said mark in the United States for reasons of domestic regulations. He is therefore compelled to market his product in the United States under the mark Y, but it is too late to change the mark X in France where it has already gained a certain renown among the French public. In the circumstances, it appears only fair, "legitimate," that he be entitled to deposit in France the mark Y, known in the United States, even though he himself does not use it.

But apart from this very specific case, one may assume that the alleged "legitimate" excuse will be more rigorously treated when it applies to a mark than when it applies to the non-exploitation of a patent; the reason being that the exploitation of a mark does not involve technical and financial problems as difficult as those involved in putting an invention into practice.

### *Collective Marks\**

Up to now, the French legislation had made no express reference to collective marks. However, in the past, manufacturer associations or groups of producers, had filed trademarks which their members were entitled to use provided the products sold under said collective marks complied with given standards. Special laws had been promulgated to cover some specific cases, such as craftsmen-work marks (Law of January 27, 1939), agricultural labels (Law of January 13, 1965), normalization trademarks (Law of July 2, 1963).

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\* "Collective Marks" are referred to as "Certification Marks" in the BIRPI translation of the French Law Relating to Trademarks and Service Marks appearing in the Appendix to this paper.

However, provisions for the protection of collective marks having been contained in the International Convention, it appeared necessary to introduce some general provisions into the French legislation regarding this subject.

Under the new law (Article 16 and 17), the right to file and to own collective marks is limited to public collectivity (States, countries, towns, overseas territories, public establishments), as well as to groups or associations of producers having a legally constituted administration and legal capacity, and whose objective is to secure a common protection to their products or services either for their common interest or for the general interest.

But in order to prevent the registration of marks fraudulently declared as being "collective," the law clearly states that the registration and the validity of a collective mark is dependent upon filing with the Patent and Trademark Office a copy of the Regulations governing its use. These Regulations are open to public inspection.

A collective mark used or permitted to be used under conditions different from those stipulated in the Regulations may be declared invalid. In this event, the mark invalidated can no longer be owned or used unless, at the expiration of a period of 10 years, it is deposited again as a collective mark by a qualified association of the same nationality.

Foreign legal entities and associations fulfilling the conditions stipulated in the International Union Convention shall enjoy the benefit of the provisions of the French law.

### *Jurisdiction*

According to the principles of the law of 1857, and without prejudice to the new provision referred to on page 561, all disputes about marks, and in particular litigations regarding invalidity or forfeiture, are within the competence of our Civil Courts (Article 24).

The grounds for invalidity or forfeiture are the same as in the past, with the addition, however, of the ground of non-exploitation of the mark, as we have explained above.

Legal proceedings, and in particular the seizure of goods or the descriptive seizure of same in order to verify infringement, also remain unchanged. However, the penalties inflicted under the Penal Code have been strengthened and detailed (Article 27 to 34 of the Law).

Furthermore, final Court decisions declaring a mark void or for-

feited must be recorded in the National Trademark Register upon the Court clerk's demand.

*Duration of a Mark and Formalities for Its Registration*

a) The registration of a mark is effective for 10 years (instead of 15 years under the law of 1857). But property in a mark can be kept indefinitely by successive renewals (Article 9). In accordance with the law of 1857, the successive renewal periods take effect from the date of renewal and not from the expiration date of the preceding registration period. However, the renewal of a registration identical to the preceding one can be validly obtained, subject to the payment of an additional tax, within the six months following the expiration date of the preceding registration, but will be effective from the latter date.

b) Marks can be filed at the applicant's choice, either with the registrar of the Commercial Court of his domicile or directly at the Patent and Trademark Office. Filings by nationals of foreign countries, however, must be made with the National Institute of Industrial Property (Articles 5 and 6).

Initial applications, as well as applications for renewals, may be carried out by an agent, an address having to be elected in France. The power of attorney by which the agent is authorized is exempted from legalization, stamp duty and recordal.

The applicant who claims, by virtue of the International Convention, the benefit of a prior filing effected in a foreign country less than six months before, must justify this priority right by supplying, within the six months following the deposit, a certified copy of the initial filing together with an assignment of priority rights, if necessary (Article 6).

c) The registrations, renewals of registrations and assignments of trademarks are published in the Official Bulletin of Industrial Property.

A National Trademark Register is maintained by the Patent and Trademark Office in which all the marks filed are registered with an indication of their number and filing date, the registration number, the reproduction of the mark, the list of the products it covers and the classes in which it is filed, the assignments, grants of licenses, hypothecations and mortgagebonds, seizures or transfers to which it gave rise, as well as the Court decisions that have altered the rights that the mark confers.

*General and Transitory Provisions*

a) The new French law came into operation on August 1, 1965,

and is enforceable in all French territories, i.e. Metropolitan France and overseas territories, Guadeloupe, Guiana, Martinique, Reunion Island, Comoro Islands, the French Somali Coast, New Caledonia, French Polynesia, Wallis and Futuna Islands, St. Peter and Miquelon Islands (Article 39). Consequently, the registration of the mark is effective in all the above named territories.

b) Filings of marks validly effected under the law of June 23, 1857, will continue in accordance with the provisions of the new law as from the date of its coming into force. But the period of protection of trademarks shall remain 15 years from the date of their filing (Article 35).

However, the legal entities or associations who have filed a mark as a collective mark must, in order to benefit from the present law, file in accordance with the provisions of this law before the expiration of a period of three years from the date of its coming into force.

c) We have examined above (Article 4) how those who, by virtue of the law of 1857, retain rights in a mark owing to earlier use of this mark, shall be permitted to avail themselves of such rights.

#### RESUME

##### *Acquisition of Rights in a Mark*

This acquisition is only obtained through filing of the mark. It is thus indispensable:

- a) for exploited marks not filed prior to the date on which the new law comes into effect, to file such marks before August 1, 1968, giving an account of their earlier exploitation;
- b) for a newly chosen mark, to file it before any exploitation, after having previously conducted a thorough anticipation search; this mark should then be renewed regularly;
- c) to stay informed on filings by other parties in order to oppose, wherever possible, the creation of competing rights.

##### *Marks Capable of Protection*

To the names and signs hitherto capable of constituting a mark are now added patronymic names and the forms or wrappings of products.

The following cannot constitute marks: national emblems, marks that are descriptive, generic, necessary, deceptive, or which express exclusively the composition of a product or the nature of a service.

##### *Obligation to Exploit*

Since the obligation to exploit a mark is imperative under penalty of loss of rights, it is essential to preserve proofs that exploitation has



taken place (invoices from suppliers of printed forms and of vignettes, letter paper from advertising agents, dated catalogues and prospectus intended for clients and for promotion, copies of said documents, chronological classification) in order to be able to show that exploitation was seriously undertaken as a merely intermittent exploitation might not suffice to avoid loss of rights.

If it is desired to bring forth a legitimate excuse for the absence of exploitation, valid reasons must be given.

In the case of a family of related marks of which the principal mark has been exploited but the others have not, an argument that the secondary marks are exploited because the principal one has been exploited will not suffice to cause the courts to reject an action for loss of rights brought against one of the secondary or satellite marks.

It is thus advisable to be able to demonstrate the connection between the principal mark and the secondary or derived mark, and to show the damage that could be done to the principal mark through loss of rights in the secondary mark.

## APPENDIX

### French Law

Relating to Trademarks and Service Marks  
(No. 64-1360, of December 31, 1964)

(Translation) \*

### PART I

#### Property Rights in Marks

#### Article 1

Family names, pseudonyms, geographical names, arbitrary or fancy names, the characteristic form of a product or of its get-up, labels, envelopes, emblems, prints, stamps, seals, ornamental borders, selvages, edgings, combinations or arrangements of colours, designs, reliefs, letters, figures, devices and, in general, all material signs serving to distinguish products, objects or services of any enterprise, are capable of being considered as trademarks or service marks.

A trademark or service mark is optional. Nevertheless, decrees of the Council of State can, exceptionally, declare a mark to be obligatory in respect of such products or services as they may determine.

#### Article 2

The deposit of a family name as a trademark shall not prevent another person bearing the same name from making use of his own name.

Nevertheless, if such use is prejudicial to the rights of the person who has deposited the name as a trademark, the person who has effected the deposit may make application at law either for the control of such use, or for its prohibition.

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\* *Industrial Property*, Monthly Review of the International Bureau for the Protection of Industrial Property, 4th year, No. 4 (April 1965), pp. 83-87.

### Article 3

Signs whose use would be contrary to public order or proper conduct, as well as signs excluded by Article 6<sup>ter</sup> of the Paris Convention for the Protection of Industrial Property of March 20, 1883, as revised, shall not be considered as trademarks nor as forming part thereof.

Further, the following shall not be regarded as trademarks:

those which are constituted exclusively by the necessary and generic designation of the product and the service, or which include elements which are liable to deceive the public;

those which are composed exclusively of terms indicating the essential quality of the product or service, or the composition of the product.

### Article 4

Rights in the mark are acquired by first deposit, validly effected in accordance with the provisions of the present law and decrees enacted for its application, which specify the formalities and conditions of the said deposit, as well as the acts or payment of fees necessary for its maintenance.

Nevertheless, the proprietor of a mark which is well-known within the meaning of Article 6<sup>bis</sup> of the Paris Convention for the Protection of Industrial Property may claim annulment of the deposit of a mark which is capable of creating confusion with his own mark. Such action cannot be instituted after the expiration of a period of five years, calculated from the date of the deposit, when such deposit has been effected in good faith.

Subject to the transitional provisions contained in Articles 35 and 36, the sole use as a trademark of one of the signs specified in Article 1 does not confer any right upon the user.

### Article 5

Any person who wishes to deposit a mark must send to the National Institute of Industrial Property, or to the registrar of the commercial tribunal of his domicile, a representation of the mark, and give an enumeration of the products or services to which the mark applies and the corresponding classes.

### Article 6

A depositor who is domiciled abroad must elect an address in France.

The deposit of his mark shall be compulsorily effected with the National Institute of Industrial Property. The right of priority attached to a prior foreign deposit must, under penalty of loss, be claimed at the time of deposit of the mark. Nevertheless, a claim for priority can be made to the National Institute of Industrial Property, subject to the advance payment of a fee, within six months following the deposit.

### Article 7

The deposit of a mark gives rise to the payment of a fee to the National Institute of Industrial Property.

### Article 8

The registration and publication of a mark validly deposited are effected by the National Institute of Industrial Property. The legal date of registration is the date of deposit.

Rejection of the deposit in application of the provisions of Article 3, or for any material irregularity or default in the payment of fees, will be pronounced by the Minister in charge of industrial property.

Article 9

The registration of a mark is effective for a period of ten years. Rights in the mark can be maintained indefinitely by successive deposits, subject to the payment of a fee. Payment must be effected before the expiration of the period of earlier protection.

Article 10

The proprietor of the registration of a mark may renounce the effects of the registration in respect of all or part of the goods or services to which the mark applies.

Article 11

The proprietor of a mark who, in the absence of legitimate excuse, has not exploited his mark, or caused it to be exploited, publicly and unequivocally, during a period of five years preceding an application for its annulment, shall be deprived of his rights.

Exploitation in a single class of a mark forming the subject of a deposit in respect of several classes of products shall be sufficient to prevent annulment which might otherwise affect deposits made in respect of other classes and not followed by exploitation. Nevertheless, this extension of the effects of exploitation relative to the avoidance of annulment shall only be admitted when confusion could exist to the detriment of the mark which was deposited and exploited.

Annulment must be pronounced by way of a Court decision; it may be requested by any person interested.

Proof of exploitation can be furnished by any means, and is the responsibility of the proprietor of the mark in respect of which annulment is sought.

Article 12

Nullity of the deposit of a mark or cancellation of the rights of the depositor is pronounced by courts of major instance.

Article 13

Assignments or the grant of licences in respect of marks, as well as any other dealings affecting them, must be in writing. They may be made independently of any contract affecting the enterprise exploiting the mark or causing it to be exploited. They may be total or partial. Only licenses for exploitation may have territorial limitation.

Article 14

No modification of the rights under a mark shall be enforceable against third parties, unless recorded in the National Register of Marks.

Article 15

Without prejudice to the application of Articles 2 and 3 of the Paris Convention for the Protection of Industrial Property, foreigners whose domicile or establishment is located outside France shall enjoy the benefit of the present law for marks regularly deposited or registered in the country of domicile or establishment, provided French marks enjoy reciprocity of protection in these countries.

PART II

Certification Marks\*

Article 16

Legal entities, the State, departments, communes and public establishments, as well as syndicates, groups of syndicates, associations, groups or bodies of producers,

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\* "Certification Marks" are referred to as "Collective Marks" in André Armengaud's paper preceding this Appendix.

industrialists and traders, having a legally-constituted administration and legal capacity, may, with the objective of general industrial, commercial or agricultural interest, or in furtherance of the trade or industry of their members, possess trade-marks or service marks.

#### Article 17

Certification marks are applied, either directly by the legal entity or association by way of control, to certain products or objects, or by their members, under the supervision of such bodies and on conditions determined by them, to products of their own manufacture or industry, or upon objects in which they trade.

#### Article 18

The general provisions of the present law and of decrees governing its application apply to certification marks, without prejudice to the special provisions herein-after contained, and those relating to agricultural markings regulated by law No. 60-608 of August 5, 1960, and to certificates of quality regulated by Articles 7 and 8 of the Finance Amendment Law, No. 63-628, of July 2, 1963, and subsequent texts.

#### Article 19

The deposit of a certification mark must be accompanied by regulations specifying the conditions to which employment of the mark must be subjected.

If these regulations contain provisions which are contrary to public order or proper conduct, the application will be rejected in accordance with the provisions of Article 8. Any amendment made to the regulations which are contrary to public order or proper conduct shall be rejected under the same conditions.

#### Article 20

A certification mark may not be the subject of an assignment or pledge or forced execution.

#### Article 21

The annulment of the registration of a certification mark or the lapsing of the rights of the depositor shall be declared:

- (1) when the legal entity or the association ceases to exist;
- (2) when such body no longer satisfies the requirements of the present Part of this Law;
- (3) when such body has employed the mark or knowingly allowed it to be employed under conditions other than those prescribed in the regulations;
- (4) when the regulations contain provisions contrary to public order or proper conduct.

In the event of annulment or the lapsing of rights, the certification mark may not be appropriated in respect of the same products or services by a new deposit, nor be used in any way. Nevertheless, upon the expiration of a period of ten years, a certification mark can be deposited *de novo* by a legal entity or association of the same nationality.

#### Article 22\*

Persons entitled to use a certification mark may not exercise the other rights attaching to the mark except in the event of bankruptcy of the legal entity owning the mark and for the purpose of its employment.

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\* André Armengaud translates Article 22 to read as follows:

Persons entitled to use a collective mark may exercise the other rights attaching to the mark only if the legal entity owning the mark is defaulting and provided said legal entity is called upon to intervene.

Article 23

Without prejudice to the application of Articles 2 and 3 of the Paris Convention for the Protection of Industrial Property, foreign legal entities or associations entitled to take legal proceedings in their country of origin, and falling within one of the categories envisaged by Article 16, shall enjoy the benefits of the present law in respect of certification marks regularly deposited or registered in their country of origin, provided French certification marks enjoy reciprocity of protection in such country.

PART III

Jurisdiction

Article 24

Without prejudice to the provisions of Article 384 of the Code of Penal Procedure, civil actions relating to marks shall be taken before the courts of major instance.

Article 25

The proprietor of a mark is entitled to proceed, by bailiffs of his choice, to a detailed inventory, with or without actual seizure, of products which he alleges to be marked or delivered in a manner prejudicial to him and in violation of the present law.

Article 26

If such person fails to proceed, either by civil or criminal proceedings, within a period of 15 days, except in cases of delay caused by distance, as provided for by Article 552 of the Code of Penal Procedure, the inventory or seizure shall automatically become void, without prejudice to the indemnity, if any, that might be claimed.

All actions involving the question of deposited marks and related questions of unfair competition shall be taken before courts of major instance, as specified in Article 24.

PART IV

Penalties

Article 27

Article 422 of the Penal Code is re-enacted in the following terms:

*"Art. 422.—The following shall be punishable by a fine of 500 francs to 15,000 francs or by imprisonment from three months to three years, or both:*

- (1) persons who counterfeit a trademark or who make any use whatever of a mark without the authorisation of the person interested, even with the addition of the words 'form,' 'fashion,' 'system,' 'imitation,' 'kind,' etc., or of any other indication;
- (2) persons who fraudulently apply to their own products, or to the objects of their trade, a trademark which belongs to another person;
- (3) persons who knowingly sell, or place on sale, one or more products bearing an infringing trademark, or one which is fraudulently applied;
- (4) persons who knowingly deliver a product, other than that requested of them under a registered trademark."

Article 28

An Article 422-1 is added to the Penal Code, worded as follows:

*"Art. 422-1.—The following shall be punishable by a fine of from 500 francs to 10,000 francs or by imprisonment of from one month to one year, or both:*

- (1) persons who, without counterfeiting a registered trademark, make a fraudu-

lent imitation thereof of such a nature as to deceive the purchaser, or make any use of a mark which has been fraudulently imitated;

- (2) persons who knowingly make any use of a registered mark bearing indications which are liable to deceive the purchaser as to the nature, the material qualities, the composition, the amount of useful elements, the kind or the origin of the product;
- (3) persons who, without lawful cause, detain, sell or place on sale one or more products which they know to bear a fraudulent imitation of a mark."

#### Article 29

An Article 422-2 is added to the Penal Code, worded as follows:

"*Art. 422-2.*—The following shall be punishable by a fine of from 500 francs to 5,000 francs or by imprisonment of from fifteen days to six months, or both:

- (1) persons who fail to apply to their products a mark which has been declared to be obligatory;
- (2) persons who sell or place on sale one or more products which do not bear a mark which has been declared obligatory for this kind of product;
- (3) persons who contravene the provisions of decrees declaring a mark to be obligatory;
- (4) persons who cause signs to appear in their marks, the use of which is prohibited by the legislation relating to trademarks."

#### Article 30

Article 423 of the Penal Code is re-established in the following terms:

"*Art. 423.*—The penalties prescribed by Articles 422, 422-1 and 422-2 may be doubled in cases of recidivism."

#### Article 31

An Article 423-1 is added to the Penal Code, worded as follows:

"*Art. 423-1.*—Offenders may, further, be deprived of the right of participating in the election of tribunals and chambers of commerce and industry, chambers of agriculture and conciliation boards, for a period not exceeding ten years.

"The Court may, in all cases, order that the judgment convicting the accused shall be published, wholly or in part, in all such newspapers as it may designate, or shall be displayed in accordance with the provisions of Article 50-1 of the present Code."

#### Article 32

An Article 423-2 is added to the Penal Code, worded as follows:

"*Art. 423-2.*—The confiscation of products in respect of which the mark constitutes an offence within the terms of Articles 422 and 422-1 may be ordered by the Court, as well as confiscation of instruments and implements which have served to commit it.

"In cases of *nolle prosequi*, the Court may order the seizure of products and objects referred to in the preceding paragraph.

"The Court can equally order the confiscated products to be remitted to the proprietor of the mark infringed or fraudulently applied or imitated, without prejudice to any indemnity.

"It may equally order the destruction of marks which constitute a breach of the terms of Articles 422 and 422-1, or of paragraph (4) of Article 422-2."

#### Article 33

An Article 423-3 is added to the Penal Code, worded as follows:

"*Art. 423-3.*—In the cases specified in paragraphs 1 and 2 of Article 422-2, the

Court shall always require that marks which are declared to be obligatory shall be applied to the products subjected to them.

"The Court may order the confiscation of products if the accused has, within the five preceding years, suffered a conviction for one of the offences specified in paragraphs 1 and 2 of Article 422-2."

#### Article 34

An Article 423-4 is added to the Penal Code, worded as follows:

"*Art. 423-4.*—The penalties prescribed by Articles 422 to 423-3 are applicable as regards certification trademarks. Further, the following shall be punishable by the penalties prescribed by Article 422:

- (1) persons who knowingly make use of a certification mark under conditions other than those prescribed in the regulations governing the use of the mark which accompanied the deposit, as required by the rules governing certification trademarks;
- (2) persons who knowingly sell or place on sale one or more products bearing a certification mark, irregularly employed in relation to the rules governing trademarks;
- (3) persons who, within a period of ten years calculated from the date of annulment of a certification mark, knowingly make use of a mark which reproduces or imitates the said certification mark.
- (4) persons who, within a period of ten years calculated from the date of annulment of a certification mark, knowingly sell or place on sale one or more products bearing a mark which reproduces or imitates the said certification mark.

"The provisions of the present Article are applicable to the marks or labels referred to in Chapter II of the First Part of Volume III of the Labour Code."

### PART V

#### General and Transitional Provisions

#### Article 35

Rights acquired prior to the coming into force of the present law are maintained.

Deposits of marks validly effected in application of the law of June 23, 1857, will produce their effects in accordance with the provisions of the present law as from the date of its coming into force. However, the term of the protection of such deposits shall remain fixed at fifteen years.

The owners of rights previously acquired but not derived from a deposit in force at the date specified in the foregoing paragraph shall, under penalty of loss of such rights, make deposit within a period of three years, calculated from this date. The documents constituting this deposit must refer to the existence of the earlier rights. However, such mention may be the subject of a later declaration made before the expiration of this period, subject to the payment of a fee.

#### Article 36

Legal entities or associations who have deposited a mark as a certification mark, or who so utilise a mark without having deposited it, must, in order to benefit from the present law, effect a deposit, in accordance with the provisions of this law, before the expiration of a period of three years from the date of its coming into force.

#### Article 37

Decrees issued by the Council of State shall fix the formalities for the application on the present law.

Fees collected for the National Institute of Industrial Property shall be pre-

scribed by decree, under the conditions specified in Article 4 of Ordinance 59-2 of January 2, 1959, relating to the basic financial laws.

**Article 38**

The law of June 23, 1857, and all other provisions contrary to the present law are abrogated.

**Article 39**

The present law will come into force on August 1, 1965. It is applicable to overseas territories.

The present law shall be carried out as a State law.



# Infringement in Great Britain by Importation of Transformed Products

H. GEOFFREY LYNFIELD\*

## SUMMARY

**T**HIS PAPER RE-EXAMINES the 65-year-old Saccharin doctrine laid down in a decision of a lower British Court. This somewhat illogical rule has to be considered by every foreign manufacturer who contemplates importation into Great Britain of a product whose manufacture involves even remotely a step protected by a British patent.

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**C**HEMICAL MANUFACTURERS to an increasing extent export their products to foreign markets and are faced with problems of infringing foreign patents.

The problem becomes especially vexing when a multi-step process is involved and an intermediate product but not the final one is covered by British patent. The question then arises whether the British patentee can enforce his patent against importation of the final product where the process is carried out outside British territory.

It has been firmly established for more than 100 years that the British patentee of a process has the right to prevent vending in England of an article made in England according to the patented process: *Minter v. Williams*<sup>1</sup>, *Gibson v. Brand*<sup>2</sup>.

In the case of *Elmslie v. Boursier*<sup>3</sup> the English Courts were first faced with the problem whether importation and sale in England of articles manufactured *abroad* according to the specification of an English patent could be enjoined.

Elmslie was the owner of a patent for making tinfoil by melting and casting tin metal instead of by rolling which was then the common practice. Boursier had imported into England several parcels of tinfoil made by the patented process. The sole question before the Court then was whether the holder of an English *process* patent had

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<sup>1</sup> *Minter v. Williams* (1835) 1 Webster Pat. Cas. 135.

<sup>2</sup> *Gibson v. Brand* (1841) 1 Webster Pat. Cas. 627, 630.

<sup>3</sup> *Elmslie v. Boursier* (1869) L.R. 9 Eq. 217; 39 L.J. Ch. 328; 18 WR 665.

the right to prevent importation into and sale in England of *products* made by the process in the foreign country.

The Court had no difficulty in finding for the plaintiff:

It is said that tinfoil can be made by the Plaintiff's process at less cost than by the old method; and it is conceded that nobody in England can use the Plaintiff's process of making cast tinfoil, as distinguished from rolled tinfoil, without a license from the Plaintiff. If that cannot be done in England, it would be a very strange thing if a person in England could send an order to someone in France, get the same thing manufactured there in exactly the same way, and bring it here so as to compete with the person to whom the Crown has granted "the whole profit, benefit, commodity, and advantage" arising from the patent. It would be a short mode of destroying "every profit, commodity, and advantage" which a patentee could have from such a thing, if all that a man had to do was to get the thing made abroad, import it into this country, and then sell it here in competition with the English patentee.

The Court thus concluded that obtaining from abroad and selling in Great Britain a new article manufactured according to the specification of a patent was a violation of the privileges granted by the letters patent, and therefore granted the injunction.<sup>4</sup>

In the case of *Elmslie v. Boursier*, the imported tinfoil had been molded and could be easily distinguished from tinfoil made by the more common process of rolling.

Eleven years later in *Von Heyden v. Neustadt*<sup>5</sup> the English Courts were faced with the question of whether the importation and sale in England of a *known* chemical product could be enjoined where the British patent covered a new process for producing the same chemical product more cheaply. The imported product here again was made by the patented process but was indistinguishable from the products made by the conventional, more expensive process. The product was salicylic acid and the production cost had been halved by the patented process. The lower Court had granted an injunction and the case came for review before the Court of Appeal. The Court of Appeal concluded that the process by which the salicylic acid imported by defendants was made was substantially identical with that made by the plaintiff's process.

The Court of Appeal cited with approval *Elmslie v. Boursier* and found that where a patent had been granted in England for a new

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<sup>4</sup> Previous to the passing of the Patents Designs and Trade Marks Act 1883, a distinct claim was not a necessary part of the complete specification and the patent probably did not contain any claims for the product. However, the direct product would unquestionably be covered—see Frost *Law and Practice Relating to Letters Patents for Inventions*, (1906) Vol. I, p. 248.

<sup>5</sup> *Von Heyden v. Neustadt* (1880) 14 Ch. D. 230.

process for producing more cheaply a previously known chemical product, the importation and sale in England of this substance made abroad, according to the patented process, was an infringement of the patent.

The rule developed by these early cases was recently affirmed by the House of Lords in the case of *Pfizer Corporation v. Ministry of Health*.<sup>6</sup>

In the first of these cases cited (*Von Heyden v. Neustadt*) it was held that one who makes abroad a chemical *process* (the subject of an English patent) for the purpose of its sale over here and brings it into this country for such purpose is indirectly "using" the process in this country and is on that ground infringing the English patent. The case followed the decision relating to tinfoil in the earlier case of *Elmslie v. Boursier* (1869) L.R. Eq. 217, in which on similar grounds there was held to have been an infringement of the English patent.

Now, what is the situation when the product of the *patented process* is merely an intermediate which is converted abroad (i.e. outside Great Britain) by one or more chemical steps into a final product which ultimately is imported into Great Britain? This is the point which came before the British Courts at the turn of the century in the so-called "Saccharin" cases. The decision handed down 65 years ago is still controlling today.

Anyone turning to the casebooks for assistance on this point will be astonished to learn that the *stage* at which the patented process has been used in the manufacture of the article or substance which has been imported is *immaterial* (see Terrell 11th Edition page 146).

It was held in *Saccharin Corporation v. Anglo-Continental Chemical Works* (17 R.P.C. 307) that the importation was equally an infringement whether the process was used in the production of some intermediate substance or in effecting the final transformation into the substance imported.

This is the so-called Saccharin Doctrine which is still considered to apply today. It is proposed to analyze below in detail the chemistry involved in the "Saccharin" cases and the applicable law in the hope that an enterprising litigant may take the point to a higher Court where the 65-year-old rule could be tested again in the light of modern developments.

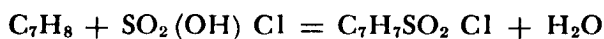
The patent in suit (No. 25273/1894) had been communicated from abroad by one P. Monnet and is hereinafter referred to as Monnet's patent. This patent is only concerned with the first of four steps involved in the manufacture of saccharin; the first intermediate being toluene sulpho chloride also known as ortho-toluene sulpho-chloride.

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<sup>6</sup> *Pfizer Corporation v. Ministry of Health* (1965) R.P.C. at p. 303.

The reaction of this first step is described in the specification of Monnet's patent. Chlorsulphonic acid was made to react with toluene under low temperature conditions whereby the *whole* of the toluene was converted into ortho-toluene sulpho-chloride. The action of chlorsulphonic acid upon toluene had previously been disclosed by Claesson and Wallin in 1848 under different conditions but then only about half of the toluene was converted into the desired ortho-toluene sulpho-chloride. Monnet had found that by keeping the temperature of the reaction mass between the limits of 0° and 5°C. and by employing a large excess of chlorsulphonic acid, there was complete conversion into ortho-toluene sulpho-chloride and no by-products were formed.

The reaction followed the equation



The Patentee claimed:

1. The manufacture of toluene-sulpho-chlorides by acting with chlorsulphonic acid in large excess on toluene at a temperature exceeding 5° C., substantially as described.
2. The direct conversion of toluene by means of chlorsulphonic acid into toluene sulpho-chlorides mostly in the liquid form substantially as described.

The product ortho-toluene sulpho-chloride, which was not claimed and which had been known at least since 1848, has the following structural formula:



This is an oily liquid having a melting point of 69°C.

To produce saccharin, three further steps are involved. These further steps were not described by Monnet but were known at that time.<sup>7</sup> The chlorine first has to be replaced by an amino group resulting in o-toluene sulfonamide.



This substance has a melting point of 155°C.

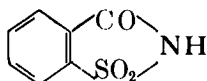
The sulfonamide is then oxidized with aqueous permanganate solution ( $\text{K Mn O}_4$ ) at 35°C giving o-sulfonamide benzoic acid.




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<sup>7</sup> Fieser & Fieser, *Organic Chemistry*, 3rd Edition, (1956), p. 591.

The o-sulfonamide benzoic acid formed undergoes spontaneous loss of water in a neutral or weakly alkaline solution with closure of the heterocyclic ring resulting in saccharin.



IV

Saccharin has a melting point of 229° C.

This is known as Remsen's process which was first discovered in 1879 and is still used today for making saccharin which is 550 times as sweet as cane sugar.

The above sequence of operations was correctly recognized by Judge Buckley in the case of *Saccharin Corporation v. Anglo Continental*<sup>8</sup> who, however, used some inaccurate language:

The article imported and sold is not ortho-toluene-sulpho-chloride (Formula I), but ortho-toluene-sulpho-chloride is contained (*sic*) in saccharin.

This is hardly the case as can readily be seen from a comparison of formulas I and IV. The only common feature between these formulae is the benzene ring and the Judge may not have realized that there were thousands of compounds already known in 1900 which include a benzene ring.

Monnet's invention was rather narrow and could easily have been circumvented. The reaction of chloro-sulphonic acid upon toluene under different conditions had been suggested as early as 1848. Monnet had only found that, by confining the reaction temperature in the first step of a four-step process to a narrow range between 0° and 5°C. and by using the chlorosulfonic acid in excess, he could raise the yield of ortho-toluene-sulpho-chloride from 25 to 60 percent. The patented step thus might be said to amount to only one-eighth of the complete process as it merely involved doubling the yield of the first step which was three steps removed from the final product.

The Judge referred to the line of cases which we have already discussed beginning with *Elmslie v. Boursier* holding that the importation into and sale in England of articles manufactured abroad according to the specification of an English patent was an infringement, a decision which was followed by the Court of Appeal in *Von Heyden v. Neustadt*. Judge Buckley realized that these cases did not cover the point which he had to decide but yet he went on:

If the patented process were the last stage in the production of the article sold, the importation and sale of the product would, in my

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<sup>8</sup> *Saccharin Corporation v. Anglo-Continental Chemical Works* (17 R.P.C. 307) at 319, lines 1-3.

opinion, plainly be an infringement. Does it make it any the less an infringement that the article produced and sold is manufactured by the use of the patented process which is subjected to certain other processes?

It almost seems that the litigants had a premonition of the importance of the case. On the plaintiff's side there was a battery of no less than four Counsel, two of whom were Seniors or Queen's Counsel. On the defense, there were three Queen's Counsel and two Juniors. A co-defendant Reitmeyer was represented by a single Counsel. Reitmeyer was managing director of the defendant company. He also had his own company, Reitmeyer & Co. which was the defendant in a later case involving the same plaintiff.<sup>9</sup>

Between 1898 and 1909 there were at least 21 reported cases involving Saccharin Corporation invariably as plaintiff.<sup>10</sup> In a previous case by the same plaintiff against Chemicals and Drugs Company<sup>11</sup> the validity of Monnet's patent had been upheld. Judgement in the case against *Anglo-Continental* followed the earlier case and found that there was patentable subject matter and further, that the patented process had been used in the manufacture of toluene sulphochloride by each of two Swiss firms. Although the sulphochloride had to be subjected to the subsequent processes to produce saccharin, the defendants, by importing saccharin, in the course of the production of which the patented process was used, were indirectly making use of the invention and had infringed. An injunction was granted, and the delivery up of the infringing saccharin and an inquiry as to damages were ordered. The defendants were ordered to pay the costs of the action.

According to Fletcher Moulton, in a footnote to his book on British patents,<sup>12</sup> the case against *Anglo-Continental* went to appeal and from certain remarks made by the Court during the argument they did not seem to wholly agree with the view taken in the Court below.

The case was finally settled so that the Court of Appeal was never called upon to review the Judgement below and the holding by Buckley J. still stands today.

In June 1900 Patent 25273/94 again came up, this time before Mr. Justice Couzens-Hardy in the case of *Saccharin Corporation v. Reitmeyer Co.* This action was dismissed. The defendant had not

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<sup>9</sup> *Saccharin Corp. v. Reitmeyer & Co.* 17 R.P.C., p. 606.

<sup>10</sup> See Table of Cases in Fletcher Moulton *Law and Practice Relating to Letters Patents for Inventions* (1913).

<sup>11</sup> *Saccharin Corporation v. The Chemicals and Drugs Company Ltd.*, 17 R.P.C., p. 28.

<sup>12</sup> *Op. cit.* at p. 158, footnote o.

actually imported saccharin but had merely entered into contracts in Great Britain with certain companies for the sale of the saccharin which was made abroad to be delivered at foreign ports. It was further held that such delivery did not constitute infringement of the patent in suit.

The plaintiffs were represented by the same Queen's Counsel as in the previous case. The defendants were represented by two of the barristers appearing in the previous case. Counsel thus had complete familiarity with the subject-matter. Judge Couzens-Hardy under the Doctrine of *stare decisis* adopted the view held by Buckley J. in the earlier case. It is instructive to read Counsel's arguments as summarized in the report. Lord Robert Cecil, Q. C., speaking on behalf of the defendants makes excellent sense.<sup>13</sup>

The principle is that no infringement of a British patent is possible by any act done outside the United Kingdom. In respect of the saccharin not imported by the Defendants, there was no infringement. Further, importation of saccharin is not infringement of the patent; the facts in this case are different from those which Buckley J. found in *Saccharin Corporation Ltd. v. Anglo-Continental Chemical Works, Ltd.* (17 R.P.C. 307). This is not a case of the importation into Great Britain of a patented article, as in *Elmslie v. Boursier* (L.R. 9 Eq. 27), and *Von Heyden v. Neustadt* (L.R. 14 Ch. D 230). Supposing as an illustration that toluene was produced by distillation in a patented still, it would not be an infringement of the patent to import the toluene. *There must be some limit to the proposition put forward on behalf of the Plaintiffs.*<sup>14</sup> This patent is not for the manufacture of saccharin but of toluene sulpho-chloride. If the patent had been for an improvement in the manufacture of saccharin, the doctrine of *Von Heyden v. Neustadt* might have been applicable, but neither the title of the invention, nor the claims are confined to the use of it in making saccharin. There are other uses of toluene sulpho-chloride, and in making saccharin from it, something is taken away from it. In this case, it is admitted by the Plaintiff's witnesses that toluene sulpho-chloride does *not* form part of saccharin.

In his Judgement<sup>15</sup> Justice Couzens-Hardy seemed to be inclined to recognize the fallacy of Justice Buckley's decision, but as his Court was on the same level as Justice Buckley's Court, he could, under the doctrine of *stare decisis*,<sup>16</sup> only follow the other Judge.

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<sup>13</sup> See p. 609.

<sup>14</sup> Underlinings added.

<sup>15</sup> P. 611.

<sup>16</sup> *Stare decisis* is the policy of the common-law courts—especially strong in England—to stand by precedent and not to disturb a settled point. When a court has once laid down a principle of law as applicable to a certain state of facts, it will adhere to that principle, and apply it to all future cases where the facts are substantially the same (see *Black's Law Dictionary* 4th edition [1951] pages 1577 and 1578.)

The next contention for the Defense is that, even if Monnet's process was adopted, yet there is no infringement because Monnet's patent is not one for the manufacture of saccharin, but only for the manufacture of toluene sulpho-chlorides, a chemical substance used in the manufacture of saccharin, but also used for other purposes and not contained as such in saccharin.

The Defendant contends with great plausibility that a new terror will be added to life if every person is held to infringe Monnet's patent who uses an article imported from abroad, in the course of the production of which saccharin derived from a chemical substance produced according to Monnet's process may have been employed. It seems to me, however, that this point has really been decided against the Defendant and in favour of the Plaintiffs by Mr. Justice Buckley in the case to which I have referred, and I therefore propose to adopt his view without expressing any opinion of my own.

The case most frequently cited as bearing most closely on the question of infringement by importation since the various Saccharin decisions is that of *Wilderman v. F. W. Berk and Co., Ltd.*<sup>17</sup> which was tried in 1924 before Tomlin J., (subsequently Lord Tomlin). That was an action for infringement of a patent for a modification of a mercury cathode cell for the electrolytic production of caustic alkalis. The plaintiffs alleged that the patent was infringed by the importation into and sale in the United Kingdom of caustic potash made in the modified cell. Import and sale were admitted: The defendants did not attack the validity of the patent. Both sides referred to the Saccharin cases.

Tomlin J., (whose judgements are regarded as authoritative) held that there was no infringement. In a reserved judgement, he dealt with the question as follows:

It does not, however, in my opinion, necessarily follow that the importation of caustic potash made in those troughs was an infringement of the patent in suit. I have had no evidence of any kind directed to the nature or effect of the invention. I am not informed by evidence how far, if at all, the invention is effectual in practice, or what is its precise function in the process of electrolysis of alkaline salts, that is, whether it relates to a mere mechanical detail of the apparatus employed or whether it is something the use of which is necessary to render the working of the process practicable or profitable. On the face of the specification, the invention has the appearance of being one relating to a small mechanical detail in an apparatus, the patent for which expired in 1916, and the use of which was in connection with a well-known process.

It is urged on the Plaintiff's behalf that, once I am satisfied that there has been used in connection with the manufacture of an imported article, in however an unimportant or trifling respect, some apparatus or material in respect of which there is a subsisting patent, the importation of the article manufactured is necessarily an in-

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<sup>17</sup> *Wilderman v. F. W. Berk and Co. Ltd.* 42 R.P.C. 79.



fringement. I do not think that the cases to which I have been referred compel me to accept so wide a proposition, and I do not accept it. I cannot think, for example, that the employment of a patented cutting blow-pipe or a patented hammer in the manufacture of some part of a locomotive would necessarily render the importation of the locomotive an infringement.

In my judgment, each case must be determined on its own merits by reference to the nature of the invention, and the extent to which its employment played a part in the production of the article, the importation of which is complained of.

In the absence of any evidence of this character in the present case, and in the face of the language of the Specification itself, I do not think that the Plaintiff has proved, and I am not prepared to hold, that the device the subject-matter of the invention, was of such a character, or was so used, in relation to the manufacture of the caustic potash in question as to render the importation of such potash an infringement of the patent.

The Wilderman patent was concerned with a method of constructing certain electrolytic apparatus rather than with a chemical process. The "imported article" was caustic potash made with the patented apparatus. The Court clearly placed limitations on the doctrine laid down in the Saccharin cases. Tomlin J. refused to accept so wide a proposition that there is necessarily infringement if "in connection with the manufacture of an imported article . . . some apparatus or material in respect of which there is subsisting a patent is used." Thus, in a two-step chemical process where the first step is covered by patent there might be infringement by importation of the final product. But if we were concerned with a four-step process and only part of the first step is covered by patent (as in the Saccharin cases), it seems reasonable to argue that the final product is too remote and would exclude infringement if imported.

Under the Doctrine of *stare decisis* Judge Tomlin was again bound to accept the prior holding of a tribunal on the same level, but the language used in the third paragraph of the Judgement (quoted above) would suggest that he was trying hard to draw a distinction from the earlier case. "In my judgement, each case must be determined on its own merits by reference to nature of the invention, and the *extent* to which its employment played a part. . . ." This is in line with the argument of Lord Robert Cecil Q.C. (referred to *supra*) "There must be some limit to the proposition put forward on behalf of the Plaintiffs."

The question arises whether in the light of the present legal climate there would be a different decision from a lower Court if a fact situation similar to that in the Saccharin case were today presented to the Courts. In view of the tremendous changes in legal thinking and

chemical technology it might be questioned whether the 65-year-old Saccharin decision was still the law today.<sup>18</sup> If these questions were put to British Counsel however one could expect to be told that, in spite of the very great changes in chemical knowledge, the Saccharin cases would still be controlling today. Counsel brought up in the traditional school of *stare decisis* would be ill advised to make a recommendation to his clients which went contrary to case law that old, unless the client is willing to face the high cost of appeals. This law is only good from the point of view of a British patentee and is bad from the point of view of a foreign manufacturer who uses a patented feature in somewhat less than a material aspect.

At the time of the Buckley decision in the *Saccharin* case the climate of opinion was not unfavorable to patentees. Subsequently the judges appeared more ready to question the exercise of all monopolies, including patent monopolies. Tomlin J. in *Wilderman v. Berk* 24 years later still indicated acceptance of the Saccharin decision with the qualifications that, before infringement can be found, it must be shown that the significance of the intermediate material or apparatus in relation to the imported article or material must be something more than "unimportant or trifling." Once it is proved that the patent is in respect of something which is of real value and significance in the preparation of the final product, it will still be very difficult to persuade the British Courts today that importation and sale of the final product does not constitute infringement. But we might conclude by saying that the Saccharin doctrine should be taken with a pinch of salt (*cum grano salis*).

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<sup>18</sup> Blanco White has pointed out that the judgements in old patent actions are not a very good guide to the interpretation of patent specifications and that there is a rapidly changing climate of judicial opinion—see T. A. Blanco White *Patents for Inventions*, (1962), 3rd edition, p. 498.

# Trade Secrets Legislation

JOHN P. SUTTON\*

## SUMMARY

**T**HIS PAPER DEALS WITH LEGISLATION making it a crime to misappropriate trade secrets of another.

Recently there has been a great deal of activity in the law of trade secrets. There is an apparent increase in the amount of litigation involving trade secrets in recent years. At least, the subject has achieved substantially greater coverage in the non-legal periodicals, showing public awareness of problems which previously had been considered only in legal periodicals. For example, magazines such as *Fortune*,<sup>1</sup> *The New Yorker*,<sup>2</sup> *Science*,<sup>3</sup> and *Chemical and Engineering News*,<sup>4</sup> have recently contained articles dealing with trade secrets.

Perhaps the general interest in trade secrets outside the legal profession has in part engendered legislative interest in the subject. At any rate, New York<sup>5</sup> passed a criminal statute on trade secrets in 1964, and Georgia<sup>6</sup> and New Jersey<sup>7</sup> enacted legislation during 1965. Also bills were introduced into the legislatures of Nebraska,<sup>8</sup> Wisconsin,<sup>9</sup> Minnesota,<sup>9-a</sup> Pennsylvania,<sup>10</sup> and Illinois.<sup>11</sup> A Federal bill,<sup>12</sup> the McDowell bill, also has been introduced in Congress. These bills and statutes will be analyzed briefly in this article and some of the problem areas outlined. The Federal Uniform Commercial Activities Bill,<sup>13</sup>

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<sup>1</sup> "Who Owns What's In Your Head?" by William Bowen, *Fortune*, July, 1964.

<sup>2</sup> "One Free Bite" by John Brooks, *The New Yorker*, January 11, 1964.

<sup>3</sup> "Savants, Sandwiches, and Space Suits" by Joe H. Munster, Jr., and Justin C. Smith, *Science*, Vol. 145, p. 1276, September 18, 1964.

<sup>4</sup> "Trade Secrets: The Technical Man in Legal Land," *Chemical and Engineering News*, January 18, 1965.

<sup>5</sup> New York Penal Code §1296, subd. 4 added by L. 1964, Ch. 727, 1964.

<sup>6</sup> Act 522, *Georgia Laws* 1965, Vol. 1, p. 647.

<sup>7</sup> New Jersey Statutes, Title 2A, Ch. 119 (Ch. 52, Laws 1965, Assembly Bill 285).

<sup>8</sup> 75th Session, Legislature of Nebraska, Legislative Bill 867, 1965.

<sup>9</sup> 1965 Session. Senate Bill 176, introduced July 27, 1965.

<sup>9-a</sup> 1965 Session. Minnesota Legislature, House Bill 2151, introduced May 7, 1965.

<sup>10</sup> General Assembly of Pennsylvania, Senate Bill No. 767, Session of 1965.

<sup>11</sup> 74th General Assembly of Illinois, Senate Bill No. 1151, 1965.

<sup>12</sup> HR 5578, 89th Congress, 1st Session, 1965.

<sup>13</sup> HR 5515, 89th Congress, 1st Session, 1965.

better known as the Lindsay bill, will not be included in this discussion even though it has been said that the broad phrase "which violates reasonable standards of commercial ethics" would include trade-secret situations.<sup>14</sup> The Lindsay bill is not primarily concerned with trade secrets and is not a criminal bill.

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## INTRODUCTION

**T**HE LAW OF TRADE SECRETS is unusual because it is not capable of convenient categorization. It has been said that

A full understanding of confidential information law commands an appreciation that it is only partly tort law, only slightly property law, is largely contract law, and still more largely equity law in the sense of its being the emotional reaction of the conscience of the judge without confinement by the forms of property, tort or contract law.<sup>15</sup>

One of the difficulties of categorization is that there has never been a definitive decision on whether or not trade secrets are property.<sup>16</sup> Accordingly, an action grounded on the tort of conversion of property to recover for misappropriation of trade secrets seems to be a non sequitur if the trade secret is not considered property. The courts often indicate that inquiry into whether or not the trade secret is property is not essential. An often-quoted pronouncement of the Supreme Court in *E. I. du Pont de Nemours Powder Co. v. Masland*<sup>17</sup> reads:

The word property as applied to trademarks and trade secrets is an unanalyzed expression of certain secondary consequences of the primary fact that the law makes some rudimentary requirements of good faith. Whether the plaintiffs have any valuable secret or not the defendant knows the facts, whatever they are, through a special confidence that he accepted. The property may be denied but the confidence cannot be. Therefore the starting point for the present matter is not the property or due process of law, but that the defendant stood in confidential relations with the plaintiffs, or one of them.

Characterizing a fact situation as one involving the tort of conversion of property, on the one hand, or an express or implied-in-fact contract, on the other hand, might be important in solving a choice of law question, e.g. where the confidential relationship arose in one

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<sup>14</sup> Arnold, Trade Secrets, *IDEA*, Vol. 9, Conference Number, (1965), p. 162.

<sup>15</sup> Arnold, "Problems in Trade Secret Law," *1961 Summary of Proceedings*, Section of Patent, Trademark and Copyright Law, American Bar Association, p. 248, 251.

<sup>16</sup> Turner, *The Law of Trade Secrets*, Sweet and Maxwell, Ltd. (London) 1962, p. 12.

<sup>17</sup> 244 U.S. 100, 102 (1917).

jurisdiction and the misappropriation occurred in another. Such a choice of law characterization between contracts and torts is well recognized in other fact situations, and the trade secret fact situation is no different from that standpoint. However, characterization for choice of law is important because the law of trade secrets varies immensely from one jurisdiction to another.

One reason for the variation is that the law of trade secrets is part of the common law which is administered by the states, exclusive jurisdiction not having been granted to the Federal Government in the Constitution. In the situation where an employee is alleged to have taken trade secrets from a first employer to a second employer, state laws present interesting contrasts. In California, for example, the code specifically provides,<sup>18</sup> with certain specified exceptions, that

... every contract by which anyone is restrained from engaging in a lawful profession, trade or business of any kind is to that extent void.

Therefore, the common provision in employment contracts that the employee is barred from competing for a certain period must be considered in the context of the particular state laws. The California law tends to protect the employee from restraints on his employment. In other states, the law may be either silent or pro-employer to the point where the employee's freedom to change jobs may be greatly restricted. This is but one example of the difficulty in drawing conclusions that are universally applicable from the variety of state decisions governing the law of trade secrets.

A further complicating factor in the case law regarding trade secrets is the responsibility of the court to "do equity." Generalizations with respect to the law of trade secrets must always be tempered by the discretionary capacity of the equity court. Trade secrets cases historically were under the jurisdiction of equity so that fixed and uniformly applied rules are not the norm. Rather, each case is decided individually according to the equities of each side to be fair and just in the circumstances.

In considering the equities, the relative positions of the parties involved may be relevant to the outcome of the decision. For example, compare 1. the fact situation where a minor individual in a large corporation is lured away by another corporation, with 2. the fact situation where the first employer is a corporation built around the secrets created by the employee who then departs to go into business for himself. Since trade secrets law is administered in equity, the case

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<sup>18</sup> Business and Professions Code 16600.

law has tended to vary with the length of the chancellor's foot.<sup>19</sup> Judges faced with the nearly insoluble dilemma of the employer's right in the fruits of the employee's labor, on one side, and the employee's individual rights of freedom to change employers, on the other, have tended to choose the path of least injustice. This being the situation, the case law is understandably in turmoil.

It therefore would appear propitious that legislation is pending to bring some degree of order out of chaos. It would be desirable to have new legislation in all jurisdictions to clear up uncertainties.<sup>20</sup> Indeed, this solution has been prophesied in the initial report on the protection of trade secrets by The Patent, Trademark and Copyright Research Institute of The George Washington University.<sup>21</sup>

### THE BILLS

Efforts in 1965 in the direction of providing legislation have introduced further problems which previously did not exist under the common law of trade secrets. For example, all of the recent legislative efforts specifically dealing with trade secrets are part of the criminal law. The statutes and pending bills do not specify that the owner of a trade secret has a right to sue the one who takes it away. Rather, the statutes provide for criminal penalty against the one who takes the secrets. Accordingly, the traditional safeguards of the criminal law are applicable to the legislation under consideration.

#### *The Federal Bill*

Considering first the Federal bill (the McDowell bill), it is important to note that the bill proposes to amend the chapters on embezzlement and stolen property in the Federal criminal code.<sup>22</sup> From a drafting point of view, the McDowell bill is probably the best of all of those presently under consideration because it is specific and limited. Although the specificity and limitations make a better bill, they correspondingly narrow the scope of the bill.

Constitutional derivation of the McDowell bill rests in the commerce clause,<sup>23</sup> so that only trade secrets affecting interstate or foreign commerce are involved. Trade secrets moving in purely intrastate com-

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<sup>19</sup> Table Talk, quoted in footnote To *Gee v. Pritchard*, 2 Swanst. 402, 414 (1818).

One Chancellor has a long foot, another a short foot, a third an indifferent foot; 'tis the same thing in the Chancellor's conscience.

<sup>20</sup> See Wade *Industrial Espionage and Mis-Use of Trade Secrets*, Advance House, Ardmore, Pennsylvania.

<sup>21</sup> L. James Harris and Irving H. Siegel, *IDEA*, Vol. 8, No. 3 (1964), p. 360.

<sup>22</sup> Title 18 U.S.C.A., Chapters 31 and 113.

<sup>23</sup> Art. 1, §8, Cl. 3.

merce or otherwise not affecting interstate commerce are beyond the coverage of the bill.

The McDowell bill amends Sections 2311, 2314 and 2315 of Title 18 and adds new Section 665. As amended, §2314 would prohibit transporting of a trade secret "knowing the same to have been unlawfully appropriated or copied, stolen, converted or taken by fraud."<sup>24</sup> This provision introduces the element of mens rea which historically was essential for an effective criminal statute. That is, the criminal must know that the taking of the "property" is unlawful before he can be found guilty. For example, if an employee simply takes some notes he himself prepared without knowing that they embody trade secrets, he probably cannot be convicted unless it is presumed that he knew the taking was unlawful. The McDowell bill makes no mention of presumptions, but it is doubtful whether the mere fact of changing jobs is sufficient to give rise to a presumption of knowledge. It might be difficult to prove that the accused knew that taking his personal notes, for example, was unlawful.

Another important feature of the McDowell bill is that it defines a trade secret in a paragraph added to §2311, the definitions section on stolen property. The definition reads:

"Trade secret" means and includes any confidential technical or other confidential business information, regardless of whether it is in written or other tangible form, which is not generally available to the public, and which gives one who uses it an advantage over competitors who do not know or use it. It includes, but is not limited to, secret formulas, processes, patterns, drawings, specifications, memorandums, maps, lists, statistics, and any copies thereof regardless of by whom made.

A question of statutory interpretation arises in considering the phrase "... any confidential technical or other confidential business information, regardless of whether it is in written or other tangible form ...". Either the words "regardless of" or the word "tangible" are superfluous, depending upon the intended meaning. Thus, if the words "regardless of" are omitted, then it is clear that the statute was intended to cover information only in *tangible* form, and not *intangible* ideas.

On the other hand, if the word "tangible" is removed, then it would seem to be clear that *any information, regardless* of its form is intended to be covered by the statute if the other conditions are met.

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<sup>24</sup> The proposed amendment to §2314 reads:

Whoever transports, or discloses to another who transports, in interstate or foreign commerce any trade secret which he is not authorized to use on his own behalf or disclose to others, knowing the same to have been unlawfully appropriated or copied, stolen, converted, or taken by fraud. . . .

If the trade secret must be in "tangible form" the thief who remembers the entire chemical formula or secret process but takes no papers in his hands cannot be convicted. A trade secret is defined as something which 1. is not generally available to the public and which 2. gives the one who uses it an advantage over competitors. Significantly, the definition of trade secrets in the McDowell bill includes "processes" which by themselves cannot be in tangible form, as may be machines, manufactures, compositions of matter or materials. Consequently, to be in tangible form the process presumably must be described, drawn, or otherwise attached to something tangible.

If, on the other hand "regardless" is the key word in the definition and *intangible* information is included, then an employee who knows specialized procedures of his first employer might be forever in danger of being prosecuted for taking a trade secret in his head. Since the bill is proposed to answer the increasing problem of the international as well as domestic theft of trade secrets by corporate spies,<sup>25</sup> it seems reasonable that protection against the theft of both tangible and intangible information was intended. However, even though the intent of the legislature prevails, a strict construction of penal statutes is a well accepted rule of statutory construction.<sup>26</sup> Moreover, statutes in derogation of the common law are narrowly construed.<sup>27</sup> In addition, making it a crime to carry an intangible idea in one's brain might abridge certain constitutional freedoms as noted below. Thus, in order to uphold constitutionality of a statute, the courts might be forced to construe the coverage of *intangible* information out of the McDowell bill.

The third section of the McDowell bill amends §2315 of Title 18 relating to receiving stolen goods. The heading would be amended to read "Sale or receipt of stolen goods, securities, moneys, fraudulent state tax stamps, or trade secrets." A new paragraph is added which treats trade secrets in the same fashion as other kinds of property covered in this section.<sup>28</sup>

The final provision of the McDowell bill is the proposal of an entirely new Section 665 in Title 18 which follows other "Embezzlement and Theft" crimes. The new section sets forth the elements of theft

<sup>25</sup> *Time Magazine*, March 26, 1965, p. 76.

<sup>26</sup> Lewis, *Sutherland on Statutory Construction*, 2nd Ed. Callaghan and Co., 1904, Sec. 520.

<sup>27</sup> *Op. Cit.*, note 26, Sec. 573.

<sup>28</sup> The paragraph proposed to be amended to §2315 reads:

Whoever receives, conceals, stores, barter, sells, or disposes of any trade secret, or pledges or accepts as security for a loan any trade secret, moving as, or which is a part of, or which constitutes interstate or foreign commerce, knowing the same to have been stolen, unlawfully converted, or taken. . . .



or embezzlement of trade secrets, the punishment, where the crime has been committed and defines "trade secret."<sup>29</sup>

The trade secret definition in §665 is the same as that contained in the stolen property section. Specific intent "to convert to his own use" is required by the section, which raises the question of whether taking for the benefit of a new employer is for one's own use. Most trade secrets cases involve matter which is generally worthless to a single individual except as it enhances his value to a new employer or other organization in competition with the original owner. For example, trade secrets concerning space-suit technology<sup>30</sup> would rarely be converted to one's own use unless disclosure to another organization would be considered "his own use."

Section 665 also requires that the secret "has been used in the manufacture of a product" or is itself transmitted in interstate commerce. This means that if an intangible process or service is the subject matter of the trade secret, and no product moves in interstate commerce, there could be no crime. Nevertheless, theft of process secrets or techniques or service methods should be as reprehensible as theft of a secret used in a product or which moves per se in interstate commerce.

A major problem with the McDowell bill (as well as the state bills) is that they are attempting to control the movement and disclosure of *ideas* and *concepts* by controlling tangible commodities. Trade secrets are not necessarily in tangible form. As defined by the Restatement of Torts,<sup>31</sup>

§757 b. Definition of trade secret. A trade secret may consist of any formula, pattern, device or compilation of information which is used in one's business, and which gives him an opportunity to obtain

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<sup>29</sup> §665. Theft or embezzlement of trade secrets:

Whoever embezzles, steals, or unlawfully takes, carries away, conceals, or copies, or by fraud or by deception obtains, from any person or corporation, with intent to convert to his own use, any trade secret which has been used in the manufacture of a product shipped in interstate commerce, or any trade secret which is itself transmitted in interstate commerce. . . .

Shall in each case be fined not more than \$5,000 or imprisoned not more than five years, or both.

The offense shall be deemed to have been committed not only in the district where the violation first occurred, but also in any district in which a defendant may have taken or been in possession of the stolen trade secret.

As used in this section, the term "trade secret" means and includes any confidential technical or other confidential business information, regardless of whether it is in written or other tangible form, which is not generally available to the public, and which gives one who uses it an advantage over competitors who do not know or use it. It includes, but is not limited to, secret formulas, processes, patterns, drawings, specifications, memorandums, maps, lists, statistics, and any copies thereof regardless of by whom made.

<sup>30</sup> B. F. Goodrich Co. v. Wohlgenuth, 192 N.E. 2d 99, 137 USPQ 804 (Ohio Ct. App. 1963).

<sup>31</sup> *Restatement of the Law of Torts*, American Law Institute, Volume 4, §757 b (1939).

an advantage over competitors who do not know or use it. It may be a formula for a chemical compound, a process of manufacturing, treating or preserving materials, a pattern for a machine or other device, or a list of customers.

A formula need not be "in tangible form," nor does a compilation of information. A device may often be reproduced from memory without carrying off anything tangible. For example, the formula of shaving cream could be remembered by an employee who changes jobs without taking the first employer's records.<sup>32</sup> Apparently, the "tangible form" requirement is included to overcome some of the Constitutional problems outlined below.

The best secret of all is that which is written nowhere, but exists only in the mind of the creator or his confidants. These secrets are *not* controlled by any of the current trade-secrets legislation being considered herein, and apparently they cannot be. What a man can carry off in his hands is often less dangerous to the owner of trade secrets than what he carries in his head. This leads to the anomalous situation under the proposed trade-secrets legislation in which the thief with a good memory can take secrets and go unpunished whereas the thief with the poor memory who takes notes and other paraphernalia becomes a criminal. Of course, to try to restrict the secrets retained in one's memory would seriously impinge upon the rights of the individual. The trade secret in reality is the *intangible* concept or know-how which need not be embodied in any tangible form.

### *The New York Act*

In 1964 New York passed the first criminal statute concerning trade secrets.<sup>33</sup> Penal Code Section 1296 previously contained three subdivisions defining certain kinds of property following the generalized statement:

A person is guilty of grand larceny in the second degree who, under circumstances not amounting to grand larceny in the first degree, in any manner specified in this article, steals or unlawfully obtains or appropriates . . . .

The new act amends a fourth subdivision defining a new area of "property" as follows:

4. Property of any value consisting of a sample, culture, micro-organism, specimen, record, recording, documents, drawings or any other article, material, device or substance which constitutes, represents, evidences, reflects, or records a secret scientific or technical process, invention or formula, or any phase or part thereof. A process, invention, or formula is "secret" when it is not, and is not intended to

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<sup>32</sup> *Carter Products v. Colgate-Palmolive Co.*, 130 F. Supp. 557 (D Md., 1955).

<sup>33</sup> *Supra*, note 5.

be, available to anyone other than the owner thereof or selected persons having access thereto for limited purposes with his consent, and when it accords or may accord the owner an advantage over competitors or other persons who do not have knowledge or the benefit thereof.

Note that there is no provision for *knowledge* on the part of the accused. Perhaps the words "steals or unlawfully appropriates" could be deemed to include the specific knowledge that the act is a crime. But the phrase "unlawfully obtains or appropriates property" does not suggest any knowledge requirement. For example, if the employee steals the trade secrets of a first employer and discloses them to a second employer, the second employer might be held to have unlawfully obtained the secret. If the second employer had no knowledge that the taking was unlawful but rather believed that the employee was the lawful owner of the secret, then the second employer could be convicted without knowing that its conduct was unlawful.

Potentially, it could be extremely dangerous for an employer to hire an experienced employee who discloses his knowledge, since the second employer could be found guilty of a misdemeanor even without knowledge that it obtained a disclosure unlawfully in hiring the employee. Simply hiring an employee is not a *purchase* of a trade secret, so the tort law concept of liability for conversion when one purchases from a converter should not be applicable. Ordinarily, one is not guilty of a crime unless he is aware of the existence of all those facts which make his conduct criminal.<sup>84</sup>

If the employee has the requisite *mens rea*, perhaps his knowledge may be imputed to the second employer, particularly if the theft of the trade secrets is for the benefit of the second employer. However, if the act of the employee is done with no intention to perform it as part of or incident to the new employment contract, the act would not be within the scope of employment and therefore the second employer would not be criminally liable.<sup>85</sup>

A serious constitutional issue would arise under the New York law when an employee simply took notes recording his own creations and discoveries during a project he has spent many years on. The employee and the second employer may well believe that the papers are the property of the employee and, consequently, his to use during the continuation of his project with a new employer. In such a fact situation it may be a violation of the due process clause of the 14th Amendment to enforce the New York statute. In *Lambert v. California*, 355 U.S.

<sup>84</sup> United States v. Krimmins, 123 F2d 271 (2nd Cir. 1941).

<sup>85</sup> Standard Oil Company of Texas v. United States 307 F2d 120 (5th Cir. 1962).

225, 2 L.Ed.2, 228, 78 S.Ct. 240 (1957), a conviction was found for violation of a registration ordinance making it a criminal offense for a person convicted of an offense punishable as a felony in California to be present in Los Angeles without registering with the police. Of the ordinance, the Supreme Court said:

No element of willfulness is by terms included in the ordinance nor read into it by the California court as a condition necessary for a conviction.

The ordinance was found to violate the due process requirement of the 14th Amendment. In *Lambert* a distinction was drawn between penalty for failure to act and wrongful act (i.e. nonfeasance as opposed to malfeasance). Nevertheless, an analogy might be drawn because the New York Act contains no element of willfulness. In many situations, it would be reasonable for the employee to have no inkling that his conduct is criminal in changing jobs and taking his personal notes. It is arguable that due process requires that one's conduct be willful or that it would reasonably occur to the accused that his conduct might be subject to criminal prohibition.

It is extremely difficult to determine what constitutes public domain material and what constitutes trade secrets. What one man regards as a trade secret, the next man of equal training and background may consider to be within the public domain.<sup>86</sup> To require the employee "guess on peril of indictment"<sup>87</sup> would abridge the rights of the employee under the 14th Amendment. In *International Harvester v. Kentucky*, conviction under a state antitrust statute was held to violate rights under the 14th Amendment because "to divine prophetically what the reaction of only partially determinate factors would be upon the imaginations and desires of purchasers, is to exact gifts that mankind does not possess." Under the New York statute, the determination of whether one has unlawfully obtained a secret would be nearly as difficult as "imaginations and desires of purchasers."

The New York statute narrowly defines "secrets" to include a process, invention or formula which is not available to anyone other than the owner or those having his consent. That is, absolute secrecy rather than relative secrecy is required. However, the law of trade secrets has long recognized that protection to a trade secret having relative secrecy will be accorded in a civil action.<sup>88</sup>

The New York statute also fails to provide for the embezzlement

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<sup>86</sup> See H. I. Forman, "Proprietary Rights in Research and Development Contracting—A Case Study," 17 *Fed. B.J.* 298 (1957).

<sup>87</sup> *International Harvester Co. v. Kentucky*, 234 U.S. 219 (1914).

<sup>88</sup> *Turner, Op. Cit.*, note 12, pp. 24-32.

fact situation wherein a person lawfully obtains or appropriates property through the course of his employment but thereafter divulges the trade secret to a new employer. Indeed, this kind of situation is probably most prevalent in the employment trade secret cases.

### *The Georgia Act*

In 1965, Georgia enacted a criminal statute<sup>39</sup> practically the same as that of New York. The Georgia Act contains a statement of the purpose and a somewhat different format than that followed in New York, but the definitions of the crime and of "secret" are the same. Of the three sections of the act, Section 1 defines the elements of the crime; Section 2 defines "secrets"; and Section 3 repeals laws in conflict with the act. Therefore, all comments made above with respect to the New York statute apply equally to the Georgia statute.

### *The New Jersey Act*

The New Jersey statute<sup>40</sup> is more comprehensive than the New York and Georgia laws in many areas. Specifically, it provides a requirement for intent to deprive or withhold control of a trade secret or intent to appropriate a trade secret.<sup>41</sup>

In addition, the New Jersey statute provides a statement of the purpose of the Act<sup>42</sup> and a number of definitions. The definition of "trade secrets" is noteworthy and reads as follows:

(3) The term "trade secret" means the whole or any portion or phase of any scientific or technical information, design, process, procedure, formula or improvement which is secret and of value; and a trade secret shall be presumed to be secret when the owner thereof takes measures to prevent it from becoming available to persons other than those selected by the owner to have access thereto for limited purposes.

The New Jersey definition of "trade secret" is extremely broad in that it includes "any scientific or technical information . . . which is

<sup>39</sup> *Supra*, note 6.

<sup>40</sup> *Supra*, note 7.

<sup>41</sup> Requirement for Intent.

8. Any person who, with intent to deprive or withhold from the owner thereof the control of a trade secret, or with an intent to appropriate a trade secret to his own use or to the use of another.

(a) steals or embezzles an article representing a trade secret, or,

(b) without authority makes or causes to be made a copy of an article representing a trade secret, is guilty of a misdemeanor, if the value of the article stolen, embezzled or copied, including the value of the trade secret represented thereby, is less than \$200, and of a high misdemeanor if such value is \$200 or more.

<sup>42</sup> Statement of Purpose of Act.

1. It is the purpose of this act to clarify and restate existing law with respect to crimes involving trade secrets and to make clear that articles representing trade secrets, including the trade secrets represented thereby, constitute goods, chattels, materials and property and can be the subject of criminal acts.

secret and of value." Presumably, one must read into this definition an exclusion of that scientific or technical information which is secret and of value and yet is within the public domain. That is, if it is presumed that the scientific or technical information is secret because the owner takes measures to prevent it from becoming available to persons other than those selected by the owner, as provided for in the statute, then the matters within the public domain might well be covered. Matters in obscure printed publications, in ancient expired patents, or in other locations not readily apparent to those working in the field without a literature search would be within the public domain even though they might still be "presumed" to be secret when the owner takes measures to limit its disclosure in the current business. Perhaps only relative secrecy<sup>43</sup> is contemplated in the statute, although this is not apparent from the language used.

The New Jersey definition of "trade secrets" makes no mention of the feature of a trade secret which gives the owner thereof an opportunity to obtain an advantage over competitors who do not know or use it, as in the trade secret definition of the Restatement of Torts. In contrast, note that the McDowell bill and the New York and Georgia Acts are in accord with the Restatement definition insofar as advantage over competitors is concerned.

An interesting section of the New Jersey statute is the provision for a "high misdemeanor." In the case where a person "by force or violence or by putting him in fear takes from the person of another any article representing a trade secret," the person is guilty of a "high misdemeanor" which carries a heavier punishment than the "low misdemeanor." A low misdemeanor results when the value of the article stolen, embezzled or copied is less than \$200. A high misdemeanor is also committed where the value of the article stolen, embezzled or copied is of a value greater than \$200.

The split provision for high misdemeanors and low misdemeanors reflects the traditional difference between larceny and robbery and is in keeping with other New Jersey criminal provisions which provide for higher penalties where property is taken from the person of another by force or violence or by putting him in fear. This would indicate that the New Jersey legislature regards trade secrets as property and intended to protect this kind of property in the same fashion as other kinds of property. Since trade secrets are not necessarily property and are in other respects different from personalty and realty as conventionally regarded, it appears archaic to maintain the dichotomy be-

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<sup>43</sup> See text, Turner, *Op. Cit.*, note 12, pp. 24-32.

tween high and low misdemeanors in the provisions on trade secrets. The complex organizational structures which foster industrial espionage and theft of trade secrets<sup>44</sup> are completely different from the person-to-person situation where robbery occurs. Accordingly, it is unrealistic to believe that the trade secret high misdemeanor akin to robbery would be committed with any frequency.

#### *The Nebraska Bill*

The bill introduced into the Nebraska legislature<sup>45</sup> is similar to the New Jersey statute. There is no statement of purpose in the Nebraska bill, unlike the New Jersey statute, but the definitions section and the section defining the elements of the crime are nearly identical. The Nebraska bill makes the crime a felony and outlines different punishment from the New Jersey bill which makes the crime either a high or low misdemeanor. Significantly, in Nebraska the *minimum* penalty is stated to be "a fine of not less than \$1,000" upon conviction or imprisonment "for not less than one year." Such stiff minimum penalties may be likely to limit enforcement of the statute to aggravated cases.

#### *The Wisconsin Bill*

The Wisconsin bill<sup>46</sup> is nearly identical in its important features with the Nebraska bill, although a different arrangement is used. Accordingly, the comments stated in the paragraph above are here applicable.

The most significant feature of the Wisconsin bill, in contrast to the Nebraska bill, is the substitution of the word "property" in the Wisconsin bill for the word "article" in the Nebraska version. Consequently, the Wisconsin bill is more closely tied to property law concepts and is in that sense similar to the New York and Georgia statutes.

An interesting amendment was offered on October 27, 1965 (after the Wisconsin bill had been introduced in the Senate) stating: "5. This section does not prevent any one from using skills and knowledge of a general nature gained while employed by the owner of a trade secret." Perhaps the amendment reflects their understanding of the potential hindrance to job mobility posed by the remainder of the bill.

#### *The Minnesota Bill*

The Minnesota bill<sup>47</sup> follows the same general approach as the

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<sup>44</sup> See Wade, *Op. cit.*, note 20.

<sup>45</sup> *Supra*, note 8.

<sup>46</sup> *Supra*, note 9.

<sup>47</sup> *Supra*, note 9-a.

New York statute. That is, the bill provides for an amendment to the section relating to Theft in the criminal code.

In the definitions section, it is stated that "'Property,' except where otherwise specifically provided, means all forms of tangible property . . ." so that the question of statutory construction posed in the McDowell bill is avoided by the word "tangible."

A new section is added in the Minnesota bill which incorporates the wording of New York amendment in its entirety after the words: "Intentionally and without claim of right takes, uses, transfers, conceals, or retains possession of . . .". It is this preface which provides the element of criminal intent which appears to be lacking in the New York and Georgia versions. Otherwise, the comments above with respect to the New York statute are applicable here.

### *The Pennsylvania Bill*

The Pennsylvania bill<sup>48</sup> is generally similar to the Nebraska bill and the New Jersey statute, but there are important differences. Thus, in the definitions section of the act, the words "article," "representing," and "copy" are generally the same in both the Pennsylvania and New Jersey versions. However, the definition of trade secret in New Jersey sets forth the requirements of 1. secret and 2. of value. In Pennsylvania, on the other hand, the trade secret must have been "specifically identified by the owner as of a confidential character," and must not have been "published or otherwise become a matter of general public knowledge." Like New Jersey, the Pennsylvania bill provides for a presumption that the subject matter is secret "when the owner thereof takes measures to prevent it from becoming available to persons other than those selected by" the owner. But unlike New Jersey, the Pennsylvania bill expressly makes the presumption "rebuttable." The Pennsylvania bill also provides for a specific intent requirement.

As introduced into the Pennsylvania legislature, the original wording provided that the taking of trade secrets in violation thereof would be a felony. On the second reading of the bill the crime was changed to a misdemeanor and the punishment therefore was reduced to a maximum of \$2,500 or imprisonment for two-and-one-half years.

In addition, the Pennsylvania bill sets forth a greater maximum punishment of \$5,000 and five years when one

. . . by force or violence or by putting him in fear takes from the person of another any article representing a trade secret; or willfully and maliciously enters any building or other structure with intent to ob-

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<sup>48</sup> *Supra*, note 10.



tain unlawful possession of, or access to, an article representing a trade secret.

The analogy to robbery and to burglary is obvious and apparently was intended to make the provisions for the theft of trade secrets consistent with the other sections of the criminal law in Pennsylvania concerning robbery and burglary of personal property. By implication, it could be asserted that the Pennsylvania legislature characterizes trade secrets as a form of personal property. The burglary analogy might be useful in industrial espionage cases; but, as noted above, the robbery analogy appears archaic.

### *The Illinois Bill*

The Illinois bill<sup>49</sup> is different from any of those previously considered, though it is similar to the New York and Georgia Acts in enumerating the subject matter taken. The bill simply amends the criminal code definition of property to include trade secrets. The amended section states: "as used in this part C, 'property' means anything of value. Property includes . . ." and here follows a catalog of various property interests presently existing in the statute. Added to the list of property items by the Illinois bill are the following:

Samples, cultures, micro-organisms, specimens, records, recordings, documents, blue prints, drawings, maps, and whole or partial copies, descriptions, photographs, prototypes or models thereof, or any other articles, materials, devices, substances and whole or partial copies, descriptions, photographs, prototypes or models thereof which constitute, represent, evidence, reflect or record a secret scientific, technical, merchandising, production or management information, design, process, procedure, formula, invention, or improvement, wherein the aforementioned property is defined to be secret when it is not, and is not intended to be available to anyone other than the owner thereof or selected persons having access thereto for limited purposes with his consent, and when it accords or may accord the owner an advantage over competitors or other persons who do not have knowledge or the benefit thereof.

It will be noted that the definition carries forward the concept of "an advantage over competitors" set forth in the Restatement of Torts definition. Again, as in all of the previously considered bills, the Illinois bill is concerned only with tangible articles. Accordingly, there is no control over the real secret which is the intangible idea or concept conveyed only in certain instances by tangible commodities.

### FEDERAL PREEMPTION

Each one of the statutes and bills discussed above contains a specific mention of a prohibition against copying. The New York and Georgia

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<sup>49</sup> *Supra*, note 11.

statutes and the Illinois bill also make it a crime to take property constituting an "invention." This raises the interesting question of Federal preemption.

The Constitution provides<sup>50</sup> that Congress shall have power "to promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries." Is there a conflict between the state bills and the patent and copyright clause of the Constitution? No cases have been found which hold that the Federal Constitution preempts the field for Congressional action and forbids states to enact legislation on trade secrets in conflict with Federal legislation. In fact, it is apparently assumed that common law protection of trade secrets is not specifically covered by the Constitution. As stated recently in *Space Aero Products Co. v. R. E. Darling Co.*, 145 USPQ 356 (Md. Ct. App. 1965),

... in order to promote the progress of science in the useful arts, the law provides certain protection to an originator. Among these protections are the patent and copyright statutes and the law of torts prohibiting unfair competition. The law protecting trade secrets is another protection.

The grouping together of patents, copyrights, unfair conditions and trade secrets in the general discussion of the *Space Aero* case suggests a consideration of the impact of the recent pronouncements of the Supreme Court in *Sears Roebuck & Co. v. Stiffel Co.*, 376 U.S. 225, 11 L.Ed 2nd 661 (1964) on the law of trade secrets.

In the *Sears* case, the Supreme Court held that the Federal patent statutes reflect a Congressional determination that "the progress of science and useful arts" is best served by limiting the right to exclude others from new developments to "genuine invention," and then for a period no longer than 14 or 17 years, and that the states may not "under some other law, such as that forbidding unfair competition, give protection of a kind that clashes with the objectives of the Federal patent laws." (376 U.S. at 231.) In referring to the patent law in the opinion, reference was also made to the copyright law.<sup>51</sup> The court held that "a state may not, when the article is unpatented and uncopyrighted, prohibit the copying of the article itself or award damages for such copying" under the guise of unfair competition law. Thus, three of the "protections" outlined in the *Space Aero* case, to wit: patents, copyrights and unfair competition, were dealt with in the

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<sup>50</sup> Article I, Sec. 8, Cl. 8.

<sup>51</sup> E.g., Footnote 7 of the *Sears* opinion refers to "National uniformity in patent and copyright laws."

*Sears* case in the Supreme Court. The protections in the patent clause of the Constitution were held to be superior in *Sears*.

To the extent that the law of trade secrets conflicts with the patent and copyright laws, it is logical to assume the Federal law is supreme and state trade secret law must give way. Such was the finding in *Winston Research Corp. v. Minnesota Mining and Mfg. Co.*, 146 USPQ 422 (9th Cir. 1965). The Court said:

The patent laws, it is argued, do not afford adequate protection because excessive time is required to process a patent application, and because a high standard of invention must be met to obtain a patent or at least to sustain a patent once issued. However, we are satisfied that the rationale of *Sears, Roebuck & Co. v. Stiffel Co.*, 376 U.S. 225, *supra*, precludes judicial recognition of a legally protectable interest in the secrecy of industrial information as such, as distinguished from an interest in the integrity of confidential employer-employee relationships.

Accordingly, the *Winston* case points out that insofar as trade secret law creates a legally protectable interest apart from confidential relationships, it must not conflict with the patent or copyright laws. In so doing, *Winston* raises the specter of unconstitutionality over the three statutes and five bills of the state legislatures considered herein. Particularly in New York, Georgia and Illinois where the statutes specifically recite "invention," it would appear that there might be conflict with the Federal Constitution. None of the bills make any mention of a contractual agreement between the accused and the owner of the trade secret. Of course, such a contractual provision would have no place in a criminal statute based on the property rights in trade secrets.

In *Van Products Co. v. General Welding and Fabricating Co.*, 147 USPQ 221 (Pa. Sup. Ct., October 13, 1965), Justice Cohen in dissent would have found Federal preemption on the basis of *Sears* on the trade secret issue. The majority, however, reached the same result by finding no trade secrets, rather than Federal preemption.

The fourth circuit refused to apply the *Sears* rationale to a trade secrets case in *Servo Corp. of America v. General Electric Co.*, 337 F.2d 716, 143 USPQ 85 (4th Cir. 1964). The Court said of *Sears*:

The Court went on to hold that an unpatented article being in the public domain may be freely copied as the Federal patent law had preempted the field from state action. This case, however, is one of unjust enrichment through breach of a confidential relationship and the remedy is derived from the Court's power to award general equitable relief.

In other words, *Servo* turned on contract and equity principles rather than on property principles. Since the trade secrets legislation is gen-

erally based upon property concepts rather than contract principles, *Servo* provides little support for avoiding the preemption problem.

The *Servo* case was relied upon for a similar result by the Illinois Supreme Court in *Schulenburg v. Signatrol, Inc.* 147 USPQ 167 (Ill. Sup. Ct., September 28, 1965). As in *Servo*, the court in *Schulenburg* found a confidential relationship and based the holding, at least impliedly, on contract law rather than property law. While *Sears* is not uniformly extended to trade secrets cases, the Supreme Court could well be expected to apply the same reasoning in considering a conviction under the state criminal statutes which fail to consider contractual or confidential relations.

When the purpose of the patent clause of the Constitution is considered, the trade secret legislation appears to clash with the Constitutional objectives. Progress is achieved under the Constitutionally authorized patent laws by making a full disclosure of the invention (for a patent) or a publication (for a copyright) so that the subject matter of the grant is immediately before the public. Although precisely the same invention of the patent may not be practiced for a limited time, progress comes about by building on the disclosure of the patent to make improvements.<sup>52</sup> In the case of copyright, precisely the same form of expression may not be used during the limited period of the copyright, but the benefit of the *disclosure* is given to the public.

In contrast, the law of trade secrets gives a *perpetual* monopoly to the owner of the secret unless public disclosure comes about through other means. The perpetual duration conflicts with the Constitutional expression of "limited time" in the patent and copyright clause.<sup>53</sup>

Moreover, the very nature of trade secrets prevents the free and open communication of ideas, and consequently of progress, that is brought about by the patent and copyright laws. Enforcement of the trade secrets legislation may stifle growth of scientific developments because there will be no opportunity to observe and then "design around" or build upon the contributions of others. In fundamental purpose, then, the patent clause of the Constitution appears to be in conflict with the likely results which will flow from the enactment of trade secret legislation.

All of the bills refer to making copies of articles embodying trade secrets, but this does not necessarily conflict with the Federal copy-

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<sup>52</sup> Rich, "Principles of Patentability," 28 *Geo. Wash. L. Rev.*, 393,400 (1960).

<sup>53</sup> *Fashion Originators Guild, F.T.C.* 114 F.2d 80 (2nd Cir. 1940) aff'd 213 U.S. 457, 85 L.Ed 949 (1941).

right laws. The common-law right of first publication has been long recognized.<sup>54</sup> If the copying of articles containing trade secrets which is made a crime by the bills under consideration protects only the common law right of first publication, then perhaps conflict with the Constitution does not exist. However, if the work copied is only "relatively" secret<sup>54a</sup> and not protected by a statutory copyright issued by the Federal Government, then the rationale of *Sears v. Stiffel* would appear to apply and the state criminal statutes on trade secrets would appear to be unconstitutional.

It is interesting to note that the new copyright revision bills now pending in the Federal Congress<sup>55</sup> propose to abolish the "common-law copyright" or right of first publication. If this proposal is enacted, it would apparently raise further doubts about the constitutionality of the state criminal statutes insofar as they relate to copying.

#### OTHER CONSTITUTIONAL ISSUES

In addition to the Constitutional clause on patents and copyrights and the 14th Amendment protection regarding mens rea, First Amendment rights of the individual should also be considered with respect to the trade secret legislation. Scientific society conventions and technical publications are an integral part of scientific and technical life. If the state criminal statutes are enforced so that they have the result of limiting the speeches and publications at technical and scientific organizations, then progress of "science and the useful arts" will be inhibited. Of equal importance, the individual employee's rights under the First Amendment might be infringed by abridging freedom of speech, freedom of the press, and freedom of association.<sup>56</sup>

In *Gitlow v. New York*, 268 U.S. 652 (1925) freedom of speech and of the press were held to be "among the fundamental personal rights and 'liberties' protected by the due process clause of the 14th Amendment from impairment by the States." The state trade secret legislation would therefore be unconstitutional if it abridges First Amendment rights in prohibiting the employee from communicating his knowledge and experience with other persons. In *Parker v. Columbia Broadcasting System, Inc.*, 320 F.2d. 937 (2nd Cir. 1963) it was

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<sup>54</sup> *Wheaton v. Peters*, 33 U.S. (8 Peters) 591, (1834).

<sup>54a</sup> *Supra*, note 43.

<sup>55</sup> H.R. 11947, S.3008, 89th Congress, 1st Session.

<sup>56</sup> First Amendment to the Constitution provides:

Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, or of the press; or the right of the people peaceably to assemble, and to petition the Government for a redress of grievances.

held that a court could enjoin "publishing, disseminating, publicizing or otherwise promulgating to any person or entity all or any portion" of a document without violating the First Amendment. But where the order enjoined appellant from communicating with any person with regard to any "matters contained" in the memorandum the order was repugnant to the First Amendment.

Similarly, in *Canon v. Justice Court for Lake Valley Jud. Dist.* 36 Cal. Rptr. 311, 316 (Dist. Ct. of App. 1964) the court said, "A regulation of conduct which incidentally affects the communication of ideas must serve a substantial public interest and be narrowly drawn to keep interference with communications to a minimum."

Inasmuch as the First Amendment rights to speech and press are expanding under recent Supreme Court decisions, the state trade secret legislation may be found to clash.

Another First Amendment right is the "freedom of association" which is derived from the right of the people to assemble peaceably. If the effect of the enforcement of the trade secrets legislation is to prevent job mobility of individuals and to prevent individual scientists or technicians from associating with organizations of their own choosing, an argument might be made that the freedom of association is abridged. The same argument would apply to the state acts since, as stated in *Aptheker v. Sec. of State*, 84 S. Ct. 1659 (1964) "freedom of association is included in the bundle of First Amendment rights made applicable to the states by due process clause of the 14th Amendment." Consequently, state action in enforcing trade secret legislation may violate the right to due process of law in that an employee is not free to form new associations with other organizations in his chosen field of endeavor. In *Hansen v. Union Pac. R. Co.*, 71 NW 2d 526 160 Neb. 669 (1955) the court said:

The freedom of association, the freedom to join or not to join in association with others for whatever purposes such association is lawfully organized, is a freedom guaranteed by this amendment.

A final Constitutional point which might be raised in litigation under the state criminal statutes being discussed herein is the 13th Amendment. Section 1 of the 13th Amendment provides that "involuntary servitude . . . shall (not) exist within the United States, or any place subject to their jurisdiction." It is at least arguable that the effect of the criminal statutes is to prevent an employee having valuable trade secrets from changing employers. If an employee has spent his life working on a very narrow, specialized project for an employer and has gained valuable trade secrets in the course of the project, the

prospect of heavy fines or imprisonment could well lead him to fear changing jobs. In other words, the employee would not be free to select his employer. But in *St. Clair v. Minnesota Harbor Service, Inc.*, 211 F. Sup. 521, 524 (D. Minn. 1962) it was stated: "the right to select one's employer is implicit in the freedom from involuntary servitude."

#### RECOMMENDATIONS AND CONCLUSION

It is recommended that emphasis on trade secrets be placed on *contract* principles rather than on *property* principles.

1. As to criminal legislation, the bills should stress the element of confidential relationship, as in embezzlement.

2. As to other legislation, the law of trade secrets should be considered when unfair competition legislation is drafted.

3. Employment contracts should be more explicit in defining the rights of the parties in trade secrets. This includes careful definition of the subject matter of the secrets as well as the terms of the agreement.

4. Careful definition of the trade secrets is useful even where trade secrets are considered property. Just as a patent claim should define the metes and bounds of the invention, so too a definition of the trade secret helps in conceptually dealing with it. For this reason, it may be desirable to define the secret for record purposes in the manner of a patent disclosure so that all having knowledge of it will be aware of its confidential nature.

While industrial crimes have allegedly been on the increase and a need has arisen for criminal sanctions to protect trade secrets, the legislation pending and enacted may not be effective in achieving the desired results. The essence of the intangible trade secrets is beyond the scope of the legislation. Moreover, serious Constitutional issues may arise in enforcement of the trade secret legislation.





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## FORUM

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Although the primary purpose of *IDEA* is to communicate the research work of the Institute, it also serves as an educational vehicle for the exchange of informed opinion. This section is intended to serve such educational activity. The positions taken by the authors of papers and notes in this section are not necessarily those of the Institute. It is hoped that the material published in this section will stimulate researchers to undertake further study of the issues.

### Road Repairs for the Patent System?\*

HARRY R. MAYERS\*\*

#### SUMMARY

**T**HERE IS REASON TO BELIEVE that the traditional objectives of our system for examining applications for patent are no longer fully attainable. This suggests the necessity for redefining objectives and for a redesign of patenting procedures consistent with the redefinition.

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**I**T IS PLEASANT TO SPEAK AGAIN in company in which my pine-tree pronunciation of "law" and "draw" will not automatically mark me as alien. Also I feel at home where I know that many of my fellow guests will join me in sympathizing with that lady from the Maine coast near my birthplace who, on her first visit to San Francisco, remarked that it was a sightly spot, but it was too bad it was 3,000 miles from the ocean.

Even my subject, which is the American patent system, has an aspect which is shared by the City of Boston. Every summer as I drive along Route 128, that busy highway which skirts this metropolis and takes the traveler past miracle-mile after miracle-mile of impressive industry, I see a new strip of pavement being added. But I always

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\* Presented at a Regional Conference of The Patent, Trademark, and Copyright Research Institute in Boston, Massachusetts, on November 17, 1965.

\*\* The author is a member of the Advisory Council of The PTC Research Institute and General Patent Counsel for General Electric Company, New York, New York.

find Route 128's traffic congestion greater than it was the year before. The United States patent system presents a rather similar phenomenon—and for generally similar reasons, as I shall indicate in a moment.

But before I discuss the arterial problems of the patent system, I want to make clear where I stand in reference to that institution.

A year ago tomorrow the president of my company responded to a questionnaire of Senator John McClellan, Chairman of the United States Senate's Patent, Trademark, and Copyright Subcommittee by writing as follows:

We believe that a good patent system will continue to be needed by any nation expecting to interest brains and capital in new technical business of a venture nature.

The same letter further said:

We believe that the objectives of the patent system should be to create an environment in which the benefits of new technical work—particularly that of a venturesome or speculative nature—can be retained by the person or organization for a time sufficient that he can reasonably venture the additional capital and time needed to establish a business opportunity.

This language serves admirably as my personal platform of belief. A technologically dynamic society needs a patent system. It needs a good patent system. The maintenance of a good patent system in the United States is my subject tonight.

In this country, a patent gives the right to exclude others for 17 years from making, using, or selling the invention which the patent covers. Our system, originally created in 1790, provided for examination of applications for patents, this function being assigned to the Secretaries of State and War and the Attorney General. It soon became apparent that these officials had insufficient time to devote to patents. Accordingly, in 1793 the law was amended to eliminate examination for novelty and usefulness. Hence a patent as issued subsequent to 1793 carried no guarantee that what it disclosed was actually new and an invention. This did not suit the national need, and in 1836 a new law was passed providing that all applications for patent should be examined for the novelty of their subject matter. A Patent Office was established to do the examining. The examination system and the Patent Office have served us well without substantial change for nearly 130 years. Why should we be talking about possible changes now?

Can Route 128, without change, or with changes limited merely to adding more strips of concrete, be made to serve its original purpose under the impact of ever-increasing numbers of cars and ever-larger trucks, traveling at ever-higher speeds? This problem has

much in common with the problems of our patent system, and I will try to develop these similarities.

#### SOME REASONS FOR RE-EXAMINING OUR PATENT SYSTEM

In recent years the average time required to obtain the grant of a patent from the United States Patent Office has been between three and three-and-one-half years from the date of first application. About two years ago, alarmed by signs of increase in its backlog of applications waiting to be searched for novelty, the Patent Office administration predicted that by 1970 this delay in granting patents would increase to seven years, and by 1975 to 10 years. A distinguished industry advisory group counseled that in the present state of the computer art the Office could not hope in the immediate future to dissolve this threat by application of mechanized searching procedures.

Since these dire predictions were made, the Office, by excellent management of its affairs and by resourceful modification of its procedures has actually reduced its backlog and made the total collapse of the examination system seem less imminent. However, its emergency measures have included a direction to the Examiners to concentrate on applications already partially searched and examined and to give no attention to newly filed cases. Consequently, its examination corps will in the immediate future have to take up a backlog of over 140,000 untouched cases, some of which have been awaiting action for over two years, and I am afraid that at this point its new-found gains may vanish and the old spectre of escalating backlog may reappear.

But whether or not this happens in 1966, there are factors in the environment which—in the absence of significant changes in approach—seem to me to make its eventual occurrence inevitable. I shall mention some of these factors.

Many ways have been used to express the fact of the postwar technological explosion which has swept the United States. These range from the statement, at least approximately true, that 85 percent of all the scientists who ever lived are alive today, to the logically impossible but mathematically indicated projection that if the current rate of increase in our national expenditures for research and development continues, then by the year 2000, our total R&D expense will exceed the projected gross national product for that year. Perhaps the matter was put adequately by a high-level scientist who recently inspected advanced research activities at a number of our different company laboratories. At the end of the last day's inspection, he said

simply, that he found the current rate of technical progress "frightening." And so it is.

But for present purposes, the kind of evidence which best epitomizes the upsurge in the technological complexity of our times is represented by two documents which I hold before you now. In my left hand is a copy of the patent granted 30 years ago (in 1936) on Alnico magnets, those vital gadgets which are used by all of us for such purposes as removably anchoring loose objects to the dash of the car or to a steel-backed blackboard, but which are also employed in thousands of applications throughout the radio and other industries. This patent, which was worth well over one million dollars to its owner and much more to the national economy, has its entire description written on one side of this single sheet of paper in enough detail to enable any qualified metallurgist to make and use the patented invention. In my other hand, I have a copy of a patent very recently granted to my company in the field of computers. As you will see, it is over two inches thick, and I would not advise anyone to try to read it analytically unless he had several days to devote to the process. Moreover, this patent is by no means a record-breaker. I am told that the record belongs to another company which has received a computer patent weighing five pounds.

I do not mean to say that either of these patents is wholly representative of its era. I do suggest, however, the difference between them is symptomatic of the tendencies of our technology and well illustrates why the examination burdens of the Patent Office of today are far greater than the burdens of 30 years ago and are destined to become even greater as the output of technical literature doubles and doubles again. I draw from this evidence, and the similar evidences that will be known to all of you, the conclusion that patent procedures which served us two "undoublings" ago can hardly be expected to serve us one or two "doublings" hence.

#### THE EXAMINATION PROCEDURE AND ITS DIFFICULTIES

I am not here tonight to suggest that I have analyzed all the problems of our patent system or that I have a clear vision of indicated solutions. I shall, rather, try to use the remainder of my time to suggest a viewpoint which I hope will be useful as further work is done on the system by those who are called upon to contribute. I ask you to focus with me upon the part of the system which involves examining applications for patents to determine whether the ideas presented in them are new enough to justify the patent reward.

If we are to design or redesign a patent examination system for the

last quarter of the 20th century, should we not start by asking what we expect that system to do for us, and whether what we expect it to do can realistically be accomplished within the limits of the personnel and facilities likely to be available?

We have in the past implicitly assumed that our Patent Office, in examining patent applications, would consider all the art in the world helpful to establish whether the alleged invention presented is in fact new and unobvious. Belief in the substantial attainability of this objective has been an unexpressed premise of our patent system, and perhaps at times and in certain areas of technology, it has been attainable. But is it really an attainable objective with respect to all fields of technology today, or if it is not attainable in all fields, is it reasonably attainable in any fields, and if so, what are these fields and what difference does it make?

Of course, the ideal of complete searchability has never been attainable—but this observation in itself settles no questions because none of our institutions are perfect, or are thought to be. The more crucial questions are “How far are we from the ideal goal? What are the trends? and What are their implications?”

In reference to these questions, we must note that in respect to about two-thirds of the patents which have been taken into court and tested as to their validity in the last 10 years, the courts concluded that the Patent Office was in error in allowing the patent to issue in the first place. Such improperly issued patents were, of course, of no value to their owners. The commonest single basis for these unfavorable court holdings respecting patents has been that the Patent Office failed to find prior literature or to know of industrial practices which, when found, proved the alleged invention to be no invention at all. But in today's environment, as to large classes of technology, is this not a generally predictable result?

The world's technical literature, to say nothing of the unpublished technology which is nevertheless in day-to-day use by industry, is so voluminous that no library available today to the Patent Office Examining Corps could hold it all. In 1750 there were only about 10 scientific journals in the whole world. Today, according to *Time Magazine*, the biomedical sciences alone have 7,000, and the world's chemists publish 6,700 articles every fortnight. We start, then, with an inevitable inadequacy in the ability of any Patent Office to know what it should know at a given time about what has gone before in a particular science. We should recognize, however, that this inadequacy is not uniformly distributed. For example, there may be specific

technologies which have had their genesis and principal growth in the United States and which have developed in such a way that the practical art has been systematically patented, piece by piece, so that the Office's collection of patents contains, to a fair approximation, everything relevant to an alleged new invention in that art. An example which occurs to me among the technologies of my own company is the field of silicones, those interesting water-repellent substances which include among their species that stuff known as "bouncing putty." The silicone business had its birth as a separately identifiable technology in the early post-war years and has to this date developed only 3,300 United States patents (plus some still pending applications). These may be assumed to contain nearly all that is known of silicone chemistry, and all of them are available in well-classified files in the Patent Office. We may say, then, that a careful search made by a Patent Office Examiner in respect to a new silicone invention has a 90 percent likelihood of success in terms of discovering all relevant prior art.

If this were the norm, it would probably be good enough for all practical purposes. Or, to put the matter another way, this standard may be assumed satisfactory for all technologies to which it applies. But take by way of contrast an invention relating to a so-called "printed circuit-board" on which simple electrical elements, such as resistors and condensers, are combined into an arrangement mechanically suitable for putting into a radio or television set. I have in mind a particular invention which has recently been through the courts. In the course of the trial, the defendant produced prior patents of British, French, German, and Russian origin and called upon literature from fields as diverse as printing, the measurement of moisture in lumber, and the formation of decorative objects to show that plaintiff's patent ought never to have been allowed by the Patent Office—a conclusion with which the court eventually agreed. Having seen the results of the trial, one would say that the Patent Office Examiner responsible for searching this invention had less than a 50-50 chance of having in the search files available to him all the prior technical publications which the court finally considered as relevant—or of finding all such relevant publications even if they had existed in the Examiner's archives.

Now, to what conclusions does this labored analysis bring me?

#### A FIRST STEP TOWARDS A SOLUTION

I suggest, first, that in considering what to do about our system of examining applications for patents, we should carefully redefine the

objective of the system. We can never hope for perfect examination. Therefore, let us say that our objective is, for example, to provide a 70 or 80 percent likelihood that the prior art discovered by the Patent Office searchers will be the best that exists in the world, so that the patent, if allowed, will have a 70 or 80 percent chance of being found good when it reaches the courts. We can undoubtedly identify areas of technology in which this standard can be met. (I have mentioned the silicone technology as an example.) For such areas, perhaps we need do no more than polish our present procedures.

Second, I suggest that we recognize that there will be some circumstances—some technologies—in which it will be sheer illusion to imagine that, with available library resources and with available personnel and facilities, anything like our desired 70 to 80 percent of search reliability can be attained, at least in the immediate future. Let us identify the parts of our national scientific domain to which this somewhat unpalatable truth pertains, whether those parts be few or many.

Finally, having specified the areas in which our initially stated objectives are impossible to achieve, let us define a lower, more reasonable objective for these areas. That objective must be whatever the logic of the situation demands. It might be, for example, to determine only that no invention substantially identical to that proposed to be patented has been patented by another in the United States within the past 25 years. But having established this or some other more limited objective, it follows, of course, that every patent examined and granted under this limitation must show clearly on its face the weakened sort of guarantee that it carries. In other words, both its owner and the public must understand that re-examination of the patent in a court may destroy it entirely and that this possibility must be fully evaluated before a law suit is undertaken.

Please understand that the specifics of what I have just said are by way of example only. We could accept any other statement of objectives—provided it is realistic. What my plea really comes to is that we be willing to approach the problems of our patent system open-mindedly and with the understanding that multiple, rather than single-purpose, solutions may be needed. Let us not hesitate to seek the right answers by multifold experimentation, rather than by insisting upon one solution to be applied rigidly to all the circumstances of our enormously complicated technological society.

The modification of established institutions is always painful. Yet it may be the price of national survival and prosperity. Many in this city, the financial center of New England, will have well in mind the

fact that in 1913, after 50 years of existence, the National Bank Act of 1863 was superseded by the Federal Reserve System with its entirely new scheme of Federal banks. The commonly stated reason for the change was the need for more flexible mechanisms for expanding and contracting the supply of currency in response to the changing demands of the business community. We now hear talk of alternatives to gold as a prime basis for the maintenance of international exchange. Thus, one of our most pervasive institutions, our monetary system, seems a continuing candidate for corrective change.

Other national institutions than the international monetary system and the patent system are suffering the stresses and strains of our proliferating society. In an address given in May of this year, Chief Justice Warren of the United States Supreme Court spoke with alarm of the mounting workload of the Federal courts. He said:

The time has now come when we must probe more deeply than we have in the past and with a much higher degree of inventiveness into the diagnosis of the problems of judicial administration to assure that our system is responsive to the demands of the age in which we live. We must utilize the aids, devices, and techniques which this generation has developed, as do the other professions so that we can assure to our people the prompt and effective administration of justice to which we are entitled. . . .

The need for action is immediate and urgent.

And in respect to our patent system the need for action is immediate and urgent. Seeking the direction for such action, I glance once again at that famous highway, Route 128.

In attacking the transportation problems of metropolitan Boston, is it not essential to observe that in the late 20th century, traffic can move not only on strips of concrete, but also on ribbons of steel, under the ground, and high in the air?

In seeking to modernize our patent practices, let us recognize that in an era which will send men to the Moon and to Mars, we must not limit ourselves to considering the pathways of the past. Courage to try new pathways is the spirit of our times. The redesigners of our patent system will need such courage.



## Section 103 Revisited

L. JAMES HARRIS\*

SEVERAL RECENT SUPREME COURT DECISIONS by Justice Clark<sup>1</sup> motivated my dusting off some old files concerned with the drafting of Section 103 of the Patent Act of 1952.<sup>2</sup> They prompted me to do so because they are the first opinions of the Supreme Court to interpret Section 103 and they rely so heavily on the wording of the Statute, the Report, and Reviser's Notes. A rereading of my notes has also decided me to reexamine Section 103,<sup>3</sup> particularly the first sentence of the provision.

After two full years of operation under the 1952 Act, I examined in 1955 "several of the significant provisions to determine the underlying intent and whether its interpreters have caught the spirit in which it was drafted."<sup>4</sup> At that time I wrote that "the Supreme Court contests are yet to be fought" and that "while a number of the lower Courts have taken positions which appear to be contrary to the intent of Congress and while some persons feel that this portends controversy and misunderstanding, it is believed that such an attitude is unwarranted. Precise understanding of the Congressional intent has not existed in every case and probably never will, but there are promising prospects of a better understanding by the judiciary and of their continuing enlightenment."<sup>5</sup> Now that the Supreme Court contests

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<sup>1</sup> *Graham v. John Deere Co., Calmar Inc. v. Cook Chemical Co., Colgate-Palmolive Co. v. Cook Chemical Co., United States v. Adams*, 34 *U.S.L. Week* 4119 (February 21, 1966).

<sup>2</sup> Public Law 593, 82nd Cong., 2nd Sess., Chap. 950, 66 Stat. 792, approved July 19, 1952.

<sup>3</sup> § 103 Conditions for patentability; non-obvious subject matter:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in Section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made. *Loc. cit.*, note 2.

<sup>4</sup> *The George Washington Law Review*, Vol. 23, No. 6 (June 1955), p. 658.

<sup>5</sup> *Ibid.*, pp. 661-622; Gay Chin writing in the Institute's Journal in 1959 stated: . . . We have seen how six circuits say that the standard of patentability was unchanged by the enactment of Section 103 and how at present five circuits assert that the standard of patentability has become less stringent under the

are beginning to be fought, I am making these comments for the record as a privileged witness<sup>6</sup> of the very special events.

### HOW IT CAME TO BE

The history of the subject matter incorporated in the first sentence of Section 103 goes back to *Hotchkiss v. Greenwood*.<sup>7</sup> Some even trace it to the Constitution.<sup>8</sup> Article 1, Section 8, Clause 8,<sup>9</sup> does refer to "inventors" and "discoveries," but there is much evidence to indicate that the concept of invention including something in addition to novelty was originally contributed by the judiciary.<sup>10</sup> Most authorities credit *Hotchkiss*.<sup>11</sup>

The *Hotchkiss* opinion held that a doorknob was not patentable "unless more ingenuity and skill in applying the old method of fastening the shank and knob were required in the application of it to the clay or porcelain knob than were possessed by an ordinary mechanic

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new act. It is of noteworthy significance that the 4th, 6th, and D. C. Circuits have only recently swung over to the minority after earlier decisions holding that Section 103 did not change the standard of invention, so that a definite trend seems to be taking place. *PTC J. Res. & Ed. (IDEA)* Vol. 3, No. 3 (Fall 1959), p. 323.

A majority of the circuits had not moderated their interpretation of Section 103 at the time of the decision of Judge Hand in *Lyon v. Bausch and Lomb Optical Co.*, 224 F.2d 530 (1955). His opinion played no small part in the trend that developed to temper the strict construction of "unobviousness." In *Reiner v. I. Leon Co.*, 285 F.2d 501 (1960), with his usual perception Judge Hand made the following statement: "We still cannot escape the conclusion—as we could not when *Lyon v. Bausch and Lomb Optical Co.*, *supra*, was decided in 1955—that Congress deliberately meant to restore the old definition, and to raise it from a judicial gloss to a statutory command." Richard J. Dearborn and R. Bradley Boal prophetically wrote in 1964 that "... it seems probable that the courts in the future generally will favor *Lyon v. Bausch and Lomb*—at least until the Supreme Court has occasion to interpret Section 103." *Encyclopedia of Patent Practice and Invention Management*, ed., Robert Calvert (New York: Reinhold).

<sup>6</sup> The author was formerly Committee Counsel to the Judiciary Committee and Counsel to its Patent, Trademark, and Copyright Subcommittee, U.S. House of Representatives. He directed and supervised the actual work of preparing the preliminary draft and the bills that culminated in the Patent Act of 1952.

<sup>7</sup> 11 How. 248 (U.S. 1850).

<sup>8</sup> See *Cuno Engineering Corp. v. Automatic Devices Corp.*, 314 U.S. 84, 91 (1941); Concurring opinion of Mr. Justice Douglas in *Great Atlantic and Pacific Tea Co. v. Supermarket Equipment Corp.*, 340 U.S. 147 (1950).

<sup>9</sup> "The Congress shall have the power . . . to promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries." Article 1, Section 8, Clause 8 of the Constitution.

<sup>10</sup> Arthur H. Seidel, "The Constitution and a Standard of Patentability," *JPOS*, Vol. 48, No. 1 (1966), pp. 5-41.

<sup>11</sup> *Op. cit.*, *supra* note 7.

acquainted with the business.”<sup>12</sup> The opinion concluded that the improvement was not the work of an inventor but rather of a skillful mechanic. Except for the dissenting opinion of Judge Woodbury, which would accept criteria of “better and cheaper” proposed to the Court to support patentability, there is little in the statement of the majority that might not have been intended, in conformity with the verbiage of the times, simply to express novelty. The “mechanic” test apparently was used in those days to determine novelty.<sup>13</sup> If more ingenuity and skill were required than were possessed by the ordinary mechanic, the contribution would have been classed as new. On the other hand, even in the decisions before *Hotchkiss*, the language of the Courts might be interpreted in certain cases (with the aid of hindsight) to include more than novelty. But this seems for the most part to have been an unformed vaguely sensed recognition by the Courts that patents should not be granted for every change. Neither the Court decisions prior to *Hotchkiss*, the Act of 1790,<sup>14</sup> nor the Acts of 1793<sup>15</sup> and 1836<sup>16</sup> were actually interpreted as alluding to a requirement for “invention” in the subjective sense. But after 1850 the Courts<sup>17</sup> picked up the language of *Hotchkiss* and specifically interpreted it to mean something more than mere novelty.<sup>18</sup>

Although *Hotchkiss* (if it is to be read as introducing a new require-

<sup>12</sup> *Ibid.*

<sup>13</sup> See *Blanchard's Gun-Stock Turning Factory v. Warner*, 1 Blatchf. 258, 1 Fish. Pat. Rep. 184, Circuit Court, D. Connecticut, April Term, (1846); *McCormick v. Seymour*, 2 Blatchf. 240, Circuit Court, N.D. New York, June 1851, October term (1851).

<sup>14</sup> 1 Statutes at Large, 109. The word “important” appearing in the 1790 Statute was eliminated from subsequent Patent Acts. Because of the care and time Jefferson gave to patents the scheme of examining was abandoned in 1793.

<sup>15</sup> 1 Statutes at Large, 318.

<sup>16</sup> 5 Statutes at Large, 117.

<sup>17</sup> See *Hotchkiss v. Greenwood*, 11 Howard 248 (U.S. 1850); *Reckendorfer v. Faber*, 92 U.S. 347 (1875); *Atlantic Works v. Brady*, 107 U.S. 192 (1882); *The Barbed Wire Patent*, 143 U.S. 275 (1891); *Singer Manufacturing Co. v. Cramer*, 192 U.S. 265 (1904); *Eibel Process Co. v. Minnesota and Ontario Paper Co.*, 261 U.S. 45 (1923); *Kirsch Manufacturing Co. v. Gould Mersereau Co.*, 6 F.2d 793 (2d Cir. 1925); *Paramount Publix Corp. v. American Tri-Ergon Corp.*, 294 U.S. 464 (1935); *Cuno Engineering Corp. v. Automatic Devices Corp.*, 314 U.S. 84 (1941); *Marconi Wireless Telegraph Co. of America v. United States*, 320 U.S. 1 (1943); *Goodyear Tire and Rubber Co. v. Ray-O-Vac Co.*, 321 U.S. 275 (1944); *In re Shortell*, 31 C.C.P.A. (Patents) 1062, 142 F.2d 292 (1944); *Sinclair and Carroll Co. v. Interchemical Corp.*, 325 U.S. 327 (1945); *Hutzler Bros. Co. v. Sales Affiliates Inc.*, 164 F.2d 260 (4th Cir. 1947); *Funk Bros. Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127 (1948); *Jungerson v. Ostby and Barton Co.*, 335 U.S. 560 (1949); *Great Atlantic and Pacific Tea Co. v. Supermarket Equipment Corp.*, 340 U.S. 147 (1950).

<sup>18</sup> See Appendix at end of this paper.

ment for patentability) states only a *condition*, the lower Courts<sup>19</sup> soon engaged in expanding and contracting a "standard of invention" until it became so nebulous a criterion that Justice Hand referred to it in *Harries v. Airking Products Company*<sup>20</sup> in 1950 "as fugitive, impalpable, wayward and vague a phantom as exists in the whole paraphernalia of legal concepts." In his testimony before a Senate Judiciary Subcommittee in 1955, Judge Hand expanded the subject of "invention": "You could find nearly anything you liked if you went to the opinions. It was a subject on which judges loved to be rhetorical."<sup>21</sup>

In a number of cases following *Hotchkiss*,<sup>22</sup> the Supreme Court itself included a requirement for "invention" and toward the end of the 19th century it began to appear in the Court's pronouncements as a Constitutional standard.<sup>23</sup> The word "genius" to describe the caliber of invention was also introduced more often<sup>24</sup> and reached its full flower in the classic case of *Cuno v. Automatic Devices Corporation*<sup>25</sup> in 1941 when the Supreme Court declared that "the new device, however useful it may be, must reveal the flash of creative genius, not merely the skill of the calling."<sup>26</sup>

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<sup>19</sup> See *Trabon Engineering Corp. v. Dirkes*, 136 F.2d 24 (C.C.A. 6th, 1943); *Linville v. Milberger*, 29 F.2d 610 (D.C. Kansas, 1928); *National Pressure Cooker Co. v. Aluminum Goods Manufacturing Co.*, 162 F.2d 26 (1947); *Chicago Steel Foundry v. Burnside Steel Foundry Co.*, 132 F.2d 812 (C.C.A. 7th, 1943); *U.S. Gypsum Co. v. Consolidated Expanded Metals*, 130 F.2d 889 (C.C.A. 6th, 1942); *Brown and Sharpe Manufacturing Co. v. Kar Engineering Co. Inc.*, 154 F.2d 48 (1946); *Safety Car Heating and Lighting Co. Inc. v. General Electric*, 155 F.2d 937 (C.C.A. 2nd, 1946); *McCord Corp. v. Beacon Auto Radio Co., Inc.*, 96 F. Supp. 438 (1951); *Associated Folding Box Co. v. Lenkoff*, 92 USPQ 93; *In re Franz and Walkup*, 190 F.2d 86 (1951); *American Manufacturing v. The Verplex Co.*, 180 F.2d 964 (C.C.A. 2nd, 1950); *Paramount v. Solar*, 186 F.2d 999 (1951); *Lebold v. Marzall*, 100 F. Supp. 867 (1951); *Lennox v. Landers*, 188 F.2d 744 (1951); *Spring-Air Co. v. Ragains*, 96 F. Supp. 79 (1951); *Perma-Stone v. Tilley*, 178 F.2d 526 (1949); *Alemite v. Jiffy*, 176 F.2d 444 (C.C.A. 8th, 1949); "This requirement finally evolved into a 'standard of invention' which the courts pretended was being raised and lowered like an elevator as though it were something tangible." Kettering Award Address of Judge Giles S. Rich, "The Vague Concept of 'Invention' as Replaced by § 103 of the 1952 Patent Act," *IDEA*, Vol. 8, Conference Number (1964).

<sup>20</sup> 183 F.2d 158, 162 (1950).

<sup>21</sup> S. Res. 92, 84th Cong., 1st Sess. (October 10, 1955).

<sup>22</sup> *Op. cit.*, *supra*, note 7.

<sup>23</sup> See *Hollister v. Benedict Manufacturing Co.*, 113 U.S. 59 (1884); *Thompson v. Boisselier*, 114 U.S. 1 (1884); Aitken, R. L., "Patents—Standard of Invention—Constitutional or Statutory, Student Note," *The George Washington Law Review*, Vol. 24 (1956), p. 722.

<sup>24</sup> *Smith v. Whiteman Saddle Co.*, 148 U.S. 674 (1892); *Potts v. Crager*, 155 U.S. 597 (1894); *Byerly v. Sun Co.*, 184 F.2d 455 (1911); *Concrete Appliance v. Gomery*, 269 U.S. 177 (1925); *Masonite Co. v. Celotex Co.*, 66 F.2d 451 (1933).

<sup>25</sup> *Cuno Engineering Corp. v. Automatic Devices Corp.*, 314 U.S. 84 (1941).

<sup>26</sup> *Ibid.* The National Patent Planning Commission recommended " . . . the

The high water mark for those who attributed a rising level in the requirement for "invention" to the Supreme Court, was the concurring opinion of Justice Douglas in *Great Atlantic and Pacific Tea Company v. Supermarket Equipment Corporation*<sup>27</sup> in 1950. Here Justice Douglas avers that

every patent case involving validity presents a question which requires reference to a standard written into the Constitution. . . . The Congress does not have free rein, for example, to decide that patents should be easily or freely given. The Congress acts under the restraint imposed by the statement of purpose in Article 1, Section 8. The purpose is "To promote the Progress of Science and the useful Arts". . . . The Framers plainly did not want those monopolies freely granted. The invention to justify a patent had to serve the ends of science—to push back the frontiers of chemistry, physics, and the like; to make a distinctive contribution to scientific knowledge. That is why through the years the opinions of the Court commonly have taken "inventive genius" as the test. . . . The Constitution never sanctioned the patenting of gadgets. Patents serve a higher end—the advancement of science. An invention need not be as startling as an atomic bomb to be patentable. But it has to be of such quality and distinction that masters of the scientific field in which it falls will recognize it as an advance. . . . The question of invention goes back to the Constitutional standard in every case. We speak with final authority on that Constitutional issue as we do on many others. . . . The attempts through the years to get a broader, looser conception of patents than the

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enactment of a declaration of policy that patentability shall be determined objectively by the nature of the contribution to the advancement of the art, and not subjectively by the nature of the process by which the invention may have been accomplished. . . ." House Document 239, 78th Cong., 1st Sess. (June 1943), p. 6. For subsequent legislative proposals made prior to the Patent Act of 1952 with respect to the mental process by which the invention was made see Hearings on H.R. 5248, 80th Cong., 2d Sess., and H.R. 4798, 81st Cong., 1st Sess.

It is of interest to note Justice Clark's reference to the "flash of genius" test as "a rhetorical embellishment of language going back to 1833." But this "rhetorical embellishment" *did* influence court opinion; and it caused enough concern among interested parties to spark a very vigorous and successful effort to upgrade "long toil and experimentation" by the incorporation of the second sentence in Section 103 of the Patent Act of 1952.

The earlier references to "genius" by the Supreme Court were made over the period when the third requirement for patentability (invention) was being introduced into the law and was having its initial development. Later, at the time of *Cuno*, however, patent mortality was increasing and the literature was directing attention to a rising trend in the standard of invention. The effect of the Supreme Court's language in *Cuno* and subsequent cases, combined with the stricter attitude of the Circuit and Appellate Court decisions with regard to patentability, gave "genius" a different meaning than it had had in the earlier cases. Moreover, what really troubled the experts was that the "genius" standard appeared to require a judgment as to the mental method the patentee utilized in making his contribution. It appeared to rule out "trial and error," the Edison and Kettering approach, for the flash of insight or thought.

<sup>27</sup> 340 U.S. 147 (1950).

Constitution contemplates have been persistent. . . . The patent involved in the present case belongs to this list of incredible patents which the Patent Office has spawned. The fact that a patent as flimsy and as spurious as this one has to be brought all the way to this Court to be declared invalid dramatically illustrates how far our patent system frequently departs from the Constitutional standards which are supposed to govern.<sup>28</sup>

I have quoted the above excerpts to reconstruct, if I can, the general public temper at the time of the 1952 Revision because I think this opinion represents, more than any other, what people in this period believed the general tenor of judicial opinion to be.<sup>29</sup> The tone of the opinion added an emotional quality to the argument that was somewhat out of keeping with the usual deportment of patent debate. Here was an opinion that incorporated all the extravagances with respect to the standard of invention that had caused dissatisfaction with the Court decisions and had sparked the efforts then being made to press for legislation on this subject.<sup>30</sup>

The assertion by Justice Douglas of a Constitutional standard, of a limitation of Congressional power with respect to the standard, of a requirement for measurement of the standard by its distinctive contributions to scientific knowledge, of a need to determine whether "inventive genius" is present, and of implied laxity of the Patent Office in the spawning of incredible patents confirmed the fears of the people supporting legislation and strengthened their resolve. The Douglas opinion became a rallying cry and received so much publicity that not only the papers<sup>31</sup> but legal writers,<sup>32</sup> and even a number of

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<sup>28</sup> *Ibid.*

<sup>29</sup> See footnote 26 of Judge Giles S. Rich's Kettering Award Address, "The Vague Concept of 'Invention' as Replaced by § 103 of the 1952 Patent Act," *IDEA*, Vol. 8, Conference Number (1964). "This was a case [Great Atlantic and Pacific Tea Co. v. Supermarket Equipment Corp., 340 U.S. 147 (1950)] in the minds of the drafters of the 1952 Patent Act, having been decided during the writing of the first drafts."

<sup>30</sup> Also see *Crest v. Trager*, 341 U.S. 912 (1951) which cites the A&P case. The Trager decision also received considerable attention when it appeared.

<sup>31</sup> "Turning first to the decision in the A&P case, it is entirely proper to assume that the minority, so-called concurring 'gadget' opinion of Justice Douglas was not the 'opinion of the court' as much of the press and even some of the legal comment about this case seemed to indicate," E. J. Balluff, "Do Recent Supreme Court Opinions Raise the Standard of Invention, and are Lower Courts Misinterpreting Such Opinions?" *JPOS*, Vol. 34, No. 11 (November 1952), p. 848.

"While the so-called concurring opinion of Justice Douglas in A&P was unfortunate, not only because of its unwarranted slant and views, but also for the furor that it created in the press and the reaction that it inevitably created in a number of the lower courts, it might safely be said that such 'concurring' opinion was the opinion only of Justices Douglas and Black and not the opinion of the majority of the Court." *Op. cit.*, *supra*, p. 855.

<sup>32</sup> *Ibid.*

Courts<sup>33</sup> appeared to be far less affected by the majority opinion. The pundits vigorously criticized the Douglas assertions in the literature and their calls for moderation had effect on the pending legislation.

I do not want to overemphasize *A&P*, but it is interesting to note that the revisers refer specifically to the time of *Hotchkiss* for the judicial origin of the subjective sense of "invention,"<sup>34</sup> that the condition is couched in terms of the ordinary man skilled in the art,<sup>35</sup> that the second sentence of 103 negates the requirement for "inventive genius,"<sup>36</sup> and that the condition legislated by the Congress was without reference to a Constitutional standard of invention. These are some of the indications that the Congress was seeking to moderate the strict standard of invention disclosed in *A&P* and similar opinions.

#### WHAT ACTUALLY HAPPENED: 1952

With respect to what the Congress did with the standard of invention, I return to my 1955 paper, written after two years of experience under the Act:<sup>37</sup>

"The Judiciary Committee attempted to express the subjective concept clearly and simply in as objective terms as possible. In fact, the provision paraphrases language often used by the Courts. The use of the word 'invention' was avoided in the title of Section 103 in an effort to employ a less abused word; the heart of the concept was very carefully embodied in the phrase 'non-obvious subject matter,' again in an attempt to avoid the vagaries that had grown up around the term 'invention.'

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<sup>33</sup> *Op. cit.*, *supra* note 29; See *Vapor Blast Mfg. Co. v. Pangborn Corp.* 186 F.2d 230 (1950); *Lennox v. Landers*, 94 F. Supp. 460; *van der Horst v. Chromium*, 98 F. Supp. 412 (1951); *Packwood v. Briggs and Stratton*, 195 F.2d 971 (1952); *Container Co. v. Carpenter Container Corp.*, 99 F. Supp. 167 (1951). "While in my opinion the Supreme Court has not announced any new doctrinal trend for determining invention in patent cases, it is evident that many of the lower courts think otherwise." *Op. cit.*, *supra* note 31, p. 875.

<sup>34</sup> "Section 103, for the first time in our Statute, provides a condition which exists in the law and has existed for over 100 years, but only by reason of the decisions of the Courts," *Report of the Committee on the Judiciary*, 82nd Cong., 2nd Sess., House Report No. 1923, "Revision of Title 35, U.S.C. 'Patents'", p. 7. "There is no provision corresponding to the first sentence explicitly stated in the present statutes, but the refusal of patents by the Patent Office, and the holding of patents invalid by the courts, on the ground of lack of invention or lack of patentable novelty has been followed since at least as early as 1850," *Revisers Note to § 103, op. cit.*, p. 18.

<sup>35</sup> "... the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." § 103, *Op. cit.*, *supra* note 2.

<sup>36</sup> "Patentability shall not be negated by the manner in which the invention was made." *Op. cit.*, *supra* note 2.

<sup>37</sup> *Op. cit.*, *supra* note 4, p. 680.

"The decisions that had taken the position that no change was intended by the first sentence of Section 103 in the standard of invention set by the case law prior to the effective date of the revision are based on a misunderstanding of the drafters' intent. It is still too early, however, to say whether the efforts of the revisers have been wholly without effect in this matter. . . .

"The Committee used language in Section 103, and in the Report that indicated that the Congress intended the standard of invention to be applied with moderation. The Report states that this is one of the two major changes in the Act and that it 'should . . . minimize great departures which have appeared in some cases.' If a random sampling of the items included in the revision is taken, some rather convincing evidence can be adduced of Congressional intent to moderate the strict interpretation of the Courts and to encourage the Courts to take a more friendly attitude toward patents, a practice from which they had departed in certain cases. Some examples of that intention are the last sentence of Section 103, the Reviser's Note that 'it is immaterial whether the invention resulted from long toil and experimentation or from a flash of genius,' and the explanation in the Report of the distinction between science and useful arts indicating that the founding fathers intended that patents should issue for useful arts. It is quite clear from such evidence that the departures referred to in the Report were those which raised the standard of invention and prompted Mr. Justice Jackson's much quoted remark that ' . . . the only patent that is valid is one which this Court has not been able to get its hands on.' What other interpretation could there be considering the period in which the revision was drafted, the people who aided in the work, and the overall tenor<sup>38</sup> of the Act? . . .

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<sup>38</sup> "The type of judicial and statutory law incorporated in the Act and the type of revisions made in the laws are clearly revealed in the following: 35 U.S.C. §§ 100, 101, 102, 103, 104, 111, 112, 115, 116, 118, 119, 120, 121, 122, 131, 132, 133, 134, 135, 141, 145, 146, 154, 251, 252, 253, 254, 255, 256, 261, 262, 266, 271, 281, 282, 283, 284, 285, 286, 287, 288, 291, 292, 293, (1954). The tenor can also be observed in some of the material that was considered and left out of the revision either because it was not favored or because it was believed to be too controversial. There is no provision in the Act for compulsory licensing as in foreign countries though it was discussed. A suggestion was made to limit proof of invention to no earlier than two years prior to the application date. This was not accepted. A proposal to make the maximum term 20 years from the filing date was also not accepted. The subjects of maintenance and renewal fees, the revocation of patents, short term and minor patents, and patents of addition were considered and all rejected. Other provisions relating to the compulsory recording of licenses, various provisions for license agreements, and a section giving the President of the United States authority to issue regulations concerning the licensing of Government owned



"The drafters realized that in view of the treatment of the presumption of validity in the past by the Courts, statutory sanction was needed to encourage the judiciary to pay it something more than lip service. This was necessary if the anticipated moderation of the Courts' attitude toward the standard of invention was to be effective. It was believed that this affirmative declaration by the Congress would be of real value in strengthening the presumption and in closing this so-called back door. Accordingly, the presumption of the validity of patents was incorporated into the Statute for the first time. This, in reality, amounts to a recognition of the presumption of invention."<sup>39</sup>

#### AS I REMEMBER IT

Scientifically speaking, "unobviousness" as a *condition* for patentability should not ordinarily have changeable characteristics, that is, the quality of going up and down.<sup>40</sup> As a condition for patentability, like novelty or utility, it either is present or it is absent. This was thought to be its great advantage over the previous terminology. However, since this condition must be determined by a consideration of the prior art, the differences between the prior art and the claims, and the level of the ordinary skill in the art, results may vary as much as the judgments of the people making them. In short, though this prerequisite for patentability might suffer from the differing estimations inherent in any requirement administered by man, it was believed that the new language would lead to a closer concurrence among opinions of the Courts.

To avoid the effect of hindsight due to the progress of technology and the concomitant rising skill of the art, the phrase "at the time the invention was made"<sup>41</sup> was added to the condition of "obviousness." The intention was to caution judgment of the past based on current technological knowledge. It was felt that the criterion of "ordinary skill in the art" would be quite vulnerable when viewed years after

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patents were discussed and rejected." (This footnote appears in the 1955 paper.)

<sup>39</sup> "A major obstacle to an effective presumption of validity has been the rising standard of invention. Invention is one of the prerequisites of validity, and if there is to be a presumption of validity, there must also be a presumption of invention. The courts cannot effectuate the presumption of validity even though they specifically recognize it, if they nullify it at the same time, by raising the standard of invention." (This footnote appeared in the 1955 paper.)

<sup>40</sup> Kettering Award Address, *op. cit.*, *supra* note 19, pp. 140-141.

<sup>41</sup> "... obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." § 103, *op. cit.*, *supra* note 2.

the event,<sup>42</sup> particularly by Courts which, unlike scientists and engineers working at the bench, would expect more than the small increments of improvement that make up progress in the useful arts. It was believed that advance in technology was one of the causes for the apparent disposition to test improvements with after-the-fact knowledge—and that even experts had, perhaps unconsciously in the heat of contest, permitted this to affect their judgment. Curiously, Justice Clark seems to be more concerned with the trend toward a higher standard of ordinary skill in the art due to advance in technology than he is with the problem of hindsight.<sup>43</sup>

Semantically speaking, the Court has indeed embraced the drafters' intention. Justice Clark is keenly aware of the two meanings of invention, and that the use of the same term for both meanings had contributed to the confusion. With great care the opinion supports and utilizes the new terminology "obvious at the time the invention was made to a person having ordinary skill in the art."<sup>44</sup> The advantages of this technical expression are thoroughly considered and are accepted by the Court. Substantively, however, the Court appears to reject the position of the revisers.<sup>45</sup> The Court does not feel that it is necessary to roll the concept back to its original meaning in *Hotchkiss v. Greenwood*.<sup>46</sup> Justice Clark categorically declares that "the general level of innovation necessary to sustain patentability remains the same."<sup>47</sup> Nor does the Court appear to appreciate the full sig-

<sup>42</sup> "As the so-called gadgets listed in the concurring opinion of Justice Douglas in the A&P case were held unpatentable in the last century, it does not seem fair now to hold such patents up to ridicule and scorn in the light of the increased skill of the art as of today." Balluff, *op. cit.*, *supra* note 31, p. 856.

<sup>43</sup> However, in one part of his opinion Justice Clark does appear to direct attention to the danger of hindsight judgment. After he completes his "discussion of the Constitutional and statutory provisions covering the patentability of the inventions" and specifically applies the "conditions found necessary for patentability" to the Graham case, he indicates, in the concluding part of his consideration of the Calmar case, the value of certain "subtests" in that "They may also serve to 'guard against slipping into hindsight,' *Monroe Auto Equipment Co. v. Heckethorn Mfg. & Supply Co.*, 332 F.2d 406, 412 (1964), cert. den. 379 U.S. 888, and to resist the temptation to read into the prior art the teachings of the invention in issue," *U.S.L. Week, op. cit.*, p. 4129.

<sup>44</sup> *Op. cit.*, *supra* note 1, pp. 4119, 4122.

<sup>45</sup> *Op. cit.*, *supra* note 1, see pp. 4122, 4123.

<sup>46</sup> . . . the revision was not intended by the Congress to change the general level of patentable invention. We conclude that the section was intended merely as a codification of judicial precedent embracing the *Hotchkiss* condition with Congressional directions that inquiries into the obviousness of the subject matter sought to be patented are a prerequisite to patentability.

*Op. cit.*, *supra* note 1, p. 4123.

<sup>47</sup> Compare Justice Clark's statement with the interpretation presented to the general public by a *Wall Street Journal* staff reporter in the article entitled "Patents

nificance in the history of the Act of the whole range<sup>48</sup> of interpretations and the pervasive reputation for vagueness that had grown up around the concept resulting from the Court's previous opinions.<sup>49</sup>

"We believe," says the Court, "that this legislative history, as well as other sources, shows that the revision was not intended by Congress to change the general level of patentable invention. We conclude that the section was intended merely as a codification of judicial precedents embracing the *Hotchkiss* condition. . . ." <sup>50</sup> If we were to focus solely on relatively recent Supreme Court cases, such as *Cuno*,<sup>51</sup> *Sinclair*,<sup>52</sup> and *Jungerson*,<sup>53</sup> it might be said that on a close examination of the majority opinions except for the mortality of patents in these cases the standard of the Supreme Court hadn't changed.<sup>54</sup> Moreover, it might be argued that the heavy mortality rate <sup>55</sup> was due to the fact that infringers generally challenged weak patents and that in Supreme Court cases there was also, as a rule, a difference of opinion with respect to the patent's validity at the circuit level. But this does not explain away the belief of the lower Courts, the legislature, and the ex-

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May be More Difficult to Obtain in Wake of High Court Rulings in Four Cases." *Wall Street Journal* (Feb. 23, 1966), p. 7.

<sup>48</sup> A colleague informs me that

. . . in respect to the 1952 Act, Justice Clark has implicitly said something like the following: "the 1952 Act is capable of various interpretations. We choose the only one which avoids unconstitutionality. This requires that Section 103 be construed as adopting the standard of the *Hotchkiss* case as, in the running average of our decisions, we have applied it."

See the criticism by Richard L. Aitken of a similar position espoused by the Court in *Seismograph Service Corp. v. Offshore Raydist*, 135 F. Supp. 342 (E.D. La. 1955), *op. cit.*, *supra* note 23. Also see Appendix at end of this paper.

In criticizing references to the 1952 Patent Act as a codification Judge Rich in his Kettering Award Address (footnote 25A) points out: "A little reflection should show that when judicial precedents constituting the 'law' range from the very liberal to the most strict, it is a patent absurdity to speak of a statute taking a middle ground as a 'codification' of existing law."

By the same token, I find it difficult to read a "running average" into a decision which holds "that the Section was intended merely as a codification of judicial precedents embracing the *Hotchkiss* condition." It seems more likely to portend the codification of a higher standard!

<sup>49</sup> Yet Justice Clark seems to express an awareness of the effects of the terminology used in these opinions: "Its ['invention'] use as a label brought about a large variety of opinions as to its meaning both in the Patent Office, in the courts, and at the bar." *U.S.L. Week*, *op. cit.*, p. 4121.

<sup>50</sup> *Op. cit.*, *supra* note 46.

<sup>51</sup> *Cuno*, *op. cit.*, *supra* note 8.

<sup>52</sup> *Sinclair and Carroll Co. v. Interchemical Corp.*, 325 U.S. 327 (1945).

<sup>53</sup> *Jungerson v. Ostby and Barton Co.*, 334 U.S. 560 (1949).

<sup>54</sup> See Arthur M. Smith, *Patent Law* (Overbeck, 1954), p. 471.

<sup>55</sup> C. Marshal Dann, "Adjudication of Patents Under the 1952 Act," *Encyclopedia of Patent Practice and Invention Management*, ed., Robert Calvert (New York: Reinhold), p. 20-22.

perts that there was "a new doctrinal trend."<sup>56</sup> A number of the District and Appellate Courts were actually stating in their opinions that the level of invention had been raised.<sup>57</sup> Whether an analysis of the Supreme Court decisions could prove otherwise, or the rising level could be attributed to an increasingly complex technology resulting in the actual appearance of a higher ordinary skill in the art, the lower Courts<sup>58</sup> thought that the level had been raised by the Supreme Court decisions and acted accordingly. This was the situation which the interested public and the legislators were seeking to remedy.

#### NO INTENTION TO CRITICIZE, BUT . . .

There is no intention here to criticize the outcome in the recent Supreme Court cases. They would very likely have been held invalid under lower standards. When the contributions are so nebulous, even a low standard would appear high. But more important, marginal cases such as these—and the Court itself chooses the cases it will review—may impress the Court with the necessity to espouse a seemingly higher standard in order to carry out the Constitutional purpose "to advance the progress of science and the useful arts." With the last expression of the Court on patent validity occurring 15 years ago in a marginal case like *A&P*<sup>59</sup> and today in cases like *Graham*<sup>60</sup> and *Calmar*,<sup>61</sup> it is no surprise that Justice Clark's opinions appear to favor the old relatively high standard of invention that the Congress intended Section 103 to moderate.

Justice Clark seems to rest on the technical continuity of the Court's position over the years, and to reject the expressed intent of the Congress to relax the standard by indicating that he has "been urged to find in Section 103 a relaxed standard, supposedly a Congressional reaction to the 'increased standard' applied by this Court in its decisions over the last 20 or 30 years" but that "the standard has remained invariable in this Court."<sup>62</sup> He then directs attention to the real cul-

<sup>56</sup> See Hearings H.R. 5248, 80th Cong., 2nd Sess.; H.R. 4798, 81st Cong., 1st Sess.; H.R. 4061, 80th Cong., 1st Sess.; H.R. 3760, 82nd Cong., 1st Sess.; Giles S. Rich, "Congressional Intent—Or, Who Wrote the Patent Act of 1952," *Patent Procurement and Exploitation* (BNA, 1963), pp. 61-78.

<sup>57</sup> Refer to cases cited *supra* note 19.

<sup>58</sup> "Regardless of how we rationalize recent Supreme Court decisions, the lower courts today believe that these decisions have established new standards of patentability and are attempting to apply these standards strictly." Balluff, *op. cit.*, *supra* note 31, p. 847.

<sup>59</sup> *Great Atlantic and Pacific Tea Co. v. Supermarket Equipment Corp.*, 340 U.S. 147 (1950).

<sup>60</sup> *Graham v. John Deere Co.*, *op. cit.*, *supra* note 1.

<sup>61</sup> *Calmar v. Cook Chemical Co.*, *op. cit.*, *supra* note 1.

<sup>62</sup> *Op. cit.*, *supra* note 1, p. 4123.

prit: "Technology, however, has advanced—and with remarkable rapidity in the last 50 years. . . . He who seeks to build a better mouse-trap today has a long path to tread before reaching the Patent Office."<sup>63</sup> But, relatively speaking, this statement was just as true in 1952 when Congress acted to moderate the standard.

Justice Clark states "that the 1952 Act was intended to codify judicial precedents embracing the principle long ago announced by this Court in *Hotchkiss v. Greenwood*, 11 How. 248 (1850) and that, while the clear language of Section 103 places emphasis on an inquiry into obviousness, the general level of innovation necessary to sustain patentability remains the same."<sup>64</sup> This is quite true with respect to the principle in *Hotchkiss*, but the Congress was actually seeking a *return* to *Hotchkiss* so as to "minimize great departures which [had] appeared in some cases."<sup>65</sup> The House Report states that the major changes in the Act consisted "of incorporating a requirement for invention in Section 103 and the judicial doctrine of contributory infringement in Section 271."<sup>66</sup> Despite the fact that the concept of "invention" had originated as a judicial doctrine, the word "judicial" was intentionally omitted from this description of "invention." This omission is an indication of the care with which the drafters sought to avoid incorporating the then current higher judicial standard promulgated by the Courts. Indeed, the Supreme Court may have thought it had not done any changing, but the lower Courts generally believed it had (as attested by a number of District and Appellate Court judges),<sup>67</sup> and *they* decided the vast majority of the cases. As erudite and respected a judge as Hand, often referred to as the 10th Supreme Court Justice, called attention in *Picard v. United Aircraft Corporation*<sup>68</sup> to "a pronounced new doctrinal trend" in the higher standard of invention in the decisions.

Curiously, one of the devices in the opinion that gives an appearance of favoring a higher standard is a repeated use of various forms of

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<sup>63</sup> *Op. cit.*, *supra* note 1, pp. 4123, 4124.

<sup>64</sup> *Op. cit.*, *supra* note 1, p. 4119.

<sup>65</sup> "The departures of which complaint has been made in the recent past are all departures in the direction of greater strictness and hence these would be what the report indicates should be minimized," P. J. Federico, "Commentary on the New Patent Act," 35 U.S.C.A. 1.

<sup>66</sup> *Report of the Committee on the Judiciary*, 82nd. Cong., 2nd Sess., House Report No. 1923, "Revision of Title 35, U.S.C. 'Patent,'" p. 4.

<sup>67</sup> P. J. Federico, *op. cit.*, *supra* note 61, refers to the Congressional intention "of moderating the extreme degrees of strictness exhibited by a number of judicial opinions over the past dozen or more years." See also cases cited in *op. cit.*, *supra* note 19; Balluff, *op. cit.*, *supra* note 31, p. 847.

<sup>68</sup> 128 F.2d 632 (1942).

the word "strict" with respect to the test to be applied, such as, "it bears repeating that we find no change in the general strictness with which the overall test is to be applied."<sup>69</sup> Footnote 10 of the opinion points out that the President has appointed a Commission on the Patent System and expresses the hope "that its studies may develop more efficient administrative procedures and techniques that will further expedite dispositions and at the same time insure the strict application of appropriate tests of patentability."<sup>70</sup> Even here the Court refers to a "strict" application of the appropriate tests of patentability. In Webster's Dictionary relevant meanings of the word "strict" appear to be "exact, precise, perfect, absolute, entire, tight or compressing." Since the "unobvious" test for patentability, because of its very nature, does not lend itself to exact, precise, perfect, absolute, or entire definition, the purport of "strict" seems to imply drawing tight or compressing.

If the foregoing comments on the intention of the revisers were better known, subsequent Court decision might moderate the firmness connoted by Justice Clark's opinion. A result of greater flexibility might be the avoidance of the imposition of undeserved and unintended hardship on our creative people. If not, it appears that new confusion seems inevitable, and a new demand may arise to revisit Section 103 once more!

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<sup>69</sup> *Op. cit.*, *supra* note 1, p. 4123.

<sup>70</sup> *Ibid.*

APPENDIX ON HISTORICAL ASPECTS OF  
JUSTICE CLARK'S OPINION

Justice Clark, by means of much reference to interesting historical material (including the English Statute of Monopolies, letters from Thomas Jefferson and some rules of the patent board on which Jefferson served), proposes to explain and support a standard of invention written into the Constitution by the Court a century ago. The heart of his argument appears to be summed up in the following excerpt from his opinion:

The Congress in the exercise of the patent power may not overreach the restraints imposed by the stated Constitutional purpose. Nor may it enlarge the patent monopoly without regard to the innovation, advancement or social benefit gained thereby. Moreover, Congress may not authorize the issuance of patents whose effects are to remove existent knowledge from the public domain, or to restrict free access to materials already available. Innovation, advancement, and things which add to the sum of useful knowledge are inherent requisites in a patent system which by Constitutional command must "promote the Progress of . . . useful Arts." This is the *standard* expressed in the Constitution and it may not be ignored. And it is in this light that patent "validity requires reference to a standard written into the Constitution." *A. & P. Tea Co. v. Supermarket Corp.* . . . . " *U.S.L. Week* 4119-4120 (February 21, 1966).

The Justice introduces the paragraph in which the foregoing statement appears with a reference to "the backdrop of the practices . . . of the Crown in granting monopolies to favorites . . . which had long before been enjoyed by the public" which were "curtailed" by the Statute of Monopolies in 1624, over 100 years before the Constitution was written. This was certainly a very different kind of monopoly from the patent monopolies which were specifically permitted to continue. It is important to distinguish between the "patent monopoly" as a limiting device and the manner in which the "curtailed" monopolies were exercised. Justice Clark states further "that the federal patent power stems from a specific Constitutional provision which authorizes the Congress 'To promote the Progress of . . . useful Arts,' ", and then goes on broadly to qualify the provision by means of historical information in support of a position which the Supreme Court did not appear to take until at least 1850, and even then in rather temperate form. Moreover, the Supreme Court did not refer to "invention" as a Constitutional standard until much later.

Justice Clark in the first above-quoted excerpt appears to be interpreting the phrase "Progress of . . . useful Arts," and it is rather surprising to find that he equates the modest Constitutional expression with

"innovation, advancement, or social benefit gained." Somewhat less revealing in the opinion is this terminology: "Whose effects are to remove existent knowledge" and "things which add to the sum of useful knowledge."

The term "science" in the Constitution had the meaning of knowledge in those days, and "science" is only considered a part of knowledge today. Moreover, "science" in the Constitution referred to the respective "writings" of "authors." (See Report, p. 553; 1952 Patent Act.) It seems that today's definitions of the word "knowledge" or even "science" are rather formidable for the typically restricted scope of inventive activity.

In discussing Jefferson's philosophy Justice Clark's opinion points out:

The patent monopoly was not designed to secure to the inventor his natural right in his discoveries. Rather, it was a reward, an inducement, to bring forth new knowledge. The grant of an exclusive right to an invention was the creation of society—at odds with the inherent free nature of disclosed ideas—and was not to be freely given. Only inventions and discoveries which furthered human knowledge, and were new and useful, justified the special inducement of a limited private monopoly. Jefferson did not believe in granting patents for small details, obvious improvements, or frivolous devices. His writings evidence his insistence upon a high level of patentability. *Op. cit., supra*, pp. 4120-4121.

A visit to Monticello, however, provides vivid evidence that Jefferson was a "gadgeteer" of no small moment himself, and too narrow a reading of this portion of Jefferson's philosophy does not appear to accord with his own inclinations. Moreover, the provision concerning patents adopted in the Constitution was actually contributed, not by Jefferson, but jointly by James Madison of Virginia and Charles Pinckney of South Carolina. Although Jefferson, as Justice Clark states, "rejected the natural rights theory in intellectual property rights," some of the Founding Fathers did base their theory of reward to the inventor on natural justice (See "The New Constitution—Papers by Alexander Hamilton, James Madison, and John Jay," *Blackwell's Political Texts*, McMillan, 1948).

With respect to the term "patent monopoly," its use in the opinion appears to bear some of the odium often associated with the word "monopoly" by the Courts. Those interested in the patent system at the time of the Revision (1952) felt that the Courts, indeed, tended to consider patents in the nature of odious monopolies. Recent decisions, however, have appeared increasingly to reflect an appreciation of the social benefits derivable from the patent system [See Harris and



Siegel, "Positive Competition and the Patent System," *PTC J. Res. & Ed. (IDEA)* Vol. 3, No. 3 (Fall 1959) p. 21].

The Patent Act of 1790 does indeed include the requirement that "the invention or discovery [must be] sufficiently useful and important." Although the word "important" was deleted from subsequent Acts, this first Act was contemporaneous with the adoption of the Constitution and must be given weight. However, this word appears to have been one of the compromises made to the group, identified most closely with James Rumsey, which advocated a French system "of 'philosophical' or scientific patent examination." (See Prager, "Proposals for the Patent Act of 1790," *JPOS*, Vol. 36, No. 3, p. 159.) Moreover, the original draft of this Act is attributed to Noah Webster who supported the "inherent property rights in authors and inventors." Webster's concept was also championed by John Fitch, one of Rumsey's competitors in the steamboat field.

The rules formulated by the patent board under the Act of 1790 (referred to in footnote 3 of Justice Clark's opinion) and the decisions of the Courts prior to 1850 might be read to contain precursors of something in addition to novelty as a standard. Although the evidence is meager, the Courts did use phrases that might be interpreted as early and developmental formulations of the concept that was eventually to be specifically expressed by the judiciary. But the crude beginnings and even their embodiment in 1850, appear to involve a modest test.

#### Returning to the language of Justice Clark:

Because of the "abundance" of cases and the fact that the investigations occupied "more time of the members of the board than they could spare from their higher duties, the whole was turned over to the judiciary, to be matured into a system, under which everyone might know when his actions were safe and lawful." Letter to McPherson, *supra*, at 181. Apparently Congress agreed with Jefferson and the Board that the Courts should develop additional conditions for patentability. Although the Patent Act was amended, revised or codified some 50 times between 1790 and 1950, Congress steered clear of a statutory set of requirements other than the bare novelty and utility tests reformulated in Jefferson's draft of the 1793 Patent Act. *U.S.L. Week, op. cit., supra* p. 4121.

There does not appear to be anything in the quoted letter from Jefferson to indicate a preference for a strict standard for patentability. Moreover, it was the Congress that passed the Act of 1793, and if the Board's authority were thereby given to the Courts, it was by Congressional sanction. Even before this law was passed, the Board did not specifically set forth a third condition for patentability and neither did the Courts until about 1850. It is not unusual for the

Courts to be called upon to play a role in the growth and development of our institutions. Judges in the final analysis interpret the Statutes and decide what the law is. If Congress were to relinquish its Constitutional authority to the Courts in all cases in which the Courts were utilized to effectuate Congressional mandates, the Congress would soon run out of Constitutional prerogatives. Certain functions may even be delegated to the Courts where their "essential nature" does not make it mandatory that they be exercised only by the Congress (See *Wayman v. Southard*, 10 Wheat 1; *Bank of U.S. v. Halstead*, 10 Wheat 51). Thus, if Congress did indicate an intention to delegate certain of its functions, that delegation would have been rather carefully scrutinized by the Courts themselves, and there would have undoubtedly been more written on such a transfer. The judiciary has no Constitutional authority to exercise the power to legislate (*Central Kentucky Natural Gas Co. v. Railroad Commission of Kentucky*, 290 U.S. 264), although their decisions could be regarded as a form of law making. In *McClurg v. Kingsland*, 42 U.S. (1 How.) 202 (1843) the Supreme Court held, in effect, that there was no limitation on the right of Congress to legislate on the subject of patents. At the time of the *Kingsland* case the Court had not yet formulated the *Hotchkiss* requirement for "invention."

*We are sharing the following provocative letter with our readers. Attention is particularly directed to the author's Bibliography.*

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## A New "Hobby" for the Scientifically Trained Lawyer-Amateur Strategist

S. C. YUTER\*

To The Editor:

What will the world be like if many countries have nuclear arsenals? When the Communist Chinese have acquired thermonuclear bombs with aircraft and then missile delivery capability, how will the United States react if China sponsors a war of national liberation in Thailand, the Philippines, Brazil or Mexico? Are we willing to risk nuclear bombardment of New York, Washington, San Francisco and Los Angeles in the escalation game of chicken? Or will the United States become isolationist and leave the rest of the world in the communist sphere of influence? And if so, how long will we retain our freedom?

Strategists deal with possible solutions to these problems. They devise strategies and then test them with gaming exercises; for example, by logical plottings of theoretical escalations (scenarios). Many of these strategists are physicist and mathematicians who have acquired very sophisticated understandings of the intricacies of foreign policy.

For example, consider the following proposal as a possible strategy to seriously limit the Chinese capacity for developing a nuclear weapons arsenal:

Amend the Partial Test Ban Treaty (1) to make it universally binding and (2) to obligate all Parties to do what they can to ensure compliance by all nations, including nonsignatories.

What are the strategic, political, economic and legal implications of such a proposal? Is it feasible in the sense that it could be sold to the USSR and to other nations? Is it desirable to the United States? What kind of a deal would it take to sell it to the French? Could it be sold to the Chinese and if not would the USSR at least acquiesce in the

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\* The author, S. C. Yuter, is a partner in the law firm of Yuter and Spieccens of New York City, New York.

enforcement of such an international law by the United States with the support of the International Community?

The strategist uses scenarios to explore these questions in a way similar to that of the practicing lawyer who analyses a proposed agreement by drafting clauses and then discovering and plugging the loop-holes. The fundamental difference is, however, that the strategist can think about the unthinkable; i.e., what does the United States do if and when New York, Washington, San Francisco or Los Angeles have been destroyed by thermonuclear missiles? Very few people can think logically in these terms. Apparently, scientific training, particularly in mathematics and physics, permits the strategist to deal logically with these questions as problems to be solved with little reference to the humane, moral and ethical aspects.

A leading strategist told me that he could think of only a small handful of people who could make a feasibility and desirability analysis of the above proposal, and most of these people were already committed to other projects. I believe that among the scientifically trained lawyers, particularly the patent lawyers, there should be a significant number who can do this kind of work. And I also believe that there is a need for an organization to combine the tools of the practicing lawyer with the tools of the strategist, particularly in areas involving treaty drafting and international public legislation.

To those scientifically trained lawyers who would like to explore a new "hobby," that of amateur strategist, I suggest the bibliography that follows and which I have used. Those who can survive Herman Kahn's *On Escalation* will probably be ready to work as amateur strategists.

It is conceivable that one good idea may change for the better the course of world history. It is not inevitable that the world be consumed by nuclear explosions and radioactive debris.

Sincerely,  
S. C. Yuter

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\* A suggested starting library (in reading order); cost \$25.65.



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## RETROSPECTIONS

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This section will include biographies and other reviews of careers, discussion and documentation of events important to the history of inventions and discoveries, and anecdotal or historical material pertaining to judicial opinion and legislation.

*We believe that the following memorandum from Mr. Soans, recently retired after 50 years of patent law practice, is worthy of the attention of our readers.*

### The Courts—Our Number One Problem

CYRIL A. SOANS\*

**I**N THE CHICAGO DAILY NEWS issue of Friday, November 6, 1965, I read with great interest an article entitled "Merit Selection of Judges on Way." The article states that Senator Tydings, a member of the Senate Judiciary Committee and the Chairman of a subcommittee on Improvements In Judicial Machinery, on October 15, 1965, outlined a program with which his subcommittee might properly concern itself. The proposed program does not specifically refer to the special qualifications required of a United States judge to whom is assigned the duty of hearing a case involving a charge of patent infringement.

I have practiced patent law in the city of Chicago for more than 50 years, and during this period, it has often been suggested that special judges should be provided for handling patent-infringement cases. This question has recently come to the fore again in view of the fact that the United States patent system now finds itself in a situation where it is no longer fully effective to serve its constitutional purpose, i.e., to stimulate the creation and commercialization of new inventions for the ultimate benefit of the United States public.

We cannot ignore the fact that, with a few notable exceptions, the District Courts of the United States, the United States Courts of Appeal, and the United States Supreme Court are composed of former members of the Bar in general practice who, when in law school, had no direct contact with patents or patent law. Few lawyers nominated for Federal judgeships have had any practical experience dealing

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with manufacturing operations or promoting the use of a new product or process.

From reading the recent "Who's Who" directories, we get the impression that the principal requirement for a nomination for a Federal judgeship is a trial background as a United States District Attorney or as an attorney for some United States agency. Sometimes lawyers have acquired erroneous ideas about patents based upon reading occasional cases in which manufacturers have been accused of using patents to create monopolies prohibited by the antitrust laws. We suggest that this is one reason why many United States judges, appointed since violations of the Sherman and Clayton Acts began to be pleaded as defenses in patent-infringement actions, may have (perhaps unconsciously) acquired a negative attitude in respect of invention patents.

Whatever the reason, many persons, not necessarily patent lawyers, have arrived at the conclusion that the United States Courts as now constituted, often do not and cannot give to patent cases the same informed consideration which they give to cases involving other commercial subjects, such as unfair competition which they, as law students, *did* study in law school before they were admitted to the Bar.

Our problem is to get patents out of the Federal Courts' "dog house." No matter what change we are able to get in the statutes, the decision in most cases can be upon an issue of fact which is always within the discretion of the Court unless clearly erroneous. We want it that way. But, we want our cases decided on the trial level, and on appeal, by a Federal judge who has been informed about the constitutional purpose of the patent system and its laws, and how it works, *before he hears our case*, whether we are for or against the patent.

For many years patent lawyers have debated whether the Federal judges who hear patent cases should have the same kinds of knowledge and skills as most patent lawyers. Some say that they should have a fair technical and mathematical education before they go on the Federal Bench.

On the other hand, most lawyers believe that a general lawyer, a judge, or a juror need not be a physician to try or hear a medical malpractice suit or a personal injury case, nor does he need to be a C.P.A. to try or hear a tax case. I subscribe to that belief, and I suggest also that judges in patent cases need not be specially qualified in technical (non-legal) fields. They should, however, obtain their understanding of the scientific facts of a case from the testimony, exhibits, and what they learn from the lawyers and their experts. Nevertheless, it is not fair or realistic to require that a new Federal judge be a technical expert in



mechanical, electrical, and civil engineering; in bacteriology, chemistry, electronics, or in nuclear physics. Some of our most respected Federal judges and patent barristers have had no formal scientific education whatever.

An infringement of a patent is a tort. In law school a student is required to learn the law of torts, but he is not required to learn anything about the law of patents, only because the state Bar examiners don't require it. Times are not the same as they were in 1836, when the patent statutes were few, simple, and usually construed by courts in accordance with their constitutional purpose. To ensure that the patent statutes can be equitably interpreted by courts who are properly informed of the constitutional purpose underlying those statutes, the patent system now needs help: (a) from the law schools, (b) from the Judiciary Committee of the American Bar Association, and (c) from the United States Senate.

Can we get that help? We need it now, before it becomes too little and too late to prevent the destruction of our patent system by unwise statutory or administrative changes arising from expediency without due regard for the constitutional purpose of the system.

At a recent meeting of Committee No. 108 of the Patent, Trade-mark & Copyright Section of the American Bar Association, Judge Rich of the Court of Customs and Patent Appeals, referred to the *Seminars for Newly Appointed U. S. District Judges* (West Publishing Co. 1963) which are now being distributed to all sitting United States judges. They deal with the problems of procedure peculiar to the United States Courts. He suggested that the patent Bar should give prompt attention to the preparation of a pamphlet directed to the trial of patent-infringement cases, including an explanation of the constitutional purpose of the patent system, the language of the present patent statutes, and the interpretation of those statutes by both the Patent Office and the United States Courts as now constituted. I think that this might well be our first order of business.



# Independent Inventors: Six Moral Tales

IRVING H. SIEGEL\*

STATEMENTS PRESENTED AT HEARINGS held in 1965 before the Senate Subcommittee on Antitrust and Monopoly<sup>1</sup> serve as the source of six case histories of invention summarized here. From the testimony of two witnesses,<sup>2</sup> we have distilled the stories of Chester Carlson, Francis W. Davis, Robert H. Goddard, Jacob Rabinow, Samuel Ruben, and Richard Walton, all of whom are "independents" in one sense or another. In addition to outlining the careers of these inventors, we note some of the lessons that might be drawn from their experience.

Readers of *IDEA* are already familiar with the exploits of at least four of the men discussed here. Carlson is the first winner of The PTC Research Institute's Inventor of the Year Award.<sup>3</sup> While this paper was being prepared for publication, Ruben was announced as second winner of this Award.<sup>4</sup> Rabinow and Walton have participated as speakers at The PTC Research Institute's Annual Conference.<sup>5</sup>

## GENERALIZATIONS

A small number of sketches may not permit any significant enlargement of the knowledge concerning inventors and their work accumulated earlier from the many deeper investigations reported in a vast literature. They do, however, remind us of problems already observed and may offer some new illumination on old topics.

The independent inventor who succeeds well enough to be noticed has typically had an early start. He may have been a voracious reader of science fiction or technical literature, have demonstrated keen curi-

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\* Dr. Siegel is a principal consultant to The PTC Research Institute. He is on the staff of the W. E. Upjohn Institute for Employment Research, which should not be identified with positions taken in this paper.

<sup>1</sup> *Economic Concentration, Part 3: Concentration, Invention, and Innovation*, Hearings before the Subcommittee on Antitrust and Monopoly, Committee on the Judiciary, U.S. Senate, 89th Congress, 1st Session (1965).

<sup>2</sup> The testimony concerning all our inventors other than Carlson was presented by Daniel V. De Simone, Director, Office of Invention and Innovation, National Bureau of Standards. Our story of Goddard is derived from the statement of Milton Lehman, author of *This High Man*, a biography of Goddard.

<sup>3</sup> *IDEA*, Vol. 8, No. 4 (Winter 1964-1965), p. 610.

<sup>4</sup> See p. 670 of this issue of *IDEA*.

<sup>5</sup> *Ibid.*, Vol. 4, Conference Number (1960), p. 105-107; and Vol. 7, Conference Number (1963), p. 178.

osity as a tinkerer or buff, and have acquired experience as a student or employee that later proves pertinent to his creative activity. He is not always the beneficiary—or victim—of a complete formal education. Hardening processes that fail to destroy his ego—adjustment as a foreigner (e.g., Rabinow), living with poor health (e.g., Goddard), and exposure to economic privation (e.g., Carlson and Ruben)—may actually sharpen his “character.” Strong motivation and persistence are common traits of the breed. Sustained effort (involving labyrinthine excursions through rich but oddly stocked memory banks and attempts to interest and persuade strategically located unbelievers or agnostics) usually precedes accomplishment—although such effort cannot guarantee a happy outcome. Another outstanding characteristic is a desire to prove workability and to achieve application—a practical orientation that complements and even stimulates the inventive impulse. Conviction, a profound confidence that he is right and will in the end prevail, facilitates the inventor’s journey through the long and winding corridor of frustration, disappointment, and neglect to a premised, though not promised, land.

For the inventor who is interested in application, the established period of patent protection does not seem unduly long. Furthermore, the final rewards seem modest in view of the length of time required to achieve commercial application, the personal costs incurred, and the hazards of zero return. Where the inventor (as in Carlson’s and Walton’s cases) successfully enlists the collaboration of industry, he may greatly reduce the gestation period, which remains a substantial part of one’s adult lifetime. A complex “system” invention (like Goddard’s) may be greatly handicapped by difficulty of arranging for the participation of other experts—as in a corporate team.

While our sympathies naturally lie with the dedicated inventor who does as he should, we must also recognize that the path actually chosen by him is not necessarily the only inventive route that could have proved rewarding to society. Doing one thing precludes doing something else instead; and the potential benefits of what has been left undone by an inventor are less striking than the benefits realized or nearly realized through his zealous effort. An inventor with a large collection of patents might still have made a signal contribution if he had decided to exploit some other product or process than the one that engaged him most urgently. We do not know what Goddard, for example, might have accomplished in electronics if he had decided to pursue the work begun in his Ph.D. dissertation (although the bias of history may well dispose us to think that his achievements in rocketry were surely worth the sacrifice of alternative options).

Our sympathies are also excited by the apparent indifference or outright hostility of industry representatives, of military and scientific Government officials, and of the public at large to the Promethean offerings of the inventor. Organizations already making a profit or performing their functions well enough according to their own estimates are naturally reluctant to follow Pied Pipers from the outside who propose new ventures down unfamiliar paths. If experience, repetition, routine, and established techniques of maintaining continuity and managing change promise the viability of existing firms and nations, why should speculative alternatives be welcome or seem preferable to those in charge? There are costs of learning and unlearning; of giving up the old way and known product for a new way and unknown product; of giving up organizational research programs for unsponsored "exogenous" alternatives. The "resistance" encountered as we go forward in time is as natural as the superiority, irritation, and contempt that we feel when, having accepted and assimilated a novelty, we look back at the maze "needlessly" traversed.<sup>6</sup> Monday-morning "border-quacking" is an easier exercise than acting "wisely" while we are moving forward in time.

The biographies suggest that insufficient credit is generally given to the hardy souls and the organizations that *do* give assistance to inventors in the course of the difficult struggle forward. Large companies as well as small, foundations as well as Government bodies, famous men as well as fameless faithful aides deserve notice for their retrospectively positive and decisive contributions. Their motivations should be studied, since they too are mavericks, threaten convention, and risk reprisal for failure.

The same diversity of opinion that handicaps the striving inventor also provides a margin of hope for his success and recognition. While most individuals may frown or stare blankly, some do smile at the enthusiastic inventor "salesman." When a Government agency tightens pursestrings, a foundation may come to the rescue. What Company A rates poorly may appear as a worthwhile economic prospect to Company B. Unfortunate indeed would be the plight of the inventor if he had to depend, say, on a well-intentioned Government program that nevertheless made him a bureaucratic yo-yo responsive to the rise and fall of appropriated and allocated funds.

Our stories also suggest that uncontrollable external circumstances often help explain disappointments that may otherwise be attributed

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<sup>6</sup> For additional comments, see the author's paper on "Employee Creativity and Organizational Aims," *IDEA*, Vol. 9, No. 3 (Fall 1965), p. 401.

to human callousness or organizational indifference. The advent of war, the arrival of peace, and the onset of a recession necessarily affect the fortunes of those who deal with inventors. The impacts on inventors are more noticed when they are adverse, although a period of war, for example, may provide unusually favorable opportunities too (as in Davis's and Ruben's cases).

These observations prompted by a half-dozen biographies underscore the importance of two constant features of the Institute's research program: (1) insistence on the *interdisciplinary* approach to its domain of interest and (2) acknowledgment in this domain of *all* the participants and environments pertinent to the technological process. Nature, the inventor, Government, the economy, the public, and the rest of the world continually interact in ways that need not be obvious and with results that are hardly predictable. Inventive behavior has more than psychological and legal dimensions; and business and Government decisions to develop, innovate, and initiate have more than economic and statistical features. History already shows too well that it is easier to muffle than to meet the challenge of improving the tone of a culture or a civilization through effective use of inventive as well as other talents. To facilitate and to benefit more fully from transactions in novel ideas, technology, and processes across the numberless interfaces of a society require an appreciation of the many complexities involved; and such an appreciation is one of the goals of the Institute's research activity.

#### SIX CASE HISTORIES

In his careworn youth, the first winner of the Inventor of the Year Award worked part-time in a print shop, keeping a notebook of ideas and dreaming of a great achievement that might one day lift him and his family out of their poverty trap. Born in Seattle in 1906, Carlson<sup>7</sup> was the sole breadwinner by the age of 12. His tubercular and arthritic father, who had been an itinerant barber, and his tubercular mother, who died when her son was 17, were also obliged to depend on county welfare. Despite his need to work, Carlson completed a high school program; and he supported himself and his father while going to Cal Tech, where he won a B.S. degree in physics in 1930.

Carlson, a low-seniority employee, could not retain his first job during a depression cutback, but his next

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<sup>7</sup> Carlson is incorrectly described in Eli Ginzberg, ed., *Technology and Social Change*, Columbia University Press, p. 98, as a "former patent attorney at the Bell Laboratories" and as the inventor of "Xerox."

job, in a company patent department, opened his pathway to eventual success. Becoming impressed with the need for numerous, quickly-made, inexpensive copies of documents and drawings, he began consideration of alternatives to conventional photography. Insofar as time permitted (he also took night courses in law), he experimented with the electrostatic principle and with photoconductive materials.

**Chester  
Carlson**

By 1938, Carlson had a demonstrably workable system of electrophotography (or xerography), and he obtained his first patent in 1940. He continued to make improvements and filed the additional patent applications with carefully drawn claims on which his success finally depended.

Progress toward commercial exploitation proved difficult as IBM and other established firms rejected the invention as unpromising. A major break came in 1944 when Battelle Memorial Institute entered into an arrangement with Carlson for development work. Battelle became exclusive licensee under Carlson's patents, entitled to 60 percent of the proceeds, if any. In addition to making improvements, Battelle looked for an appropriate firm to complete the innovation process.

In 1946, Battelle began negotiation with Joseph C. Wilson and at the beginning of 1947 completed an arrangement with his firm, Haloid Company. The company was to receive a limited (later changed to exclusive) license to make, use, and sell copiers; Battelle was to receive a royalty of 8 percent on equipment sales and 62.5 percent of royalties on sublicenses for use of the process.

Wilson and his associates showed vision and daring in promotion, fund raising, production, and sales. Profit did not come until 1953, and the first machine for office use did not reach the market until 1960. Although the basic patent had by then expired, Carlson had also established a technically impregnable position. Meanwhile, Xerox Corporation (Haloid's successor) has become a legend for stock investors; and it has also provided significant rewards for the principals in a long and hazardous adventure that depended so much on patent protection.

The inventor identified with hydraulic power steering in automobiles was born in 1887 in Pennsylvania and brought up in Colorado. With early experience in his brother's machine shop he also acquired a fascination for automobiles. Later, when his brother opened a motorcycle agency, he helped in repair work.

Davis's first exploit was the development, about 1905, of a technique for improving the high-altitude performance of motorcycle engines,

which he fitted with automatic intake valves. His modified vehicles outran others. Keeping his technique a trade secret, he made modifications for a "handsome price."

Education in mechanical engineering at Harvard was followed by work in Pierce Arrow's truck division. Before leaving the company in 1922, he had risen to the command of design, testing, and experimental work on truck vehicles. In 1915-16, his company work was interrupted for service with the British War Office as chief truck engineer.

Becoming an independent consulting engineer in 1922, Davis spent much of his time at first on problems of braking and steering very large trucks (beyond 5-6 tons of capacity). Although the braking difficulty soon proved manageable, the steering problem remained. Davis's diagnosis indicated a need to bypass the obvious method of "gearing down" and to bring mechanical power to the driver's aid.

Recalling an early *Scientific American* article on ship-steering (1882) and aware of some issued patents on automotive power steering, he devoted himself intensely to his chosen task. Satisfied that a hydraulic control would be more suitable than others (e.g., vacuum, compressed-air, or electrical), he designed and experimented with a mechanism that finally led to a breakthrough, the "open-center valve" (patented in 1931).

As early as 1926, Davis and his assistant were able to drive from his Waltham shop to Detroit in a Pierce Arrow equipped with his power-steering system. Calling on 10 companies in 10 days and letting 26 individuals use his car, Davis received cautious compliments but also failed to arrange for manufacture under license.

In 1928, a one-year option agreement with General Motors was signed, with Davis "guaranteed a very fair yearly minimum royalty." Several steering gears were made for trucks and cars, and Cadillac was ready to incorporate the mechanism in a 12-cylinder vehicle by 1932. The tooling cost and the poor economic climate, however, discouraged Cadillac. While General Motors remained interested in a license, it was unwilling to continue the guaranteed minimum royalty. The agreement was accordingly terminated in 1935, and a new arrangement involving a guaranteed minimum royalty was made with Bendix, which then built, tested, and demonstrated some of the gears.

World War II, like the great depression, interrupted orderly efforts toward civilian introduction of power steering, although it also provided an opportunity for extended trial under military conditions. Buick was readying plans for application, on the basis of experi-



ence with two test vehicles built in 1941, but hostilities intervened. Successful wartime use of power steering in numerous United States and British vehicles elated Davis, but early post-war introduction in civilian cars was discouraged by three factors: A seller's market did not economically require innovation; wartime practicability might not be readily transferable to the family car; and no pressure existed for companies to become aware of the nature and extent of the maintenance problems involved.

Shift to a buyer's market provided a competitive impetus for introduction of power steering by Chrysler in 1951, and other companies rapidly imitated. Public acceptance, exceeding expectations, was "greater, in fact, than it had been for any other major automobile accessory."

Davis thus achieved market vindication 25 years after his first demonstration in Detroit and 20 years after issuance of his basic patent. He protected his investment of time and funds through 40 or more domestic and foreign-improvement patents. Section 1235 of the Federal tax code has been applicable to the bulk of his economic return from the invention.

The overlooked father of rocketry received his first of more than 200 patents in 1914, when he was a fledgling (Princeton) Ph.D. and physics instructor at Clark University. All his life Goddard saw himself "setting out the flags of discovery" through patents. He worked indefatigably despite the handicap of tuberculosis.

His speculations on space-probing went back to 1904. By 1906, Goddard realized that, if they became available, liquid oxygen and liquid hydrogen could be used in rocket-firing. In the same year, he recognized the theoretical potential of nuclear rocket fuel in space-voyaging.

Goddard's two pioneer patents of 1914 introduced the basic features of modern rocket art. He saw the need for a combustion chamber with a nozzle and for the forced feeding of liquid or solid propellant into this chamber. He also visualized the combination of multiple stages in one rocket assembly.

**Robert H.  
Goddard**

Before World War I, Goddard turned to the military services for support. The Navy responded to copies of his initial patents with a request for non-existent "samples." In 1916, while his academic salary amounted to \$1,000 per year, he turned to the Smithsonian Institution and received an initial grant of \$5,000. During the war, he received additional funds from the Army Signal Corps, and he began full-time

experimental work. In 1918, at Aberdeen, he and his associates convincingly demonstrated the military practicability of a solid-propellant rocket. Later the principle was to be incorporated in the recoilless "bazooka," the tank-killer that stopped the Germans in North Africa.

On the basis of Goddard's 1918 demonstration, he was urged to proceed to development of a six-inch high-velocity rocket for firing from aircraft. Unhappily, however, the promised special appropriation was not forthcoming. The reason? The "outbreak" of peace! As a weapon, the rocket then slipped into limbo—until World War II.

Goddard returned to Clark after the Armistice. He continued his rocket research, and in 1919 he had a monograph published by Smithsonian on "A Method of Reaching Extreme Altitudes." A footnote that indicated the theoretical possibility of reaching the moon appealed to popular fancy but won no new Army support. The Navy did contribute about \$2,000 to investigation of rockets for anti-submarine warfare and armor penetration, and this work was Goddard's last military chore for almost two decades. Modest Smithsonian support continued to 1930. Meanwhile, two successful rocket flights, both under 100 feet, were recorded—in 1926 and 1929.

Lindbergh, at the height of his own fame, sought Goddard's acquaintance and tried to assist him in two practical ways. First, the flier took Goddard to meet Du Pont officials in 1930, but no company interest developed. Second, Lindbergh persuaded Daniel Guggenheim, the mining magnate, to invest \$100,000 in Goddard's work over a four-year period. A site was prepared in New Mexico in 1930; but, alas, Guggenheim's death and the collapse of the stock market led to termination of the project in 1932 with only half of the money spent.

Back again to Clark and his own machine shop went Goddard. He continued to obtain patents. He gave talks in scientific and technical circles, where interest in his work was apparently rising. Lindbergh's encouragement continued, but the Army and Navy still refused support in the absence of evidence of fruition.

In 1934, with Lindbergh's active help, Goddard obtained fresh Guggenheim support—from the Daniel and Florence Guggenheim Foundation. He received \$18,000 a year at first for research, crew wages, and personal expenses at the New Mexico site; thereafter, he would receive \$20,000 a year, provided his sponsor remained satisfied with the progress made.

In principle, industry could have assisted too; but Linde Air Products offered no special price for liquid oxygen and Du Pont gave no encouragement in perfecting the rocket concept. A small local con-

cern, Pioneer Instrument, did provide a suitable gyroscope, which Goddard therefore did not have to fabricate. Specialization and "sub-contracting," which the Guggenheim leadership would have preferred for speeding the project, could not be achieved in an enterprise still depending so crucially on the conception—and persistence—of one man.

By 1940, Guggenheim felt that Goddard's work and the New Mexico facility were ready for new military notice, but the overtures were not cordially received. Although an altitude of 7,500 feet had been reached under gyroscopic control by 1935, the Army and Navy saw no need for Goddard's "Buck Rogers stuff" during World War II. Perhaps, jet-assisted take-off was practicable for planes, but no future was yet seen for rocket engines in aircraft and for rocket projectiles.

Goddard did get a minor appointment to a Government committee to aid the war effort, but his full potential was apparently unrecognized and was certainly not exploited. Officialdom and the scientific establishment were concentrating on the atomic bomb and on less remote military prospects already determined essential for victory in the war then being fought. Vannevar Bush, whose own scientific career and credentials are impressive, had this to say in his appearance before the Special Senate Committee on Atomic Energy as late as 1945:

There has been a great deal said about a 3,000-mile, high-angle rocket. In my opinion such a thing is impossible and will be impossible for many years. . . . I think we can leave that out of our thinking.

After many tries, Goddard was invited to work with the Navy—but on jet-assisted take-off rather than on high-altitude and long-range rocketry. Ironically, even this Navy effort was absorbed into the expanding program of the Jet Propulsion Laboratory of Cal Tech, which also obtained an assignment on rocket weaponry late in the War!

After Goddard died in 1945, it became clear how much the Germans had learned from his work to design their dreaded V-2 rocket and how much our own nation's belated attempts depended on the frail pioneer. In 1951, suit was brought against our Government by the Guggenheim Foundation and Mrs. Goddard for infringement of more than 200 patents. In 1960, an administrative award of \$1 million was made. The Foundation, well repaid for its advances during the inventor's lean years, used the money for continuing sponsorship of Goddard professorships—not only at Princeton but at Cal Tech!

As a footnote to this melancholy recital, we add an item that might well inspire some new stanzas for the poem "If." In 1936, the president of Collins Radio called on Goddard for assistance when RCA

challenged this company's use of conventional oscillator tubes based on DeForest and Armstrong patents. Goddard held a patent for a tube devised in connection with his graduate work at Princeton in 1912. Feeling that his own inventiveness was being called into question, he helped the young firm to survive, accepting only a modest consultant fee to defray the cost of another patent application. Until this episode, Goddard had apparently attached little significance to his own oscillator tube.

The inventor of the automatic regulator for automobile clocks was born in 1910 in Russia. He is the son of a shoe manufacturer who was obliged to move to Siberia during World War I and then to flee with his family to China during the Revolution. His father contracted typhus and died. After two years in Harbin (Manchuria), Jacob, his mother, and his brother came to the United States.

In early years, Rabinow was an avid reader of science fiction, showed an interest in technical devices, and hoped to be an engineer. In the new country, he entered City College of New York, emerging with engineering degrees in 1933 and 1934.

Depression and a foreign accent limited Rabinow's opportunities. He worked in radio factories, repaired sets in his spare time, and took Civil Service examinations. In 1938, he was appointed to the National Bureau of Standards, where he did routine work on water meters and pressure gauges.

Rabinow's creative talent was given more play when he was assigned to a group engaged in classified work under the National Defense Research Committee. He contrived safety devices for ordnance, automatic controls for guided missiles, and bomb-releasing devices. He worked in such fields as electronic computers, magnetic recorders, and character recognition. He invented the magnetic fluid clutch, for which he received a Franklin Institute award. He became a division chief at the Bureau of Standards after World War II and received many honors, including the President's Certificate of Merit.

A new phase in Rabinow's career opened in 1953, when he left Government to enter his own engineering firm. In this phase, he has engaged in research and development activity in such areas as optical character recognition. (The company has become a division of another expanding firm, and Rabinow has accordingly become freer to pursue his own long-term research interests.) His inventive output includes roughly 150 issued patents and about 30 others pending.

While a Government employee, Rabinow invented, on his own,

the automatic regulator for clocks and watches. He filed his first patent on this device in 1948, after three years of research. Watch producers generally proved uninterested at first, or even defensive. Happily, Rainbow's fame as inventor of the magnetic fluid clutch gave him respectability in industrial circles, and he was also able to advertise his new achievement in talks given on various topics to automotive engineers and others. In addition to direct rebuffs, he was set back by the bankruptcy of a watch firm that had shown keen interest and by infringement on the part of another firm. A chance meeting in 1955 with the president of General Time, however, led to an exclusive license agreement covering nonjeweled watches and clocks. Adoption of the invention by other companies soon followed.

Rabinow's royalty income on the automatic regulator was reported at \$150,000 by 1965, and an additional return of about \$30,000 was then expected. Against this sum should be set about \$20,000 in out-of-pocket outlays and Rabinow's unpriced time and effort since 1945. It might also be added that 100 of Rabinow's inventions have yielded nothing.

The inventor of the mercury battery was born in Harrison, New Jersey, in 1900 and educated in New York public schools. A compulsive reader in science and an experimenter in chemistry and physics, Ruben became a licensed amateur radio operator by the age of 15. At 17, he became a laboratory assistant in a chemical company. Family circumstances precluded a college career, although he did study by himself and took night courses in chemistry and other subjects. (Later, Ruben acquired an honorary doctorate.)

A decisive incident was his meeting and impressing Professor Bergen Davis, of Columbia, a consultant to Ruben's employer. A friendship began that extended for 40 years, until the professor's death in 1959. Ruben was free to use the professor's library, and he was privileged to attend lectures at the University.

Samuel  
Ruben

Another critical event was the company's decision in 1923, on the advice of Professor Davis, to finance an independent laboratory in which Ruben could develop his own ideas. Soon, two economically important inventions emerged: the magnesium-copper sulfide dry rectifier and the dry electrolytic capacitor. Other significant inventions include the quick-heating alternating-current vacuum tube, high-temperature insulation for the wires of electromagnets, electrophoretically coated wire for multilayer non-inductive precision resistors, and the mercury dry cell.

World War II occasioned a considerable demand for an alternative to the short-lived conventional zinc-carbon dry battery. Ruben had a product—the hermetically sealed mercury dry cell, with long shelf life, high current capacity, and operability over a wide range of temperature and humidity conditions. This cell has proved useful for radio and television equipment, hearing aids, electronic watches, and medical appliances (such as the “Pacemaker” for heart patients). The patent was granted in 1947.

Ruben’s licensee for basic and improvement patents has been the Mallory Company. A mutually beneficial division of effort has persisted for many years. Ruben has revolutionized dry-cell technology; Mallory has served as his instrument for innovation.

The inventor of a process of shrink-proofing knit goods was born in Indiana in 1909. He entered Purdue at 15 and also studied at Carnegie and M.I.T., without completing the work required for degrees.

Walton joined a paper company as a chemist, went to the Quartermaster General’s Corps in a research capacity during World War II, and later became associated with a textile engineering firm. In 1950, he decided to become what he wanted most to be—a free-lance inventor.

A major inventive contribution of Walton is a method of preshrinking knit products to the extent that would result in home tumble-drying of untreated goods. The method drew on earlier experience—such as his efforts to crepe paper and to make a suitable paper for disposable clothing.

**Richard  
Walton**

A crude machine was devised by Walton in two years. A manufacturer of knit goods, William Carter, offered to finance further development in return for a half-interest in the final process. For another two years, Walton worked with the company on this basis, bringing the process by that time to a point of wider commercial interest.

Tubular Textile Machinery then collaborated with Walton and Carter for six years to perfect the compaction principle involved. After two more years of testing under production-line conditions, equipment was ready for manufacture and application. During those two years, Tubular Textile Machinery also planned for handling and licensing the trademark of “Paknit,” as a control on the quality of the processed goods.

The shrink-proofing system has been adopted in the United States and abroad. Walton invested more than 14 years of effort and also incurred many expenses. The two companies paid more than \$2 million

for development. Over \$30,000 was spent on worldwide patents. Royalties started to flow about two years ago. Extension of the preshrinking principle and the acquired experience to other applications has followed—e.g., the softening of nonwoven materials, production of stretch fabrics from woven textiles, increase in the absorbency of paper toweling, and elasticizing of medically treated or chemically impregnated paper.

Perhaps “grime does not pay”; but, luckily for us, the Waltons and the other “independents” considered above have not yet become convinced.





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## REVIEWS AND ANNOTATIONS

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### Recently Published or Reported Material Relating to the Research Institute's Work

#### Books

Gould, Jay M., *The Technical Elite*, Augustus M. Kelley, New York, (1966), 178 pp.\*

This book has three levels of appeal. First, it offers special fare for the professional gourmet—the economist, sociologist, or attorney interested in business organization, antitrust, and competition. Second, it complements the conventional economics text, in which technology is treated as a “given” black box and is further described only to the primitive extent required for explication of the theory of the firm or the theory of production and income distribution. Finally, it affords easy access for the general reader to some striking information about the strategic role of technology in our nation’s economic life, both past and present.

The specialist in our first category should welcome Gould’s fresh assessment of the relevancy for our time of Veblen’s astringent views on the United States productive system. Although sev-

eral decades have passed since publication of such works as *The Engineer and the Price System* (1919) and *The Vested Interests and the Common Man* (1918), echoes of the biting phrases and sentiments of the original *enfant terrible* of American economics still spice discussions of public policy in the halls and committee rooms of the Congress and in the various news media. While many readers raised in our enterprise tradition will hardly share Gould’s respectful attitude toward Veblen, they can hardly afford to ignore the persistent reality of Veblenism as a factor in contemporary Government-industry relations.

In Gould’s estimation, “American Big Business has stolen much of Veblen’s thunder” (p. 32). A heralded clash between “engineers” oriented toward technical efficiency and “captains of industry” oriented toward profit seems to have been averted, or even transformed into a *modus vivendi*. In the organization, operation, and management of modern business, increasing numbers

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\*This book review is submitted by Dr. Irving H. Siegel, a principal consultant to The PTC Research Institute.

of salaried people with technical education or with technical competence acquired through experience are streaming into positions of leadership and responsibility. Furthermore, concepts derived from science and engineering are being applied with conspicuous effectiveness to the methods of business itself and to the equipment used in offices. Not only is advanced technology nowadays regarded as symbiotic with our economic order but also as compatible with other economic dispensations that are not considered "capitalistic." Gould believes that Veblen has "won a quiet victory, in having foreseen the emergence of a technical elite to harness the divergent interests of business and science" (p. 32).

The larger nonspecialist audience may feel that the information marshalled for a current evaluation of Veblen's message is much more interesting than the motivating thesis itself. The chief contribution for such readers is the array of impressive statistics and other facts (mostly included in 26 charts with accompanying brief comments on pp. 120-171 and in the table on pp. 172-173) about the nature and contribution of the group named in the book's title—"the technical elite."

Gould's technical elite comprises something like one million scientists, engineers, and technical managers engaged in nonteaching

functions in our society. It is not to be confused with the new "establishment" that seeks to influence the size and allocation of public funds for research, development, and education. It is larger, more heterogeneous, and less political than the "scientific-technological elite" contemplated uneasily by President Eisenhower (or a "spooksman") in his farewell address.<sup>1</sup> It is an aggregate without a unifying ideology or a class consciousness—in the usual American pattern.

Beyond assuring the general reader that attractive crystals of information are provided by Gould, we offer a sample.<sup>2</sup> The 1950's saw a remarkable change in the composition of the leadership of American business. A survey made in 1963-64 of the top executives of 600 leading companies (accounting for about half the nation's industrial output) indicated that "nine out of 10 came from poor or middle-income families, and that four out of 10 have had college level or graduate training in a natural science or engineering or equivalent on-the-job training" (p. 79).

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<sup>1</sup>This topic is trenchantly discussed by D. S. Greenberg, "The Myth of the Scientific Elite," *The Public Interest*, (Fall 1965), pp. 51-62.

<sup>2</sup>Some of Gould's findings were also presented in "Technicians Moving in at the Top," *Business Week*, June 12, 1965; and F. M. Hechinger, "Education: A Profile of the Business Executive," *New York Times*, May 30, 1965.

In contrast, fewer than two-thirds of the top executives of 1950 apparently had such family backgrounds; and, in 1900, the ratio was in the neighborhood of one-half.

Other arresting findings might be mentioned, as well as some limitations and blemishes. It is good, for example, to have a reminder not only of the length of the American scientific tradition (though the thread was very thin in the early decades of our republic) but also of the antiquity of the Russian commitment to science and technology (traceable to Peter the Great). Among the limitations of the book are the neglect of many factors pertinent to the growth of formal industrial research and development activity and also of the United States technical elite—e.g., the stimulus of World War II and the Korean conflict; the requirements of defense, atomic energy and space; Federal provisions for accelerated tax amortization and the later clarification of the tax treatment of research outlays in the 1954 Internal Revenue Code; and the enlargement of educa-

tional opportunities under the "G.I. Bill of Rights." Among the blemishes are misspelled names (e.g., of two early United States scientists, the Sillimans).<sup>3</sup> But, despite the flaws and despite the reservations one may have with respect to the selection and use of material, the substantial merits of Gould's book commend it to the three kinds of readers mentioned in our opening paragraph.

Klouster, John W., *The Granting of Invention, Rights*, Intellex Inc., Minneapolis, (1965), 152 pp., \$8.95.

Wroe Alderson, *et al.*, *Patents and Progress: The Sources and Impact of Advancing Technology*, Richard D. Irwin, Inc., Homewood (Ill.), (1965), 251 pp. \$4.65.

Contains 13 lectures presented at the University of Pennsylvania on patent policy, sources of technological change, incentive for invention and innovation, and implications of technological change for competition.

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<sup>3</sup>Also misspelled are: Adolf (Berle), Brozen, and Cobol.

## Periodicals

Aisenberg, Irwin M., "The Status of Copending Patents for Precluding Patentability," *Journal of the Patent Office Society*, Vol. 47, No. 11 (November 1965), pp. 859-867.

" . . . copending patents are available to preclude patentability to a subsequent inventor of subject matter constructively reduced to practice therein. Copending patent disclosures cannot be combined with other disclosures except for the very limited purpose of precluding first inventorship of the invention claimed by another."

Chereau, Pierre Louis, "The New French Trademark Law," *Journal of the Patent Office Society*, Vol. 47, No. 11 (November 1965), pp. 890-905.

"In France, a new Trademark Law was published on January 1, 1965 repealing in its entirety the previous Trademark Law of June 23, 1857 which has been effective over more than one century. This new Trademark Law is referred to as Law No. 64-1360 of December 31, 1964 and will be effective from August 1, 1965. This is quite an important event in French and International business and trade not so much as this law codifies many practices and customs but overall as it brings forward major changes in

the situation of trademarks in France."

Choate, Robert A., "'On Sale'—Review and Circumspection," *Journal of the Patent Office Society*, Vol. 47, No. 11 (November 1965) pp. 906-919.

" . . . since many of the swift moving months of that all too short 'year' may be consumed in the attorney's office in the preparation of drawings and in the draft and redraft of an application, it may be worthwhile to take a careful look at the cases and the law as it seems to be shaping up."

Epstein, D., "Copyright Protection and Community Antenna Television Systems," *Federal Communications Bar Journal*, Vol. 19 (1964-65), p. 97.

Farber, Martin Allen, "Capital Gains—'Transfer . . . of Property Consisting of All Substantial Rights to a Patent' . . . , *Journal of the Patent Office Society*, Vol. 47, No. 12 (December 1965), pp. 981-997.

"Two aspects have been involved in the cases dealing with Section 1235 treatment for employee inventors. One, is the question of whether the employee is hired specifically to invent, or whether the employee is hired to perform services other than specifically to invent. In the former

situation, amounts received are considered compensation for services, and 1235 is inapplicable; in the latter, amounts received for subsequent invention are for the transfer of the substantial rights to the invention. The other question is whether patent bonus payments should be denied 1235 treatment if the 'promise' to recompense is made subsequent to the assignment. Recent court decisions have given these payments 1235 treatment, although such payments are additional 'consideration' to the consideration which fully supports the assignment, viz., the employment itself."

Forman, Howard I., "Statement Before Subcommittee United States Senate (Patents, Trademarks and Copyrights)," *Journal of the Patent Office Society*, Vol. 47, No. 10 (October 1965), pp. 789-810.

"I believe that the prepared statement which I submitted prior to June 1st and the talk I just referred to amply set forth my general views on Federal patent policy and my specific views on the bills you are considering here today.

"I would like now to dwell only on the main reasons why I believe legislation of the kind embodied in S. 1809 comes closer to being in the public interest than any of the others, and why S. 1899 is

the farthest of the three bills from being in the public interest."

Goldsmith, Harry, "Sudden Death to Patents," *Journal of the Patent Office Society*, Vol. 47, No. 10 (October 1965), pp. 839-847.

"So today we have a Circuit Court decision which says where no license has been obtained, the U.S. patent is dead; one district court decision which holds that even if you get a retroactive license after the U.S. patent has issued, the patent remains dead; two district court decisions which hold, where if you get the retroactive license, the patent is valid; and two decisions by the D.C. Court of the District of Columbia and one by the First Assistant Commissioner of Patents that the Commissioner of Patents has authority to grant retroactive licenses after the patent issues.

"Perhaps the matter will finally have to be decided by the U.S. Supreme Court. But meantime beware and don't fail to get a license before filing in foreign countries."

Hamilton, W. C., "Copyright Problems at the Academy," *Air Force JAG Law Review*, Vol. 7 (November-December 1965), p. 21.

Handler, Milton, "Gilding the Philosophic Pill—Trading Bows for Arrows," *Columbia Law Review*, Vol. 66, No. 1 (January 1966), p. 1.

"To lump together all forms

of reciprocal buying and mutual patronage and declare them all per se unlawful would run counter to the pragmatic traditions that have animated our antitrust laws since their inception. Very often undesirable practices are best dealt with through the process of education in the business community. Before we shackle ourselves with rigid and absolute proscriptions, I would counsel that we stop, look and listen, that we proceed in the hallowed common-law tradition of inclusion and exclusion, and that we avoid a dragnet approach yielding results that are repugnant to common sense, human nature and business reality."

Handler, Milton, "Recent Antitrust Developments—1965," *NYU Law Review*, Vol. 40, No. 5 (November 1965), pp. 823-859.

Professor Handler briefly reviews the history and scope of the "labor exemption" to the antitrust laws, reciprocity and the antitrust laws, "The Aftermath of White Motor" and "Trademark Licensing and Tying Agreements." A well footnoted, provocative, readable commentary.

"Injunctions to Protect Trade Secrets—the *Goodrich* and *du Pont* Cases," *Notes, Virginia Law Review*, Vol. 51, No. 917 (1965), pp. 917-949.

"This Note will discuss the present state of the law regarding injunctions to protect trade se-

crets as a prelude to extended consideration of the issues raised by *Goodrich* and *du Pont*."

Katona, Gabriel P., "Legal Protection of Computer Programs," *Journal of the Patent Office Society*, Vol. 47, No. 12 (December 1965), pp. 955-980.

"The purpose of this paper is to examine the question of securing simultaneous patent and copyright protection for computer programs. . . .

"In the present unsettled situation the best approach seems to be to both apply for patent and register the program for statutory copyright protection as an unpublished work, with due care to prevent issuance of the patent or publication of the program until sufficient case law develops to suggest the appropriate approach."

Klein, Arthur O., "Commentary on Rumanian Industrial Property Laws," *Journal of the Patent Office Society*, Vol. 47, No. 12 (December 1965), pp. 946-954.

"The author will only discuss the more important sections of Rumanian Patent and Trademark Laws and their significance from a foreign applicant's point of view.

"With the advent of the Communist Regime in Rumania at the end of World War II, certain amendments were introduced into the Rumanian industrial property laws. Although

these amendments brought some significant new concepts into the 1906 laws, the latter are still basically intact."

Latker, Norman J. and Wylie, Ronald J., "Utilization of Government-Owned Health and Welfare Inventions," *Journal of the Patent Office Society*, Vol. 47, No. 11 (November 1965), pp. 868-879.

"Because the emphasis of DHEW is on basic research as opposed to developmental work, because great expenditures of effort and finances characterize the development of new drugs and medical instrumentation, and because no other field presents more urgent needs for all products to be brought to a point of utilization, study should be given to any possible mechanism offering promise as an inducement for the development of the products of research. Exclusive licensing of patents is one mechanism for achieving the highest possible rate of utilization for PHS technology."

Peterson, John R., "The Legislative Mandate of *Sears and Compco*: A Plea for a Federal Law of Unfair Competition," *The Trademark Reporter*, Vol. 56, No. 1 (January 1966), pp. 16-49. "This article reviews briefly the decisions of the Court in *Sears and Compco* and the historical development of the law of unfair competition. Consideration is

then given to several possibilities for legislation on unfair competition at federal and state levels."

Peterson, Oliver H., "What the Businessman Expects from the Patent Attorney," *Journal of the Patent Office Society*, Vol. 47, No. 11 (November 1965), pp. 880-889.

"In summary, the business executive should have a good understanding of the basic concepts of patent law, so as to maintain permanent control over patent matters. The attorney should impart to the executive the basic fundamentals of patent law and so much of its provisions as relate to the particular field of his endeavors so as to enable the executive to make informed and intelligent decisions. The attorney should not sit in an academic ivory tower, but he should be practical and give full cooperation in the handling of all problems at hand. Remember, it is the businessman who invests the risk capital and is responsible for the development and protection of industrial property. The patent attorney is one of his right hand men. The patent attorney must be loyal to him and give him the best possible advice."

Roth, David A., "Obviousness under Section 103," *Journal of the Patent Office Society*, Vol. 47, No. 10 (October 1965), pp. 811-838.

"Briefly, the problem to be examined here relates generally to

the conditions under which certain acts and publications may be properly combined with other acts or publications under section 103 to deny patentability to the invention of an applicant or patentee. Specifically it relates to the propriety of using patents filed before but issuing after the invention of an applicant as references under section 103. The writer's thesis is that the courts have misunderstood and misinterpreted section 103 and continued a line of decisions that were not well-reasoned. The format will be *ab initio* analysis of the pertinent sections in order to formulate what the writer believes the law should be, based on the clear meaning of these statutes, followed by an analysis of court decisions and legal articles."

Seidel, Arthur H., "The Constitution and a Standard of Patentability," *Journal of the Patent Office Society*, Vol. 48, No. 1 (January 1966), pp. 5-41.

"The standard for a patentable invention would seem a political matter determinable from time to time by the legislature, to obtain optimum social usefulness of the patent system. A changing society might best be served by changing standards, but dictum from Supreme Court decisions evince a conflicting position, namely that the Constitution imposes a high, rigid stand-

ard. It is the purpose of this paper to explore the issue."

Timberg, Sigmund, "Territorial Exclusives," *The Trademark Reporter*, Vol. 56, No. 1 (January 1966), pp. 1-15.

"The theme of this paper is to probe the answer to two distinct but nevertheless interrelated questions:

- (a) Can a manufacturer of a product validly bind a distributor or a dealer not to resell that product outside of his designated territory;
- (b) Can the owner of the trademark on a product, who licenses the trademark to a manufacturer, legally require that manufacturer not to sell the product outside of his allotted territory?"

"Unfair Competition Protection After Sears and Compco," *NYU Law Review*, Vol. 40 (January 1965), p. 101, Abridged. *Trademark Reporter*, Vol. 55 (November 1965), p. 964.

"Validity of Patent License Provisions Requiring Payment of Post-Expiration Royalties," *Columbia Law Review*, Vol. 65 (November 1965), p. 1256.

Waldhaim, F. "Characters—May They Be Kidnapped?" *Bulletin of the Copyright Society of the USA*, Vol. 12 (April 1965), p.



210; *Trademark Reporter*, Vol. 55 (November 1965), p. 1022.

Ways, Max, "Antitrust in an Era of Radical Change," *Fortune*, March 1966, pp. 128 ff.

This paper is roughly compatible in spirit with the thesis of "positive competition" that has been expounded in *IDEA* by L. J. Harris and I. H. Siegel. It serves as a basis for "a *Fortune* proposition," p. 129: "Congress should amend the antitrust statute to make it clear that the national policy is to foster competition by punishing restraints of trade, in-

cluding conspiracies to fix prices, limit production, allocate markets, and suppress innovation; but that is not the national policy to prefer any particular size, shape, or number of firms to any other . . . ; and that mergers . . . are entirely legal unless they spring from a manifest attempt to restrain trade."

Zelnick, A. "Registrations of Configurations of Goods and Containers in the Light of the Sears & Compco Decisions," *Trademark Reporter*, Vol. 55 (November 1965), p. 933.

## Reports and Hearings

*Hearings Before the Subcommittee on Patents, Trademarks, and Copyrights of the Committee on the Judiciary, United States Senate, 89th Congress, 1st Session, Pursuant to S. Res. 48 on S. 789, S. 1809, S. 1899, S. 2326 and S. 1047.*

The Hearings on S. 789, 1809, 1899, 2326, 1047 were held June 1 through 3, July 6 and 7, and August 17 and 19, 1965. They are issued in three parts: part 1 and 2 entitled "Government Patent Policy" and a supplement entitled "Patent Infringement," which is confined to the testimony concerning S. 1047.

Senator McClellan has enabled a relatively broad and representative cross-section of interested individuals and organizations to present their views, and incorporated in the record a sizeable number of statements submitted by members of the public interested in the proposed legislation. The one point most of the witnesses agreed on was the advantage of an overall Government patent policy. The differences lay in the type of policy and procedure and the provisions with respect to patent title and license. Although some novel thoughts were expressed, there were no surprises with respect to the positions of the witnesses. The chairman repeatedly referred to the com-

plexity of the problem and the difficulty of preparing legislation in this field. In concluding the Hearing he said that he was "informed by the staff that over 100 individual amendments have been specifically proposed and submitted for the Committee's study."

*Hearings before Subcommittee No. 3 of the Committee on the Judiciary, House of Representatives, 89th Congress, 1st Session, on H. R. 4347, H. R. 5680, H. R. 6831, H. R. 6835, Bills for the General Revision of the Copyright Law, Title 17 of the United States Code, Copyright Office, The Library of Congress, Washington, D. C. 20540.*

"The transcript, issued February 1966, is in three parts and contains, in addition to the testimony of witnesses, other statements and materials filed with the Committee as a part of the 22 days of hearings beginning May 26 and ending September 2, 1965.

"Part 1 consists of the testimony through June 9, together with a copy of the revision bill (the various bills mentioned above being identical). Part 2 is the testimony from June 10 through June 24. Part 3 contains the remainder of the testimony, an appendix of letters and other statements, as well as a complete com-

bined subject and name index covering all three parts.

“Each of the three parts is in a separate volume and may be purchased from the Superintendent of Documents, U. S. Government

Printing Office, Washington, D.C. 20402, at the following prices:

Part 1 (pages 1-658) .....	\$2.00
Part 2 (pages 659-1381) .....	\$2.25
Part 3 (pages 1382-2056, including 124-page index) .....	\$2.00”



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## NOTES ·

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### David Sarnoff to Receive The Charles F. Kettering Award

Brigadier General David Sarnoff, chairman of the board of the Radio Corporation of America, was named as recipient of The Charles F. Kettering Award for Meritorious Work in Patent, Trademark, and Copyright Research and Education for 1965.

Sarnoff will receive the award at the Tenth Annual Public Conference of the Research Institute to be held June 16-17 at the Shoreham Hotel in Washington. Presentation will be on the evening of June 16.

General Sarnoff was born in 1891 in the small village of Uzlian, near the city of Minsk, Russia. His family came to the United States in 1900.

His first association with the communications industry was as an operator with the Marconi Wireless Telegraph Company of America in New York in 1906.

He advanced rapidly in the communications field and in 1930, at the age of 39, he was elected president of RCA. In 1947, he was elected chairman of the board and chief executive officer of the company. He relinquished the post of chief executive officer in 1966.

A memorandum General Sarnoff wrote to his superiors in the Marconi company in 1916 proposed a

plan for broadcasting programs into the home using a "radio music box." The proposal led directly to the development of the radio and radio broadcasting as it is known today.

He is also the moving force behind the development of both black-and-white and all-electronic, compatible color television. In 1944, the Television Broadcasters Association conferred upon him the title of "Father of American Television."

In addition to his scientific and industrial activities, General Sarnoff has achieved recognition for his work in military communications, especially during World War II. He served as special consultant to General Eisenhower in Europe and was promoted to Brigadier General in 1944. He was decorated for his service by the United States and French Governments.

General Sarnoff has served on several special Presidential commissions, chairing two. He is active in numerous civic and cultural organizations, and has received 24 honorary degrees from American colleges and universities. He has also received scores of honors and awards from scientific, industrial, military, civic, and cultural organizations in the U. S. and abroad.

## Announcing Institute's Tenth Annual Public Conference

**SPOTLIGHT ON U. S. INDUSTRIAL AND INTELLECTUAL PROPERTY SYSTEMS: CRITIQUE, OUTLOOK, AND RECOMMENDATIONS** is the new theme of our Tenth Annual Public Conference to be held at the Shoreham Hotel in Washington, D.C. on June 16-17, 1966.

This occasion provides the second opportunity for an Annual Public Conference of the Institute to contribute toward a data base for the President's Commission on the Patent System. The Ninth Annual Public Conference of the Institute was the first Annual Conference to

be specifically directed toward this objective. We anticipate, as last year, that it will be useful in obtaining information and examining the needs and prospects for the system. The sessions will again run serially rather than parallel so that the persons attending can get the full import of the Conference. As it looks now, we are planning two full days and enough variety and exciting material to engage everybody. We look forward to an even larger attendance than we had last year. Circle the Conference dates on your calendar!

## Samuel Ruben Named Inventor of the Year

Dr. Samuel Ruben, whose inventions have helped revolutionize the electrochemical and electronic industries, has been named Inventor of the Year for 1965.

Little known to the general public because most of his inventions are buried in larger electrical devices, Dr. Ruben is highly respected by his scientific peers.

He will receive the award at a 4 p.m. reception honoring him on April 14 at the Shoreham Hotel.

Dr. Ruben has been issued 300 patents by the United States Patent Office and is credited with 2,000 patent disclosures.

He was chosen to receive the award by a committee composed of

The Honorable Edward J. Brenner, Commissioner of Patents; Dr. Leonard Carmichael, Vice President for Research and Exploration, The National Geographic Society; Dr. Michael Ference, Jr., Vice President of Research, Ford Motor Company; Dr. Earl T. McBee, Head of the Chemistry Department of Purdue University; and Dr. Paul L. Salzberg, Director, Central Research Department, E. I. du Pont de Nemours and Company.

Dr. Ruben's invention of the mercuric oxide dry cell battery, said to be the first fundamentally new dry cell in the past century, provided the world with a small, lightweight, rugged and dependable

source of portable electric power. Because of their compactness, the batteries are used in electronic watches, earth satellites, photo flash equipment, hearing aids and in tiny heart pacemakers.

His dry electrolytic condenser, now found in nearly every radio and television set and in the starters of most electric motors, caused a boom in the electronics industry. Production of the device has reached more than 30 million units per year.

Among other important inventions are a ceramic insulated wire which is flexible and virtually indestructible, and a rectifier which

is the basis of one-hour battery rechargers and of high current resistance welders.

Dr. Ruben currently serves as a member of the Commerce Department's National Inventors Council. He has written a number of technical articles and two books—*The Elements*, published last year, and *The Electronics of Materials*.

He was awarded an honorary Doctor of Science degree in 1959 by Butler University, Indianapolis, Indiana.

Last year's Inventor of the Year was Chester F. Carlson, inventor of the Xerox copying process.





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\*In addition to titles of contributions, names of authors, and Conference participants, the index includes references to persons serving the Research Institute in various capacities.

*Italic numbers in the index refer to pages in the 1965 Conference number of IDEA.*

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## Summary

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The Ninth Annual Public Conference was convened by Acting President O. S. Colclough, who welcomed the participants on behalf of The PTC Research Institute, The George Washington University, and the co-sponsors of the Conference, the Commemorative Committee of the 175th Anniversary of the United States Patent System. The President, who is also the Director of the Research Institute, referred to the theme of recent Research Institute Public Conferences and noted the similarity of objectives of the Institute with that of the President's Commission. He pointed out that it was the purpose of the Conference to provide a base of information and data for the President's Commission on the Patent System. President Colclough then presented Executive Director L. James Harris.

Executive Director Harris discussed the nature, format, and objectives of the Conference. He concluded this part of his talk with a short summation of the Conference design: "Within the confines of a two-day Conference, we have included a representative cross-section of the major problems that confront the systems. In some cases the topics chosen are a distillation of the essence of particular problems. In others, the uniqueness of the combination of disciplines employed or the unified approach represented, will provide a challenge to strong insularities and to traditional relationships."

Executive Director Harris noted that "The Research Institute has been moving toward a data base for the President's Commission on the patent system all the way back since its inception. The Institute contributed toward the data base for ten years without knowing it—and this Conference marks the culmination of our contribution toward that base.

"There is a strong parallelism of interest between the Research Institute and the President's Commission. The ultimate 'Whereas' in the President's Executive Order declares that 'It is now necessary to evaluate our patent system and to identify possible improvements in it.' The Institute has been going down this path from its very beginning. The Research Institute has been engaged in a variety of relevant investigations. The work we have done is our contribution toward the data base for the President's Commission."

Looking to the future, Executive Director Harris outlined four major objectives of the Research Institute's program: "(1) to extend our research programs to additional fields and geographic areas; (2) to develop a more permanent and a larger research staff and to engage

resident scholars; (3) to expand the Institute's educational efforts to additional schools and universities; and (4) to draw on a part-time basis on the experience and capabilities of additional experts—such as judges, inventors, and industrialists—who have an intimate working relationship to the various systems but who cannot realistically be sought for research activity on a continuing or full time basis." Elaborating on the fourth point, Executive Director Harris stated that "The Institute will be enriched by the extra research contributions of these citizens enlisted in the public interest. By contributing this type of informal opinion on a scholarly basis, by pointing up needs as we go along, and by examining the interaction of the systems with existing laws and administrative procedure, they will help us more energetically to pursue the mandate in our Charter and that in the President's Commission."

Following the Executive Director's presentation, President Colclough introduced the Moderator of the first session, Dr. W. Deming Lewis, President of Lehigh University.

#### THURSDAY SESSIONS

The Thursday morning session of the Conference was devoted to The Changing Setting. The Moderator was W. Deming Lewis, President, Lehigh University. Invited contributors participating in this session were: Earl P. Stevenson, former Chairman of the Board, Arthur D. Little, Inc. and Chairman of the Advisory Council of The PTC Research Institute; Robert L. Hershey, Vice President and Research Advisor, E. I. du Pont de Nemours & Company, Wilmington, Delaware; Robert W. Fulwider, Fulwider, Patton, Rieber, Lee and Utecht, Los Angeles, California; and Mark S. Massel, Senior Staff Member, Brookings Institution, Washington, D. C. The following members of the Research Institute staff contributed in this session: Robert B. Bangs, Jack N. Behrman, John C. Green, Jesse W. Markham, James N. Mosel, Irving H. Siegel, and Edgar Weinberg. This was followed by a Panel Discussion and Question Period in which the panelists were the above-named speakers.

Earl P. Stevenson chaired the Thursday Luncheon Session which had as its theme The Nation's R&D Commitment and the Presidential Commission's Task. Jesse E. Hobson, Vice President, Southern Methodist University, Dallas, Texas, and former Vice President, United Fruit Company, spoke on An Industry View; and William W. Eaton, Deputy Assistant Secretary for Science and Technology, Department of Commerce on A Government View.

The afternoon session was organized around the theme of Admin-

istrative and Judicial Requirements for the Patent and Other Established Systems. Judge Arthur M. Smith, United States Court of Customs and Patent Appeals, moderated. Invited contributors who spoke on the general topic of How to Reduce Delay in Securing Patents were Richard A. Wahl, Superintendent, The Patent Examining Corps, United States Patent Office; Dean Laurence, Laurence & Laurence, Washington, D. C.; and Herman A. Bruson, Vice President and Senior Scientist of Olin Mathieson Chemical Corporation, New Haven, Connecticut.

The invited contributors to this session who spoke on the topic How to Reduce Time, Expense, and Risk of Patent Litigation were John L. Miller, United States District Court for the Western District of Pennsylvania, Pittsburgh; Joseph Gray Jackson, William Steell Jackson & Sons, Philadelphia, Pennsylvania; and Lyman C. Duncan, Vice President in Charge of Medical Affairs, American Cyanamid Company, Pearl River, New York. Research Institute staff contributors included: John F. Creed, P. J. Federico, George E. Frost, and James N. Mosel. A Panel discussion and question period followed.

#### KETTERING AWARD

The Award Dinner held Thursday evening honored Edwin H. Land, President and Director of Research, Polaroid Corporation, the recipient of the 1965 "Charles F. Kettering Award for Meritorious Work in Patent, Trademark, and Copyright Research and Education."

Dr. Land's acceptance address was entitled "On Some Conditions for Scientific Profundity in Industrial Research." He opened his address with a reference to his conception of the development of companies "based in science," continuing "For about 20 years I have been interested in the question of how to establish in the United States a large number, perhaps several thousand, of new companies based in science. My dream was that each of these companies would conceive of a new field and would carry on from the basic scientific work in that field through research, development, engineering, production, aesthetic design, lively, honest advertising, and efficient distribution.

"Our life up until that time in our own technologically creative company had been so satisfying and happy that we wanted not only to continue in the same way ourselves, but also to induce others to create companies similar to ours. Nothing that has happened in the generation that has intervened makes me feel any less faith in the dream I then had, although the fact is that for one reason or another not nearly as many of these companies came into being as I would

have hoped. Because I still believe in that dream, I want to talk tonight in some detail about the inventive experience in a company based in science.

"Before I start on that detail, I must emphasize that the kind of company I believe in cannot come into being and cannot continue its existence except with the full support of the patent system. Since this Conference is dedicated to detailed discussion of understanding the needs of a healthy patent system, I shall make only one comment: namely, that except for the intricacy that has entered into interference procedures, the patent system as I have known it for the last 40 years is satisfactory in principle to support the kind of science-based industrial renaissance that I believe in. For this purpose, all that is required is an expansion of the Patent Office—an expansion of budget, facilities, and equipment, comparable to the expansion of demand being made on the Patent Office.

"The specifications I now set for these ideal scientific companies are no different from the ones I set for myself in 1927: pick problems that are important and nearly impossible to solve, pick problems that are the result of sensing deep and possibly unarticulated human needs, pick problems that will draw on the diversity of human knowledge for their solution, and where that knowledge is inadequate, fill the gaps with basic scientific exploration—involve all the members of the organization in the sense of adventure and accomplishment, so that a large part of life's rewards would come from this involvement."

Dr. Land then went on to review several case histories illustrating the inventive process in the light of his own experience with the Polaroid Company. He emphasized the importance of patient and extended thought, pointing out that "The kind of training we had given ourselves in the field of polarized light had endowed us with a competence we had not sought and did not know we had; namely, a competence to transfer what must be a common denominator in *all* honestly pursued research, from one field to an entirely different one. I am inclined to think that only in a corporation, however small or large, in which individuals are expected to make the center of their life the intellectual life of the laboratory can this kind of transferable talent be built. This process must continue for year upon year and decade upon decade. I find men around me in our laboratory who have lived this way and who now seem more alert, creative, and productive than when they were 30 years younger. That creativity is tied to some youthful age is a myth that comes about, I believe, because for one reason or another men stop living this way perhaps because they are encouraged to think that there is more dignity associated with



tasks implying power over people than with tasks implying power over nature."

### FRIDAY SESSION

The Friday morning session was entitled Legislative Objectives and Proposals and was moderated by Robert C. Watson, Watson, Cole, Grindle and Watson, Washington, D. C., former Commissioner of Patents. This session was divided into four parts: Invited contributors, invited Congressional contributors, Research Institute staff contributors, and Panel discussion and question period. Each of the invited contributors directed his attention to a specific topic within the theme of the Session.

Howard I. Forman, Rohm and Haas Company, Philadelphia, Pennsylvania, spoke on Government patent policy; Tom Arnold, Arnold and Roylance, Houston, Texas, on Trade Secrets; George D. Cary, Deputy Register of Copyrights, Copyright Office, on Copyright Revision; Giles S. Rich, Judge of the United States Court of Customs and Patent Appeals, spoke on The Design Bill; and Beverly W. Pattishall, Woodson, Pattishall and Garner, Chicago, Illinois, on The Unfair Commercial Activities Bill.

Invited Congressional contributors included The Honorable Quentin N. Burdick, Senator from North Dakota; The Honorable Robert W. Kastenmeier, Representative from Wisconsin; Mr. William G. Wells, representing The Honorable Joseph E. Karth, Representative from Minnesota; and Mr. Lyman Smart, representing The Honorable David S. King, Representative from Utah. Staff contributors of The PTC Research Institute were: George E. Frost, Jesse W. Markham, Barkev S. Sanders, and Irving H. Siegel.

Earl P. Stevenson, Chairman of The PTC Research Institute's Advisory Council, chaired the Friday Luncheon Session entitled The Role of Industrial Property in the Dissemination of Technical Information in the World Context. Speaking on A United Nations' View was Karl Lachmann, Chief, Fiscal and Financial Branch, Department of Economic and Social Affairs, The United Nations. A Pan American Union View was presented by Francis C. Browne, Browne, Schuyler & Beveridge, Technical Adviser to the Pan American Union, and Paul A. Colborn, Chief, General Legal Division, Department of Legal Affairs, Pan American Union.

The Friday afternoon session, International Challenges and Opportunities, was moderated by Jack N. Behrman, Professor, the University of North Carolina, former Assistant Secretary of Commerce for Domestic and International Business, and a member of The PTC

Research Institute's research staff. Speaking on Relations With the Less Industrialized Nations were invited contributors Leonard J. Robbins, Langner, Parry, Card and Langner, New York, New York; Arthur H. Niehoff, Research Scientist, Human Resources Research Office, The George Washington University; and Lawrence B. Krause, Senior Staff Member, Brookings Institution, Washington, D. C.

The next group of invited contributors to this Session who spoke on Relations With Other Nations, including Soviet Bloc included Ira Wender, Baker, McKenzie & Hightower, New York, New York, whose topic was Taxation; Joseph S. Dubin, Universal Pictures Company, Inc., Universal City, California, spoke on Copyrights; Antitrust was the topic of Victor H. Kramer, Arnold, Fortas, and Porter, Washington, D. C.; and C. J. de Haan, President of the Netherlands Patent Office, directed his attention to The Deferred Examination System. Research Institute staff contributors included Robert B. Bangs, Herschel F. Clesner, John F. Creed, John C. Green, P. J. Federico, and Barkev S. Sanders. A Panel discussion and question period followed the presentations.

### SYNOPSIS

With this Conference number we are introducing several changes in format. Presentations of invited contributors will generally be set forth as separate papers. Titles and names of all speakers will be printed in bold type and clearly separated from the text at the margins of the pages. This new format is intended to package the contributions of individuals as discreet, easily discernible units to permit the reader to appreciate and to utilize more effectively the very wide information content of the Conference.

Something of the scope and variety of viewpoints presented at the Conference is evident in the following summaries. These summaries were submitted by several participants when they returned their edited Conference remarks for publication, and we print them in accordance with our custom. It is our purpose to have them convey some of the excitement and life of the Conference. We hope what the participants say in this synopsis will encourage our readers to turn for closer study at their leisure, to the actual presentations and discussions.

In the session Thursday morning Robert L. Hershey, Vice President and Research Advisor for E. I. duPont de Nemours & Company spoke on "View of a Company R&D Executive." His summary follows:

"The Company Research and Development Executive" has a pri-

mary responsibility to assure that fruitful results, relevant to his Company's objectives, flow from its R&D efforts.

"The United States patent system is a valuable aid in discharging this responsibility. It not only helps companies gain legitimate benefits from their inventions, but also leads research and development work along fruitful lines in the first place.

"The cost of developing and launching new product lines is so great that companies can hardly consider most major new ventures unless they have strong evidence that they can obtain adequate patents to protect the investment. A research group can save itself a lot of money and time by screening the patent literature. It can identify areas in which substantial work already has been done, avoiding accidental duplication and possible infringement. There may be reasons to follow the same course of research anyway, but at least one ought to know how far down the road others have traveled. The claim to invention . . . often provides an excellent jumping-off place for the next investigation in this respect, the patent system is doing just what it is supposed to do—making one invention public to stimulate another.

"Recently, in an attempt to improve its storage and retrieval services, the DuPont Company created a central patent index system in which the process of searching and retrieval is handled by computer. . . . We are trying, in short, to make better and quicker use of the fund of knowledge represented in patents.

"Problems related to the patent system . . . are cumulative and serious. What we need is not to abandon the system, but to use our new skills to modernize it. . . . We all wish success to the newly founded President's Commission on the Patent System, and hope that its study will suggest ways to strengthen that system.

"All of us, and the general public most of all, stand to gain from a patent system that can handle its work promptly and professionally, that has adequate financial resources and personnel, and that is equipped with the best techniques and systems that can be devised."

Edgar Weinberg, from the United States Department of Labor, as a Research Institute staff contributor for "The Changing Setting" submitted the following summary:

"The future public relations of the patent system are likely to be increasingly concerned with public opinion regarding the impact of technological change on jobs. The issue of men and labor-saving machinery is an old one. The situation today, however, differs greatly from the past because of the Government's deliberate efforts to sustain high employment and provide social security. A new approach—to

make people more versatile and adaptable to change through education and training—could improve the climate of opinion for technical progress which the patent system is intended to foster.”

William W. Eaton, Deputy Assistant Secretary for Science and Technology, Department of Commerce was one of the luncheon speakers. Mr. Eaton gave “A Government View” of “The Nation’s R&D Commitment and the Presidential Commission’s Task.” His summary follows:

“Rapid technological changes have made it desirable to study the patent system to see whether and how it can be adapted to fulfill modern requirements. The President’s Commission on the Patent System will study this matter and make recommendations for legislation.

“The problem of a wise policy regarding the disposition of rights of patents arising out of Government-sponsored research work is increasingly important because such work comprises approximately three-quarters of all technical work in the United States. Legislation covering this matter is now pending in Congress, and meanwhile the President’s Policy Statement of October 19, 1963 serves as a guide.

“The rapid opening up of new markets throughout the world has caused a significant increase in foreign patent filing generally, contributing greatly to the workload in major patent offices. The most effective solution to this problem would be an international patent system, and the United States should take the lead in developing such an institution.”

In the early Thursday afternoon session on “Administrative and Judicial Requirements for the Patent and Other Established Systems” Richard A. Wahl, Superintendent, the Patent Examining Corps, United States Patent Office, an invited contributor, sent in the summary which follows:

“On behalf of the Patent Office, the new examining program made effective July 1, 1964 is presented as a contribution toward a data base for the President’s Commission on the Patent System, and also as one answer to the topic ‘How to Reduce Delay in Securing Patents.’

“Section 131 of 35 U.S. Code provides for an examination of an applicant’s claim for patent and, if the applicant persists after notice of rejection or objection or any requirement made, Section 132 provides for a reexamination. Thus, an applicant has two opportunities to present his case. This is in contrast to former practice wherein two replies to the Examiner’s report were usually permitted. The pace of modern technology does not permit the luxury of the practice

found in a partial reading of Rule 112 which states that 'the application will be again considered and so on, repeatedly. . . .' The next and closing words of Rule 112 permit the second action by the Examiner to be final.

"The results of the new program show a substantial increase in output and gain on the backlog. Less than half of the final actions made recently cite and apply new references, indicating early joining of issues between applicant and Examiner."

Howard I. Forman, Patent Attorney for Rohm & Haas Company in Philadelphia, participated as an invited contributor in the early Friday morning session on "Legislative Objectives and Proposals." Mr. Forman submitted the following summary of his remarks on "Government Patent Policy."

"In the Winter 1959 issue of *The Patent, Trademark, and Copyright Journal of Research and Education* (IDEA), Dr. Forman published an article entitled 'Wanted: A Definitive Government Patent Policy.' " Quoting from the abstract which preceded that article:

It is urged that the price concern of the Government should be the implementation of a policy which tends to make every patented invention contribute as much as possible to its potential utility to the country's welfare. Encouragement should be given to the investment of capital, labor, and materials to convert each such invention into a useful article of manufacture, composition of matter, or manufacturing process. . . .

It is recognized that merely to leave the rights to inventions in the hands of private ownership will not, per se, guarantee their exploitation in the manner described above. To discourage disuse of the inventions, there should be some requirement that the holders of the rights thereto must prove that they have made satisfactory efforts to exploit them within a stipulated period of time, or else yield the exclusive rights thereto.

"As was pointed out in the body of Dr. Forman's earlier article, by following this proposal to its logical conclusion a sensible solution should be arrived at for dealing not only with the problem of contractor-originated inventions, but also with the equally knotty problem of inventions made by Government employees. In the present paper the same author points out that H.R. 4482 introduced by Congressman Toll in the 88th Congress would have solved both of these problems in a way which would have been entirely consistent with the author's basic philosophy expounded therein. However, he concludes that such a bill probably would not be passed by a Congress which has been emotionally aroused by repeated assertions of billion dollar giveaways of patent rights by the Government. The bill which Dr. Forman believes would come closest to embracing his patented inventions-utilization philosophy is S. 1809 introduced by Senator McClell-

lan, possibly modified with certain provisions in S. 789 introduced by Senator Saltonstall, both in the 89th Congress."

In Friday's early afternoon session on "International Challenges and Opportunities" Arthur H. Niehoff, Research Scientist, Human Resources Research Office, The George Washington University, spoke on "Relations With the Less Industrialized Nations." His summary reads:

"My approach to this area is as a specialist in the problem of transferring ideas from industrialized Western cultures to the non-industrial developing nations. There is every evidence that the developing nations want the technologically advanced practices that have evolved in the West. However, they want these in order to retain other traditional practices and beliefs. They do not want to exchange their culture for ours. When new ideas and practices threaten too much the traditional patterns of behavior, the developing nations will reject them. Although it is common for specialized Westerners to conceive of change as a matter of replacing inefficient traditional practices with efficient modern ones, this is not a strategy that works well. From a purely pragmatic point of view it is much more efficient to learn the traditional ways of solving particular problems and adapting to them rather than introducing entirely new systems and practices."

At the same session Lawrence B. Krause, Senior Staff Member, Brookings Institution, spoke. His summary follows:

"Of all the problems of less developed countries, the lack of access to advanced industrial knowledge may be among the most important. The usual solution for such situations—licensing agreements between private firms owning patents and other firms seeking knowledge—may not be appropriate or possible because of the absence of legal protection for patents in many less developed countries and the inability of indigenous firms to make proper use of the knowledge made available to them. An alternative solution is direct investment by firms possessing knowledge in facilities in less developed countries. But direct investments raise problems of their own. One source of conflict is the desire by American firms for wholly owned subsidiaries while foreign governments insist on local participation. In my view, the necessity of sharing ownership with local investors may be highly beneficial for American firms investing in less developed countries. Better access to local distribution channels, greater knowledge of local customs and mores, and enhanced political and social acceptability are all obtained by local participation. Not only are private business interests improved by joint ventures, but international diplomacy is well served."

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# The Proceedings of the Conference

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THURSDAY MORNING SESSION

JUNE 17, 1965

## EVOLVING NEEDS FOR THE PROTECTION OF INDUSTRIAL AND INTELLECTUAL PROPERTY

### Toward a Data Base for the President's Commission on the Patent System

The Ninth Annual Public Conference was convened at 9:30 a.m. O. S. Colclough, Acting President of The George Washington University and Director of the Research Institute, presided.

#### WELCOME

DIRECTOR COLCLOUGH: Even though there are still some of the registrants out in the hallway, we should try to conform to a time schedule. We have had a fairly good record in that respect in the past, so I think we will start.

Ladies and gentlemen, it is my pleasure and privilege to welcome you today to the Ninth Annual Public Conference of The Patent, Trademark, and Copyright Research Institute of The George Washington University, a Conference co-sponsored this year by the Commemorative Committee of the 175th Anniversary of the United States Patent System.

The past Public Conferences of our Institute have been credited with increasing public understanding of patents, trademarks, the concept of industrial property, and copyrights. The most recent Conferences, those of the past three years, have examined the research and development activities of Government and industry, international patent and trademark activities, and the means of stimulating invention.

This, our Ninth Annual Conference, is held against the background of President Johnson's Executive Order of April 8th, this year, establishing the President's Commission on the Patent System. In broadest terms, the purpose of that Commission during its 18 months' lifetime is to recommend steps, including legislation, to insure, in the words of the Executive Order, and I quote, "that the patent system will be made more effective in serving the public interest in view of the complex and rapidly changing technology of our time."

The Patent, Trademark, and Research Institute was founded upon

the belief that the patent and related systems throughout their existence have been one of the main channels which have fostered the inventive resourcefulness, the technical know-how, the investment of risk capital and scientific research that have led to our present national position of scientific and technological eminence, our high standard of living, and our firm state of national security.

This Ninth Conference will consider the general subject of evolving needs for the protection of industrial and intellectual property. It is a basic hope of the Institute and of this Conference that through the medium of the sessions to follow we may develop a broad base of information and data to assist the President's Commission on the Patent System, with its mission of improving the patent system to serve best in the public interest.

The co-sponsors, the Commemorative Committee of the 175th Anniversary of the United States Patent System, and The Patent, Trade-mark, and Copyright Research Institute of The George Washington University wish for all participants, all those in attendance and all of those on the panels, a productive and educational Conference.

I will now call upon the Executive Director, Mr. Harris.

## The Conference and the Future Course of the Institute

L. JAMES HARRIS

Thank you, Mr. President.

This Conference represents a confluence of three occasions.

On April 10, 1790, the first United States Patent Act was signed by George Washington; in February of 1954, The PTC Research Institute was placed in operation by The George Washington University as part of the University's research and educational facilities; and on April 8, 1965 President Johnson signed Executive Order 11215 establishing the President's Commission on the Patent System. It would appear that this confluence of occasion—the commemoration in 1965 of the 175th Anniversary of the United States Patent System, the establishment of the Presidential Commission, and the second decade of our own operations—provides a fitting opportunity for examining the needs and prospects of coming decades. Against this background



you will appreciate the significance of the theme of the Conference: "Evolving Needs for the Protection of Industrial and Intellectual Property." ("Toward a Data Base for the President's Commission on the Patent System.")

The design of the Conference, in a broad sense, is to obtain an integration, an intellectual cross-fertilization. In each one of the sessions there is a planned balance of specialization and subject matter. The participants are drawn from different pertinent disciplines and professions, and in each one of the sessions there is a relationship between the parts of the session or the subject matter discussed so that the exchanges among the participants will achieve a reciprocal reintegration that will lead to anticipated and unanticipated benefits.

In the case of the opening session on "The Changing Setting," for example, the moderator is the president of a university and on one side of the table are a research laboratory executive and a company R&D executive. On the other side of the table are a lawyer and an economist.

The heat generated at this session will light the way for the other sessions. Here we will set the tone and provide perspective. In short, this session will achieve the general environment for the Conference.

Another example is the afternoon session. On one side of the table are the Superintendent of the Examining Corps of the Patent Office, an inventor, and a patent attorney, directing their remarks to "How to Reduce Delay in Securing Patents" and on the other side of the table, a patent attorney, a judge, and a business executive considering "How to Reduce Time, Expense, and Risk of Patent Litigation." In this session we have distilled the critical problem in the Patent Office and the major problems of litigation. This confrontation, this cutting across the boundaries of conventionally recognized discreet areas, will lead to a better understanding of the whole. It will reveal more of the actual operation as the reciprocal relationships are thought through and worked out.

The same design appears in the session on "International Challenges and Opportunities." On one side of the table concerned with relations with the less industrialized nations, are a patent attorney, an anthropologist, and an economist. I should hasten to explain that an anthropological approach is most pertinent to a study of phenomena that have broad cultural implications. On the other side of the table discussing relations with other nations, including the Soviet Bloc, are a tax specialist, a copyright lawyer, an antitrust specialist, and the President of the Netherlands Patent Office, to provide a view from abroad. To understand more fully the role of industrial and intel-

lectual property in the transfer of technology to the less industrialized nations, to understand the industrial property role on the cross-fertilization between old and new economies, and on the flow of East-West trade, are of prime importance. Such an understanding will lead to more effective action on the part of the United States Government, the industrializing countries, and our own business interests.

Within the confines of a two-day Conference, we have included a representative cross-section of the major problems that confront the systems. In some cases the topics chosen are a distillation of the essence of particular problems. In others, the uniqueness of the combination of disciplines employed or the unified approach represented, will provide a challenge to strong insularities and to traditional relationships.

The Research Institute has been moving toward a data base for the President's Commission on the Patent System all of the way back since its inception. The Institute contributed toward the data base for ten years without knowing it—and this Conference marks the culmination of our contribution toward that base.

There is a strong parallelism of interest between the Research Institute and the President's Commission. The ultimate "whereas" in the President's Executive Order declares that "It is now necessary to evaluate our patent system and to identify possible improvements in it."

The Institute has been going down this path from its very beginning. The Research Institute has been engaged in a variety of relevant investigations. The work we have done is our contribution toward the data base for the President's Commission. Now that a Presidential Commission has been established, it is pertinent to refer to a data base.

The Research Institute is an important component in the whole enterprise. Although we recognize that we are not the only organization that has been making contributions to the data base—the Patent, Trademark, and Copyright Subcommittee of the Senate Judiciary Committee has sponsored some very useful and significant reports—no other university organization, other than the Institute, has undertaken, as an organized educational activity, systematic research and gathering of information and distribution of written material on various aspects of the subject.

Some of the foresight of the founders in establishing the Research Institute, compatible with the spirit of the President's Commission, can now be appreciated. In view of the current interest, it is indeed fortunate that we have been around to lay some of the groundwork.

The Institute has amassed and published a good deal of pertinent information.

Looking ahead we want to expand the Research Institute's operational base. We seek to accomplish essentially what the founders had in mind. By increasing the timeliness and policy orientation of our research contributions, we are ready to carry out more fully the objectives of our charter.

Our program for the future includes four points: (1) to extend our research programs to additional fields and geographic areas; (2) to develop a more permanent and larger research staff and engage resident scholars; (3) to expand the Institute's educational efforts to additional schools and universities; (4) to draw on a part-time basis on the experience and capabilities of additional experts—such as judges, inventors, and industrialists—who have an intimate working relationship to the various systems but who cannot realistically be sought for research activity on a continuing or full-time basis.

I wish especially to elaborate on this fourth point. The Institute will seek the research participation of additional people having practical working knowledge of industrial property systems in their normal employment such as judges, inventors, and industrialists. The Institute will be enriched by the extra research contributions of these citizens enlisted in the public interest. By contributing this type of informal opinion on a scholarly basis, by pointing up needs as we go along, and by examining the interaction of the systems with existing laws and administrative procedure, they will help us more energetically to pursue the mandate in our charter and that in the President's Commission. Thus, we will augment our inhouse research by approaching policy-oriented research in a most authoritative and direct way. The evaluation aspects of our studies will be enhanced, indeed, by the specialized information available to these experts.

This policy-oriented program will afford us an opportunity to examine and evaluate the system continuously without waiting for upheavals. The Research Institute has already gained wide public acceptance for the authoritative and objective character of its research. We have built a strong capability. We have the contacts and now we are ready to tap them.

Why should we have legal upheavals every hundred years, and occasional reform binges in between? The Institute is seeking to work out a technique for tapping the experience of knowledgeable people, to present their ideas in a broad forum, with the Research Institute as the interface. We are now moving toward this significant role. Here is a way we can actually support the systems. Not by protecting

the status quo, but by making its evolution vital and meaningful as we go along. The Institute wants to provide critiques, opinions, and information from practitioners so that we might see challenging opportunities and needs better.

Policy-oriented research with a strong technical base is new. We will be combining the seasoned judgment and intimate experience of practitioners with procedure and administration of the law with the technical knowledge and experience of our inhouse research staff so that 100 years from now the nation will still have an effective functioning system. Through this information channel on needs, through this research, analysis, and evaluation—we will continually seek to improve the systems so that they will be self-cleansing, self-adjusting, self-regulating—even self-winding—to the end that the traditions, interests, and ideals of America will be served by sound industrial property systems in the future. Toward the accomplishment of our four-point program we have a Second Decade fund in progress, the details of which I will not regale you with at the present time lest I become too enthusiastic and change the purpose of our meeting today.

Thank you, Mr. President.

(Applause)

DIRECTOR COLCLOUGH: Thank you.

It is now my privilege to present the moderator of our first session, a distinguished American leader in space and communications programs, a physicist and mathematician, with three degrees from Harvard and two from Oxford. I hardly need say more. But he has had many, many interesting and exciting activities in his life.

He formerly was Executive Director of Research Communication Systems for the Bell Telephone Laboratories. He is the holder of 33 patents. He was one of the first American consultants on the Apollo project of NASA. He initiated the work of Bellcomm, Inc., here in Washington. He was a charter member of the Polaris Command Communications Committee, and he has served on the President's Scientific Advisory Committee.

He has been a consultant to the Air Force and the Navy. He is a native of Augusta, Georgia, but went North to find his wife in Portland, Maine. That is a real geographical spread, and they are the proud parents of five children.

But, to me, there is a personal side, which you will allow me to inject into this introduction and that is, I come from the Lehigh Valley. I have two brothers who are graduates of the great institution in that area, and one of them is now a member of its Board of Trus-

tees. It is with a certain sentimental aspect, therefore, that I present the President of Lehigh University, Dr. W. Deming Lewis. Dr. Lewis. (Applause.)

### **The Changing Setting**

DR. LEWIS: Good morning. Before we invite the first speaker to get up, I would like to say a few words about how we will operate this session.

Part I, the Invited Contributors Session, will have four speakers, as listed, with one replacement which I will announce when the time comes. They will speak for about 15 minutes apiece.

Then in Part II, we will invite the Research Institute Staff Contributors here if they want to make comments on what has been said.

Part III, we will have a discussion first within the panel—I presume it will be warm—I am sure it will also be illuminating—and then I hope there will be time at the end of the morning to invite some questions from the floor, although we should stop fairly promptly for lunch since the afternoon session, and the occasion of the lunch, itself, must not be delayed too long.

With that very brief description of what we are going to try to accomplish today, I would like to introduce the first invited contributor who will present the “View of a Research Laboratory Executive,” Mr. Earl P. Stevenson, who has been associated with the Arthur D. Little Company as Vice President, President and Chairman of the Board.

He has also been in the education business as Director Colclough and I are. He has been President of the Board of Trustees of Wesleyan College. He is also a Director of the Boston Capital Corporation, the Liberty Mutual Insurance Company, John Hancock Mutual Life Insurance Company, and the Massachusetts Business Development Corporation.

At present, he serves as a consultant with Arthur D. Little, and is Chairman of the Advisory Council of The PTC Research Institute. Mr. Stevenson. (Applause)

*PART I—Invited Contributors*

## View of a Research Laboratory Executive

EARL P. STEVENSON

Thank you very much, President Lewis.

In pairing this morning with an old friend, Dr. Hershey, who sits on my right, of the Du Pont Company in this opening session of the Ninth Annual Public Conference of The PTC Research Institute, I will be speaking from the perspective and experience gained in a life-long association with a pioneering, independent, profit-motivated industrial research organization.

In attempting to contrast the present with the past, I am always mindful of the hazard of being tempted to emphasize the superficial. Therefore, I would recite, even at the risk of disparaging my later remarks, the favorite adage of a dean of my college, "Times ain't like they used to be and, by gum, they never was."

Despite this admonition, I will venture boldly into the proposition that the environment, the climate, if you please, in which technological change is occurring today confronts us with a new world as compared to that of yesterday.

Emerging from the experience of World War I and the realization of the inadequacy of our industrial plant, this country entered into a period of accelerated industrial growth. The business with which I then became associated was primarily identified with this movement through the inventive approach for the development of new or improved products, and in engineering, through the application of the then developing principles of chemical engineering. (I might say, parenthetically, that I was employed as a potential inventor, not as a research director.) New industrial ventures of that period were usually based on a patent or patents, and research was often motivated by the prospect of royalties. The men who were most prominently identified and acclaimed for their contributions to technology were most apt to have acquired this reputation as inventors.

With the advent of industrial research and organized group activities in the 20's, the scene changes, with the increasing involvement of the science and engineering disciplines in the advancement of technology, with the trend accelerating rapidly during the post War II period. I would remind you that as of 1940, the estimated national

expenditure in the area of research and development was of the order of \$400 million. Facing today's figure of \$20 billion per annum, we note in this 25-year period a fiftyfold increase.

As a consequence, large-scale R&D today is quantitatively and qualitatively different from technical work in the past. It has different motivations, different standards, different objectives, different values, different techniques. Contributing to these differences, for one thing, has been the changing role of our technical universities. This has changed drastically in the past 20 years, traveling from the periphery to the center of our society which has become increasingly dependent upon the intellectual resources of the universities. Another major factor most often cited in this connection is the dominance of the Federal Government today in supporting a broad spectrum of research and development.

Now, without attempting to identify and correlate these five differences which I have enumerated with the interests of this Conference, I should note, with reference to the role of inventions in the process of bringing about technical changes that in many important respects, things are as they were in the beginning. The lone inventor is still at work in his attic or basement; the major asset of a business may be a patent situation; the inventor of old is not an extinct specie. But what is new evolves from the proliferation of knowledge, the growth of gigantic business enterprises, the emergence of the Federal Government as the largest holder of patents and major supporter of R&D, the greatest scientific content of the new technologies, the environment in which industrial research is now conducted. For example: The zipper could well have been conceived in the old environment of the attic or basement, but it would certainly challenge the resource of the lone inventor to develop the miracle fibers which have been one of our great achievements these past two decades.

I also recall an old friendship with one of the Stanley brothers, the inventor of the Stanley Steamer. This invention was accomplished in a mechanic's shop with a minimum of tools. It was a most successful device.

Incidentally, if the Stanley brothers had followed a different policy in the handling of their patents, we might live in a different world today, as it was their policy to close out every competitor—they wanted a monopoly—so recourse had to be made to another prime mover, the gasoline engine.

I leave you with the thought of what the alternative might have been, because when I first entered the scene, the Stanley Steamer was the leading automobile in America. But the Stanley brothers

could never have invented, or even conceived the jet engine; the word "thermodynamics" had not yet entered our lexicon.

This evolutionary process underlies the situation which I noted earlier with reference to the different objectives, motivations, standards and values. These differences are reflected by changes in what is meant by a product.

A new product today must not only be appraised as a technical achievement or accomplishment, but its exploitation and development must also be justified in terms of its overall corporate values. Patentable attributes may, under some circumstances, be of very minor concern. For the major American industrial organization today, growth depends primarily upon other factors, particularly upon the organizational and managerial abilities, within which a company's skills and resources are integrated to achieve corporate objectives. Enlightened management no longer seeks monopoly through the ownership of patents, but is content with the protection thus afforded to commit the total resources at its command to pioneering in new ventures to the limit of its capabilities.

Too often public discussions of the values inherent in our patent system are appraised in terms of the operations of big business—of those companies which have been long established on the American scene—the blue chips of American industry. In honoring Dr. Land of the Polaroid Company with the award this year of the Kettering Medal, we pay tribute to an individual who, in many ways, symbolizes the role of the individual inventor in achieving the purposes of our patent system as set forth in the Constitution. Also, this year, The PTC Research Institute likewise singled out another individual—Chester F. Carlson, (Xerox)—to be the recipient of the Institute's first Inventor of the Year Award. The contributions of these two men to society, however, must not be appraised in terms of product achievement alone; their contributions go far beyond this. A photographic device, no matter how it may function, is, in the larger sense, a communication device, and it is in this area that the most profound changes have occurred in the past 20 years, where the social, political and economic impact has yet to run its full course.

In the field of small business and of new enterprises, patents appear to be playing substantially the same role and to be valued in substantially the same terms as when I first participated in what later came to be called "industrial research." Notably under the Small Business Act of 1958, there are now approximately 650 small-business investment companies, the so-called SBIC's, with an aggregate investment of \$525 million in new enterprises involving over 11,000 financial trans-



actions. A substantial group of companies so financed, though probably not a majority in number, are identified with the so-called new technologies. Here, patents are often very important in providing the new enterprise with time in which to become established.

In retrospect, the "affluent society" has been achieved through innovations, not through the treadmill operations of making more of the same, of rendering traditional service, or of maintaining the same standards of living for a growing population, but in meeting the higher aspirations of a new generation. And the most important of these innovations, in terms of economic growth, have occurred in industry by the expanding understanding of old technologies and the creating of new technologies through scientific discoveries and inventions.

It is by creative effort, by achieving the unanticipated that this country has, in the past, closed the gap between the predictable economic growth and our aspirational goals. Again, we face a deficit of this kind in the decade ahead. The recent report of the National Planning Association on "The Dollar Cost of Our National Goals" estimates an annual deficit by 1975 on the order of \$150 billion—an annual deficit of \$150 billion by 1975 in terms of gross national product. In facing up to the fact that we are no longer a nation of unlimited means, to the myth of economic omnipotence, we will confront hard priority decisions. The only mitigating factor that I can see is that of the unpredictable, of the unforeseeable, of new scientific discoveries, and their translation through research and invention into useful applications.

Consider the world of today without achievements of this kind in the last quarter century. In the past even the most informed predictions have fallen far short of later attainments. For example, a 1937 report of the National Resources Committee tried to anticipate the kind of new discoveries which would affect living and working conditions in America in the next 25 years—or by 1962. In this report most of the major technological developments between the 1930's and now were completely unforeseen despite the fact that many of the nation's leading scientists and engineers were consulted. The 1937 report, for instance, anticipated certain developments in vitamins and synthetic drugs, but was silent on antibiotics. There was a long discussion of power, but not a single prediction envisioned atomic energy. Communications was treated at length, but there was no hint of radar. Aircraft speeds of 240 mph were venturesomely predicted at heights of 20,000 feet, but then only on the questionable condi-

tion that cabin pressurization problems could be overcome. Jet propulsion was not even mentioned.

What the future holds no man can predict, least of all in the fields of technological change, unless we are to discount entirely the teachings of history.

In conclusion, I would observe that progress does not mean abandoning old institutions, but rather adjusting them to changing political, social and economic conditions. In the industrial world emphasis has shifted from production and manufacturing to marketing and distribution. (Parenthetically, I might add that the largest division of Arthur D. Little now operates in these areas.) With this significant cultural change, the impact of science and technology on our society will have to be continually re-examined and the associated institutions such as our patent system and our Patent Office re-appraised with procedural and other adjustments. The Executive Order establishing the President's Commission on the Patent System appears both timely and well conceived.

Thank you. (Applause)

DR. LEWIS: Thank you very much, Mr. Stevenson.

Our next invited contributor is Dr. Robert L. Hershey, who will give the "View of the Company Research and Development Executive." Dr. Hershey is vice-president and research advisor of the Du Pont Company. He taught and did research for the department of chemistry at Massachusetts Institute of Technology from 1924 to 1936. While he was there he received his Doctor of Science degree in 1935. In 1936 he joined the Du Pont Company as a research engineer, rose through various ranks and is now vice-president and research advisor.

Dr. Hershey. (Applause)

## View of a Company R&D Executive

ROBERT L. HERSHEY

Thank you very much.

I should like to make a small correction. President Lewis made me more of a scientist than I ever was. I was a chemical engineer and never claimed to be a chemist. You may remember what a chemical engineer is; he is a chemist when an engineer is around and an engineer when chemists are around.

(Laughter)

I understand that this is the second of three proposed meetings to celebrate the 175th Anniversary of the United States Patent System. The first was held in April, as has already been mentioned, and I had the privilege of participating on the chemical industry panel in the afternoon of that meeting.

Now, I should have liked to tell you this morning that I had Du Pont's most powerful computer examine and compare speaker lists of the two meetings for appearances at both. Instead, honesty compels me to admit that I relied on my secretary, whose many virtues, I am happy to say, are neither electronic nor cybernetic. She tells me that except for members of The PTC Research Institute staff I am the only speaker at both meetings. There is perhaps a technical exception to that statement. I believe Mr. Forman of Rohm & Haas was a panel moderator in April and is a speaker at this meeting.

I make note of this April meeting, because I then suggested that I am not an expert on the technical details of the patent system and I wouldn't want anyone who might have heard me then think that the passage of about 10 weeks has persuaded me that I am any more of a patent expert now.

The program this morning asks us to provide background observations and opinions from several differentiated viewpoints against which we may hope the more specific considerations of later speakers may be examined. The company research and development executive, for whom I have been asked to speak, finds patents only one of the problems, although one of very high priority, with which he must wrestle. It will be of small profit to him, and to his company, to have a fine patent staff in his legal department, but to fail to enlist a creative and inventive scientific and technical staff. Furthermore, there will be little profit unless research and development produce results relevant to his company's objectives.

The first concern of the research and development management, then, is to assure that the staff is exploring areas of science and engineering of prospective importance to that company. In this function the United States patent system has great importance. It not only helps companies gain legitimate benefits from their inventions, but also leads R&D work along fruitful lines in the first place.

Now, it would be presumptuous for me to say that this applies generally to all industries. My own experience has been wholly in the chemical field, and I am the first to concede that this does not qualify me to speak for all industrial R&D executives. Even a superficial knowledge of some other industries, or a cursory reading of the

voluminous literature on the patent system, makes it quite clear that not all industries take the same view as we do in the chemical field.

The point holds, however, on the basis of my own background and experience, and I at least offer the possibility that it holds for a number of other fields.

Comparing the industrial world of today with that of several decades ago, I am first struck by the enormously increased difficulties in reaching what a lawyer would regard as "a strong patent position." There are some easily identifiable reasons: The greatly increased number of industrial research organizations, the larger number of fields being explored by those organizations, and the increasingly difficult problem of finding prospectively profitable areas which have been neglected.

It seems to me that 20 or 30 years ago, when a question of interference came up, only one or two other parties were usually involved. Today we sometimes find five or six. It is not surprising that patent attorneys preparing an application must be much more sophisticated in their documentation than ever before. Nor is it surprising that a review of such application often takes a very long time.

Yet, one condition of the competitive market has not changed. With a new product, the company that is first to establish a market position has a competitive weapon of great power. To gain the advantages of such a position, it is necessary more often than not to enter the market without waiting for the final resolution of all patent problems. This situation would be improved if some of the well-known problems of the Patent Office—the backlog of work and the difficulties of searching the ever-expanding literature—could be at least partially resolved.

Have these newer complexities and the less satisfactory results disillusioned us about the value of the patent system? Not in the least! Patents remain extremely valuable and are likely to become more so. The patent system continues to be an essential stimulus to developmental activity and is increasingly useful as an instrument of research. A research group can save itself a lot of money and time by screening the patent literature. It can identify areas in which substantial work has already been done, avoiding accidental duplication and possible infringement. There may be reasons to follow the same course of research in any case, but at least one ought to know how far down the road others have traveled.

The cost of developing and launching new-product lines is so great that companies can hardly consider most major new ventures unless they have strong evidence that they can obtain adequate patents to

protect their investment. In Du Pont, as an example, it is not at all unusual for a new venture to represent a commitment of from 10 to 50 million dollars or even more before it reaches a profitable position. It would hardly be prudent to farm such an expensive plot of ground and spend five or 10 years building up the soil, if everyone were going to be given a free pass to the harvest. If there is a trend here, it is in the direction of increasing development costs, and this only serves to place an increasing premium on patents.

Exploratory studies cost a good deal less than the subsequent process of development. But the costs here have to be assessed by another kind of yardstick. Scientists and engineers with high competence in research are a scarce resource. Even if they worked for free, which is a bit too much to expect, we would hardly serve our own interest, or society's, by encouraging them to rework old and wornout soil.

Here, too, the technical information resting in the patent files is of value; and here, too, there is an element of change. Years ago, when less was required by way of disclosure in a patent application, a scientist could be forgiven by ignoring much of the new patent literature. The best current work in his field often went well beyond the descriptive material contained in the patent.

Today, in the fields I know anything about, a patent is much more of a technical document. The claim to invention is set forth in detail and depth, and it often provides an excellent jumping-off place for the next investigator. In this respect, the patent system is doing just what it is supposed to do—making one invention public to stimulate another.

Particularly in chemistry, but in other fields as well, a significant part of the best current research receives its first public release after patent applications are filed. One would expect this to continue, for a considerable amount of research of high scientific merit is being sponsored by profit-making corporations with private funds. Frequently, innovations derived from such research are first disclosed in the patent application. Or, to put it another way, much of the interesting work discussed at scientific meetings and published in technical journals is available for public scrutiny only because it has already found its way to the Patent Office.

Thus, when the research man does his library work, he turns as naturally to the patent files as to the basic journals in his discipline. This is surely the trend in the organization with which I am most familiar. As a measure of our conviction in these matters, Du Pont automatically purchases copies of all patents issued in selected cate-

gories of technology, and now has in its own libraries about one and one-half million patents.

Each week, we survey seven to eight hundred technical journals and distribute an index to the papers that relate to our interests. As a companion piece to that index, we do much the same with patents, distributing a weekly *Patent Bulletin* to more than 1,000 people in the company.

Recently, in an attempt to improve our storage and retrieval services, we created a central patent index system, in which the process of searching and retrieval is handled by computer. All copies of new patents that we receive are now being keyed and codified so they can be recovered in this fashion.

We are trying, in short, to make better and quicker use of the fund of knowledge represented in patents. If (as is undoubtedly the case) our approach is imperfect, at least we have lots of company. Along with every one else, we find it increasingly difficult to keep a rational grasp of accumulating knowledge.

This brings me back to the comment I made a few minutes ago about problems related to the patent system. As many of you know much better than I, these are cumulative and serious. We are adding to the literature of patents about 50,000 domestic new issues each year— more carefully documented and more useful, as I noted, but all the more difficult to catalogue and retrieve.

To this we add well over 200,000 new patents issued in other countries. Again items of research value, for the quality of science and engineering abroad is excellent in many fields, and steadily improving in almost all. But again that is so much more information to cope with.

It would be convenient if we could deduct an equal amount of old technology each year to keep the water level from rising, but, of course, that is not possible. Whether patents have expired or are still in force, whether they are domestic or foreign, they all represent prior art, and therefore must be accounted for in planning future lines of investigation.

Currently, three or four years pass while a patent application is under examination, years in which innovation remains secret or partly secret, years in which to some extent the art does not advance as rapidly as it might, and in which competitive ideas are given less stimulus than they might otherwise have.

This I know is not news to you. If the delay on this timetable produces some anxiety for inventors, I am sure that people associated with the Patent Office are even more aware of the problem, facing

as they do a backlog of approximately one-quarter million patent applications. If it is difficult for one corporation to store and to retrieve the patent information that is germane to its interests, how much more difficult it must be for the Examiners and patent attorneys who somehow must deal with a vastly larger compendium, spanning all fields of technical effort.

However, if there are grounds for deep concern, consider the alternatives. As has been said many times before, if there were no patent system, or if the system became ineffectual, industry would be forced to secretive practices; first-rate scientists who quite properly look for recognition of their accomplishments by way of publication, would not enter industry and much of our private research and development structure would be destroyed. I have great difficulty imagining just what my own job would be if, indeed it existed at all, without the patent system. Surely what we need is not to abandon the system, but to use our new skills to modernize it. In this light, we wish all success to the newly founded President's Commission on the Patent System, and hope that its study will suggest ways to strengthen that system.

All of us, and the general public most of all, stand to gain from a patent system that can handle its work promptly and professionally, that has adequate financial resources and personnel, and that is equipped with the best techniques and systems that can be devised.

Confronted by common problems, Government, industry and professional groups have in the past borrowed liberally from each other's experience and benefited from each other's counsel. The results have sometimes been quite impressive. Perhaps there is a basis, as well as a need, for a similar approach here.

Certainly, none of us has any magic answer. The more familiar one becomes with the complexities of the patent structure, the faster he learns humility. Nonetheless, the problems remain, and it does us no good to ignore them. The patent system is in itself one of the significant inventions of man. It is a national resource, a treasure trove as precious as the National Archives and an instrument and agency of enormous technical creativity. It has served previous generations well. Perhaps in this generation we might look for ways to serve it better.

Thank you very much. (Applause)

DR. LEWIS: The important answer of encouraging free enterprise and new patents was just vividly illustrated by our difficulty with the sound system. Since we will have to rely on the Mark I voice box,

we are going to ask subsequent speakers to stand up as Dr. Hershey did and of course to speak out.

The next speaker will speak on attorneys' views. He will be Robert W. Fulwider, senior partner of Fulwider, Patton, Rieber, Lee and Utecht, who graduated from the California Institute of Technology in 1929. He was admitted to the California Bar in 1931, and has been practicing patent law since that time. He has been on the Board of Governors of the American Patent Law Association and is now serving as Vice-Chairman of the Patent Section of the American Bar Association. Mr. Fulwider. (Applause.)

## An Attorney's View

ROBERT W. FULWIDER

Mr. Moderator, fellow participants, gentlemen: I don't know whether this is better for you or worse, but I will do the best I can. I seem to have a slight frog in my throat, perhaps it will go away. I do appreciate the opportunity of participating with you in this Conference today and hope you will bear with me in my attempt to give you a lawyer's view of the problems facing us with respect to protection of industrial and intellectual property.

Since I was sure you would not be particularly interested in my personal views, I sent a copy of the Conference program to 32 practicing lawyer friends of mine, both corporate and private, in all of the major cities of the United States asking for their suggestions as to what I should include in this talk today. I am happy to report that 78 percent of these men, including three ex-commissioners of patents, responded to my call for assistance. In fact they all responded so well and so voluminously that correlating their ideas and suggestions turned out to be a lot bigger job than I anticipated.

I wish I could take the time to relate to you today all of the various comments and constructive ideas contained in those 25 replies from eminent practitioners in the field of patent law.

Suffice it to say, however, that there was surprising unanimity as to the basic problems involved and how to go about solving them. Fortunately I find myself in accord with this majority. Consequently, while I in no sense speak today for the Patent Bar, or for the Patent



Section of the American Bar, I do speak, I believe, for a fairly representative cross-section of that Bar.

The general topic today of "Evolving Needs for the Protection of Industrial and Intellectual Property" and the subtopic, "The Changing Setting," seem to presume that the needs for protection today are different from what they used to be. Personally I do not think that is the case. The need for effective patent protection of inventions is the same today as it has always been. Adequate patent protection is the only practical way I know of to stimulate innovation and thus technological progress

True, we have problems today, but in my opinion they are merely different in degree rather than in kind from the problems of the past. We are all aware of the tremendous explosion of technological information since the war and as a result of this explosion the Patent Office is understandably overloaded. It has been from time to time in the past. I remember for at least 34 years and perhaps a little bit more that we have had these same problems with us. Periodically the patent overload goes up, and periodically it goes down. Today it is way up. We have problems. As a result of this overload, of course, we have delays in issuing patents. And as a result of that, some people say that the patent system is not geared to handle modern problems, that it is out of date. I disagree. Everyone today seems to be talking about the crisis in the Patent Office. But in my humble opinion, gentlemen, there are no problems today in the Patent Office that good sense, good management, and adequate finance cannot solve within the framework of the present patent structure.

As we all know, there are essentially two types of patent systems generally used today: the registration system as in France and some other countries, where the courts do most of the work, and second there is the examination system represented by the United States, Germany and formerly Holland, whereby the Patent Office processes the inventions and defines the monopoly allowable to the inventor.

I believe that most knowledgeable people, both here and abroad, agree that the examination system is much to be preferred since it defines, at least presumptively, for the inventor and for the public, the scope of the monopoly granted. There is now of course a third system, which is really not a new system at all, but strictly a compromise dictated by expediency. This is the new Dutch system also referred to as the deferred examination system.

As far as I am aware, however, even the proponents of this system concede that it is based on expediency. Consequently, in my opinion

this is only something to which we retreat when we have lost all hope of retaining our admittedly superior examination system.

In approaching this so-called crisis in the Patent Office, we must, I believe, distinguish between the patent system as such and the machinery for implementing that system. Too many of us are prone to say that since the machinery is not functioning as well as it used to function, that the system has broken down. It should, however, be obvious to all that an examination system is predicated upon, (1) adequate and competent manpower—this means adequate finances; (2) operating rules and conditions that promote efficient handling of the workload by that manpower; and (3) good management to see that the manpower functions efficiently under those rules.

The fact that the Patent Office has too large a backlog indicates that in one or more of these brackets something is wrong. Either it is under-financed, the rules are not efficient, or the administration of the rules is deficient. Or perhaps all three. Whether you consider the Patent Office as a service business or as a manufacturing business, the fact remains that it has a lot of customers. It processes raw materials and inventions, and it puts out a product—patents.

The backlog problems of the Patent Office are no different than the backlog problems in the business world. If you are getting more orders than you can handle, you can of course solve your problem by discouraging your customers, by raising prices, or by cutting down on the quality.

There are some I believe who say today that this is the way the Patent Office should handle its excess customers. Again I disagree. If you are running a business, and I believe the same applies to the Patent Office, you do not normally try to discourage your customers, but rather you examine your operating structure, your rules and regulations and your management, to see if they can be improved, so that you can supply all of your customers with that good product which you have been making. To me it makes no sense at all—perhaps I am naïve, but it still doesn't make any sense—to say arbitrarily to the Patent Office that in spite of the tenfold or twentyfold or perhaps fiftyfold increase in technical information today and the proportionate increase in the Patent Office business, the Patent Office must get along on substantially the same budget as it has in the past. As a result of this budgetary deficiency, the Patent Office has for some time now, as those of us in the profession know, been trying various bootstrap operations, in my opinion, with no great success.

A few of you who attended the Federal Briefing Conference about a year ago in Los Angeles may recall that I had a few kind words to

say about compact prosecution. The gist of my talk at that time was that it was new and therefore let's give it a fair try. This opinion was shared by most patent lawyers with whom I had contact. Today, however, I have yet to find a lawyer who has many kind words to say about compact prosecution. (Laughter)

This is one of those topics that of course you can argue about until the cows come home. But that is my candid opinion, gentlemen. In essence, in my opinion, compact prosecution has merely substituted disposals for actions. It is creating confusion with its changing rules and arbitrary rejections and in some cases I think with its unwarranted allowances. Of course we don't turn down allowances, but still I believe if you are thinking in terms of the patent system and for the good of the patent system, what we want are valid patents. Of course, it is easy to criticize, and that is what I have been doing so far, and we lawyers I know are often accused of being allergic to change. Well, perhaps we are. In some part this criticism is justified.

But on the other hand I think that most lawyers only oppose change for change's sake. We do not oppose innovation per se. I think the problem is that we patent lawyers are both engineers and lawyers, and that makes it pretty tough to adopt something brand new without having the facts laid out and proof, the kind of proof you would have to present to a court, to convince us it is a good idea.

But anyhow, what do we lawyers now propose? Well, specific suggestions that I received for improvements were many and varied. The large majority, practically everyone who replied to my questionnaire suggested the following as the minimal program: One, we should modernize interference practice. Commissioner Brenner is already attacking this problem and I am sure we are going to get some good results soon. Two, we should modernize specification writing and particularly claim drafting. As many of you know, the Patent Section of the American Bar Association has a special committee under Bob Brown of Chicago, which is now in its second year of operation, examining the whole question of claiming. We are hopeful this committee will come forward soon with some excellent recommendations for streamlining the claiming process, so that we get into patents the essence of the invention, proper scope, but not a lot of excess verbiage. Three, let's transfer some of the load from the Examiners to the attorneys. Personally I like John Diennner's approach as set forth in his article in the March issue of the *JPOS*.

Why would it not be a good policy for the attorney who is already aware of most of the art to file a brief, in effect his first amendment, when he files the application? This I believe would take a lot of the

workload off the Examiners, it would answer many of the questions that are being raised today. And four, we should eliminate the ever-increasing load on the Patent Office of Government-filed applications. This can be done, I think, by publishing abandoned applications and giving them priority as to their filing dates or it would seem to me we can keep them clear out of the Patent Office by publishing them in journals, either present technical journals or perhaps a new journal sponsored by the Government.

Now as to the efficiency or lack of it in the patent operations; it is well known, I think, that the biggest problem in the Patent Office, or at least one of the biggest problems, is turnover of its personnel. Much has been done to solve this problem. But much remains to be done. Examiners play an essential part in the functions of our patent system. The Examiners sit as judge and jury on the inventions submitted to them. Upon the excellence of their work, or lack of it, depends the validity of the patent and, gentlemen, that is very important, and I think you should think about it and continue to think about it.

It was the almost unanimous feeling of the lawyers whom I polled, that the problem of manpower would in large part be solved by improving the working conditions of Examiners, and particularly by improving their professional status in the Patent Office. There is no reason why Examiners should not have better offices, better secretarial facilities, and full recognition of their importance to the patent system.

We all know that rightly or wrongly, in company practice and professional offices, and I see this in my own office and I am sure you all do in your office, the status symbols are important to the personnel. If the Examiners in the Patent Office are given increased status, and the symbols to go with it, our turnover problem will be greatly reduced.

I understand a suggestion has been made to attempt to hire older men as Examiners, with perhaps ten or more years of experience in industry, who would give more mature consideration to the applications presented to them. I think this is a splendid idea. While recent college graduates presumably bring to the Patent Office the latest in technical information, nevertheless as we all know—maybe this is my own personal view only, but I think I have a few old men in the audience who will agree with me—maturity and knowledge of industry's problems can be very important to the efficiency of an Examiner.

And perhaps more important, these older men, if we can find them, would not be using the Patent Office merely as a stepping stone into private or corporate practice. They won't be coming in

after 10 or 15 years in industry and thinking of the Patent Office merely as a school where they can get some training, serve a term as an intern and then go out and get a better job elsewhere.

Now lastly and perhaps the most important of all is that we launch a major offensive on the classification problem. Everyone knows that the Patent Office classification system is woefully out-dated. There is no question but that this deficiency of the classification system militates against the efficiency of the Examiners. Why then do we not do something about it? More than just think about it and have a few Examiners reclassifying? Even more important is the question of information retrieval. There has been a modest program in the Patent Office looking toward what is called mechanized searching. But this has only been a drop in the bucket as to the overall problem.

I am confident that our exploding technology, besides increasing the burden on the Patent Office, can also ameliorate that burden by developing a retrieval system which will enable the Examiners to conduct their searches more quickly and more accurately. Why don't we do something more about this, instead of talking about abandoning our proven system for an unproven one. Maybe that is heresy. I don't think so.

In summary then, I say let's first give the Examiners their proper recognition. Let's give them proper working conditions. And let's give them the tools with which to work efficiently. After we have done that, let's crack down on the inefficient and the recalcitrant Examiners.

In any organization as big as the Patent Office, be it Government, corporation or private corporation, you are going to have some inefficient people, you are going to have some conscientious people—the majority are conscientious—but you will have a few that goof off. I say if they do not cut the buck, fire them. I suppose you can't do that in Civil Service, but if you can't fire them, demote them or do something to let the people know that working for the Patent Office is a privilege, and I think it should be a privilege and a job any person should be proud to possess.

I recall along in 1931 or '32, the Patent Office had a waiting list so long that it took about a year or more to get a job as an Examiner. This was good. I approve of it. It promoted getting competent, conscientious people. I hope, however, it will not take another depression to put the Office in this good position again.

I think our past Commissioners of Patents have done the best they could with tools they had. I believe that Commissioner Brenner is doing a splendid job with the tools he has, but in my opinion they

are totally inadequate. The Patent Office cannot be made efficient overnight, nor can it be expected to do the impossible, although some people seem to think so.

However, and I am joined by all of the lawyers who responded to my inquiry, given adequate finance, which means adequate manpower, adequate facilities, and freedom from outside interference, the Patent Office can solve, in my opinion, all of the problems facing it today without changing our basic patent system.

Thank you for listening. (Applause)

DR. LEWIS: Unfortunately, Dr. Carl Kaysen, unlike many of the Harvard Faculty, was unable to be in Washington today. But, fortunately, we have to replace his part in the invited contributor program, Dr. Mark S. Massel, member of the senior staff of the Brookings Institution.

He holds B.S., M.A., and J.D. degrees. He has been associated with Lyon & Healy, Inc., and Sanford Ink Company in an executive capacity. He has had extensive Government experience, and served as visiting professor of Law and Business at the University of Michigan. He has also lectured part time at New York, Chicago, and other universities.

He directed a capital adjustment study for the National Planning Association, and has published several treatises and numerous articles in several journals of business accounting, economics, and law. I cannot vouch for the fact that he will also give an economist's view. Dr. Massel. (Applause)

## An Economist's View

MARK S. MASSEL

It seems to me that the theme of this session "Toward a Data Base for the President's Commission" is a highly desirable one. Despite any final evaluation of the workings of the patent system, the fact remains that for several decades there has been substantial unrest about the system and its operations in Government, in business, in the general population, and in the various disciplines. I think that this attitude has been reflected during the last several decades in the several investigations of the patent system and its operations.

The question we have to face today is whether the new President's Commission will produce the same type of literature as that of previous investigators. Or will it end in rather discursive argumentation without coming to grips with any final recommendations for change?

It seems to me that the President's Commission has a major opportunity to make a worthwhile contribution if it follows the theme of this session. We need to get away from general statements and beliefs about the effects of the patent system and the need for change. We need clear definitions of the issues involved in the consideration of the patent system. Such definitions are needed by the Congress, the Executive, the intellectual disciplines, and the informed public.

We need clarification about the objectives of the major problem, it seems to me, that comes up with the patent systems. How far do we want to go in developing monopoly protection in order to encourage innovation?

### *Balance of Monopoly and Competition*

How can we develop a sensible balance between our desire for competition—for economic and social and political reasons—and the utilization of the monopoly to encourage innovation?

What little work has been done seems to indicate the possibility that innovation requires an effective balance between the business security provided by the patent system and a competitive framework. It seems to me that there is a clear need to define this balance through basic investigation.

### *Consistency in the Courts*

If we consider the patent system from the standpoint of the individual firm and its lawyers, an outstanding characteristic of the system is the remarkable inconsistency in the interpretation of patents among the judicial circuits and the District judges.

This condition is due to the difficulty of defining invention and in achieving an analytical view of the balance between the monopoly elements of patents and the competitive elements of other public policies.

This confusion is reflected in current patent litigation. The plaintiff's lawyer looks for opportunities to allege and to prove some element of unfair competition in the defendant's conduct. He tries to avoid resting his entire case on patentability and invention.

This condition seems to stem from the confusion about patents within the judicial process. We have made such striking progress in the rate of technological development, which has been discussed ably

this morning, that our judges have developed great uncertainty about what constitutes invention. The technical consideration of novelty in products and production processes make it extremely difficult for a judge to make determinations about invention, despite his proficiency with legal concepts, unless we can find a practical way to furnish him with objective, unbiased technical advisors.

### *Disadvantages of Patents*

Another area for research is the basis for business decisions to avoid patents. Many companies which develop patentable processes refrain from filing patent applications. How extensive is this practice? Why is it followed?

### *Information Retrieval*

Another problem, going to the heart of the patent system, is information retrieval. A basic support of patents is the exchange of useful information, available to the public, in return for patent monopoly. Is the information readily available? How can the information system be improved? Technical progress has become so rapid that the "physical" problem of information retrieval has become a tremendously serious one.

We have heard several references this morning about the need to improve the information system of the Patent Office. There can be no doubt about this need. However, I suggest that the problem is broader than the needs of the Patent Office and the Patent Bar. The basic patent system cannot satisfy its ultimate requirements unless it provides an effective information system for researchers, innovators and others in industry, the professions and the academic circles.

This problem requires no extensive survey of the need. We have heard clear evidence of such a need this morning. Dr. Hershey has shown the need in his clear presentation of Du Pont's development of an information retrieval system of its own. I am sure he will agree that the patent system was not set up to favor large organizations which can develop their own retrieval system. Rather it was constructed to further economic and technical development by wide dissemination of information which is useful in scientific and industrial endeavors.

### *International Problems*

The patent system involves some profound international problems. We want to increase international trade, improve international co-



operation, and provide technical and other assistance for economic development. Each of these objectives, it seems to me, affect any basic consideration of the patent system.

One of the reasons that our domestic patent system is overburdened is the rapid increase in applications from abroad. At the same time, the patent systems in other countries are overburdened because of applications from the United States. The present structure of national patents places heavy operating burdens on industry, patent offices, and courts. Multiple filings and adjudications increase costs and provide traffic jams.

An additional factor is the effect of national patent systems on international trade and international competition. National patent systems have been used effectively to carve up world markets. Instead of entering into agreements not to compete, businesses can achieve the same results by employing the patent system. Company "A" has an exclusive under a German patent, Company "B" has a French patent, and Company "C" has a United States patent. Each one respects the "legal" territory of the other and automatically avoids uncomfortable competition. International trade is reduced and, in some cases, industrialization of a developing country is retarded.

### *Government Research and Development*

A problem of increasing import is the patenting of the results of Government-financed research and development. This grave problem has assumed a key position in the patent problems of many industrial developments.

Today, industry and Government agencies labor under a structure of inconsistent policies laid down by the Congress and interpreted by the various Departments. We are faced with many serious questions about the application of the results of the Government-sponsored developments.

These issues will not stay under the rug no matter who does the sweeping. Despite the many years of experience with the patent system, we have no basic principles which help to settle the issues. They are so new that they deserve much better treatment than the theological discussions which have taken place. They are so important that they deserve extensive research and objective discussion. They are so novel that they require imaginative analysis.

In sum, the Government patent problem has serious international implications. If we are ever going to develop any semblance of patent systems that are harmonized among countries, we must promote

similarity in the treatment of patents stemming from Government-sponsored research and development.

I have not attempted to set up a complete briefing of the nature and types of research which should be considered by the President's Commission. The topics which were mentioned are only illustrative of the tremendous need to encourage the President's Commission to adopt the theme of this Conference wholeheartedly. The basic function of the Commission should be to define and illuminate the issues and to collect and organize the pertinent data. We need a basic understanding of the patent problem set against the broad background of the various goals of our society.

In this effort, the Commission would be well advised to follow the broad orientation of this Conference—bringing the various disciplines to bear upon a coordinated understanding of these problems.

Thank you. (Applause)

## PART II. *Research Institute Staff Contributors*

DR. LEWIS: Thank you very much, Dr. Massel.

We now come to Part II of this program, those contributions made by the Research Institute staff. I assume the program has been arranged and planned so that these contributions will average approximately five minutes in length, or less, since I note we have about 70 minutes left in the morning and seven contributors, and with an average talk of 10 minutes, there would be no time for Part III. However, I don't think we want to be too rigid about it.

May I suggest that rather than my getting up and introducing each of these people individually, that I invite them to get up more or less in the order in which they are listed here, unless they have pre-arranged to do it in some different order.

So I now call upon the first contributor, Dr. Bangs.

DR. BANGS: I should like to compliment Dr. Hershey on a very excellent statement and add a footnote to his remarks.

In the market for manufactured goods today, competition is keen, and, increasingly, it takes forms other than price reduction. New products, research, new methods, are the way progressive firms compete today. The classical economic conception in which manufacturers turn out an essentially homogeneous product and compete chiefly through price is an abstraction which never described reality, and does so less with each passing year.

For today's variety of non-price competition, the patent system is essential. Private investments in R&D would not be practical without the protection which patents afford. Indeed, there is little fundamental criticism of our existing intellectual property system, although there are many proposals for modifying it in detail, some of which you have already heard this morning.

**Robert B.  
Bangs**

The PTC Research Institute has done pioneer work in promoting better understanding of the industrial property system and the way it works in practice. In our studies, we have sought always to explain both the prevailing law and the typical practice under that law. Without a firm empirical basis, research in social or legal institutions is sterile.

We have studied many aspects of the patent system: the extent to which patents are utilized, the role of patents in the development of business firms, interrelations between patent and antitrust laws, tax treatment of proceeds from inventions, listing of industrial property in international trade, and many other subjects.

To date, we have given much more study to patents than to trademarks and copyrights. This neglect is now being remedied. For example, I have in process a comprehensive study of trademarks as a business asset. This covers their selection, their buildup in value by advertising, quality control, and service, their listing and their eventual disappearance as they become common terms in the language.

Trade names like rayon, aspirin, cellophane, thermos bottle, have all passed through this phase. In package licensing of industrial property, trademarks are often the most valuable item. As sources of corporate earning power, they may well outweigh patents in many instances.

The object of this study is to supply the kind of factual detail leading to interpretation that the Institute studies pertaining to patents have already made available to the public.

Thank you. (Applause.)

**DR. BEHRMAN:** Mr. Moderator: I will yield most of my time back to the group since I will have my innings tomorrow afternoon.

I would like to stress a couple of points in Dr. Massel's presentation, however, arising from the fact that there is an increasing filing of patents from abroad and United States patents overseas.

You can break the problem down, I think, into three or four major categories. The first is the problem of reconciling the position of the United States patent system and procedure with that being developed in the Common Market. And The Patent, Trademark,

and Copyright Research Institute is continuing to study the development of a common patent system in the Common Market.

But we obviously do not have enough resources to blanket the whole problem and what they are developing within their own system of reconciling national patent systems with a common patent system, betokens a considerable degree of difficulty for us in the future,

**Jack N.  
Behrman**

I think. A major decision has to be that of whether or not we want to try to join the Common Market system eventually. Obviously if we do, this is going to require, I think, substantial changes in our own system. They are not going to make all of the accommodations. And this has to be a fairly extensive study, not just by the Research Institute, or even the Congress, or by yourselves. It involves not only the question of what is a patent, but the procedures for filing. You can understand, I think, if you are frustrated with the delay in the patent system what the foreigner may feel and may think at times about our procedures denying him the right to a patent which he thinks he has merely because of a long delay. He may think, for example, that there are ulterior or different motives than actually exist.

The second major category would relate to the developing countries, who, themselves, are not at all certain that the patent system is the way in which a monopoly ought to be created. Many of these countries consider monopoly creation the direct right of the Government and they don't care to have the creation of monopoly initiated by a company through a standing legal system at all. They are therefore questioning what kind of patent system they should have, if any at all. In fact, a few have indicated that they consider the acquisition of technical know-how easier and more appropriate in their system merely by taking it from wherever they can find it, rather than giving the protection, or encouragement, or development from within.

The Patent, Trademark, and Copyright Research Institute is now embarking on a rather extensive study of the transfer of technological know-how, patent rights, and so on, to the developing countries, to find out what the process of transfer actually is, how widely it is disseminated, what kind of protection may be necessary, and what kind of encouragement can be provided by these developing countries, not only to the transfer from foreign countries, but to the development of invention and innovation from within.

I would like also to stress a third changing element in the scene which Dr. Massel mentioned and that is the role of the developments under Government contracts, or their transfer overseas. It is obvious that United States procedure in this area has to be altered if we are

going to begin to match at all the procedures of other countries, or to gain economic benefit from the commercial exploitation of developments made through Government contract.

Let me stress the fourth element of a growing change in the international system, and that is the growing interest of the Soviet countries in participation in the patent system. They sent over a delegation two or three years ago. They have shown recently, by conversations an additional interest in joining one or more of the conventions (or at least making their system more adaptable to participation from outside) and more interest in their own filing for rights in foreign countries.

These elements seem to me to constitute a considerable set of forces for change in the patent system of the United States in the future, requiring study not only by ourselves, but by yourselves.

Thank you. (Applause)

MR. GREEN: Mr. Stevenson and Dr. Hershey stressed the fact that the patent system and patents are only important to a company if they relate to company objectives and support company objectives.

Mr. Fulwider stressed the importance of getting adequate protection from all patents granted. Dr. Massel spoke on the economist's frustration in finding out what we really want from the patent system in our society.

In listening to these gentlemen, I distilled from this the idea that perhaps many, if not most of the patents granted today, do fulfill their functions in our economy, that is they do provide adequate protection. If you look at it in the following way—let me admit I am operating from an inadequate data base—let's look at all of the patents granted annually as a pyramid.

**John C.  
Green**

At the base of the pyramid, you have a large number of patents which are never marketed at all but they have a valuable function, as Dr. Hershey pointed out they provide a library of ideas, a catalog of information for the future, and advancing technology may profit from them.

Then at the next level, there are a number of patents which are taken out by a company which are, shall we say, evolutions of the company's existing products. The company feels that the protection granted is valid; it puts those evolutions on the market and they are not challenged.

At the next level, you have a large group of patents which are new ideas, which are successful ideas, which reach the market and which companies choose to license to other firms. Therefore, they become

a mechanism for valid contracting. Here also both sides are satisfied with the protection as adequate.

Then there is another level, which Dr. Hershey alluded to; these are the patents, the pioneer inventions which require a large aggregation of capital and marketing skill to put on the market. These, like synthetic fibers, also are not challenged by the courts or by competition, and the nation finds a very definite economic benefit from them.

Then at the capstone of my pyramid there is a relatively small number of patents which are attacked and are considered by the courts because the protection is deemed inadequate, or the competition may not want to take a license. Here is where this judicial confusion comes in as to what is a valid invention.

I guess what I am really driving at is that the patent system works in our economy. It works imperfectly, but so is the economy imperfect. Anybody who has read the papers in the last few days recognizes that fact. The ultimate point is that the President's Commission ought to view its task as considering what revisions of the patent system will keep it in touch with the needs of a constantly changing and fluid economy. (Applause)

**DR. MARKHAM:** I am going to occupy the rostrum very briefly, and while I am here I am going to be completely frustrated.

Last year I was scheduled to be on two programs. Both went by and the authors of the papers were so lengthy, I never made it to the rostrum.

Then, finally, Mr. Oppenheim invited me to come to the rostrum and said, "Well, on this program, old Jesse Markham knows absolutely nothing about the subject, but he has been in the audience for a couple of days, so we think we will let him make some comments, anyway." Secondly, not only did I come somewhat unprepared today in view of last year's experience, but Dr. Massel, in his excellent presentation, has said almost everything that I would have said. However, I do want to comment very briefly on two of the points that he raised. One is the very delicate balance between our basic policies of the patent system and secondly, the policies of preserving competition. He has alluded to some of the work that has been done in the United States and in England on this particular point. He has also referred to the theological level of this debate, although he confined his comments here pretty much, I expect, to the patent system, itself. I would like to say a few words on the necessity for getting on with research that attempts to shed some light on both

**Jesse W.  
Markham**

of these two policies, on how they come together, and on how to get the debate out of the theological area and to get it factual.

This, therefore, the necessity for the data base we have heard about this morning. Although we have been hearing a lot about the 175th Anniversary of the patent system, few have referred to the fact that this is the 75th Anniversary of another major public policy, that of the United States antitrust policies as imbedded in the Sherman Act and all of the subsequent statutes that went to implement it.

There has been a lot of quantitative work going on in the economics profession attempting to get at some of the relationships that Dr. Massel has spoken of that determine the balance between these policies and just where it should be struck. And what I am going to do is to give you some of these results and let you chew away on them for whatever they might be worth. I don't think they are very revealing, but I do think they point out just wherein we need to have a great deal more information on this particular topic.

A good deal of work has been done recently on the relationship between business size and the inventive efforts of business corporations as measured by research and development.

A good deal of work has also been done on the relationship between the output of inventive effort as measured by patents and business size. These same variables have been correlated, or regressed upon other dimensions of market structure, such as levels of concentration, and various other indexes of industrial structure that we are all familiar with.

The results we have reached, partly because of the horrible inadequacies of the data, would leave us, I think, in a state that none of us would be particularly pleased with. They show, generally speaking, that up to a certain size, there is very strong correlation between what we think of as inventive activity and the output of inventive activity and the size and market share of the American corporation. But this correlation begins to peter out after a certain breaking point, and I don't think many in this room would be very happy with leaving the data in this state. That breaking point happens to be, roughly, about half a billion dollars in terms of size of the firms as measured by annual sales.

Query: Are we really prepared to live with a situation in which the only way one justifies the size of business firms on the basis of research and development is that you let them reach a size of half a billion dollars and beyond this you just simply say you cannot justify it any further than this?

Let me again emphasize that I am not saying this is indeed the

truth, if the truth were fully known. I am only arguing that this is the state of the situation as it presently exists on the basis of highly inadequate data and, indeed, perhaps on the basis of highly inadequate research tools.

I have a graduate student who is infinitely more brilliant than I am in his particular area. He has even raised the question, because of his superior knowledge of mathematics, whether the mathematical techniques used are even worthwhile or appropriate to this kind of problem, that is, in a multi-variant world where many things are correlated with many other things—and you have this problem at the firm decision level of simultaneously sorting these things out—is it really admissible to take one activity or quantitative measure of an activity, patents, or research and development out of the rest, and correlate it with another variable that we might call the independent variable firm size, when in fact we know that business firms make decisions simultaneously about research and development, about advertising outlays and about a host of other things.

Some of the recent results also go at this basic balance that Dr. Massel has mentioned, and let me state, since here we have no quantitative data where we presently are. It goes to the statistics that Mr. Stevenson mentioned that research and development outlays have greatly increased over the period since World War II.

In fact, he indicated they increased from \$400 million to \$20 billion. I like to look at them in terms of share of the gross national product. They have increased from, roughly, about .1 percent of GNP to about 3.5 percent, which is not quite as big a relative increase, but, nevertheless, it is perfectly obvious they are big enough for economists to get concerned about.

How does one explain this tremendous increase? Let me now give you one of the simplest and most naive explanations of this increase: I happen to believe it is essentially wrong, but not 100 percent wrong, but the question is how wrong is it? Let's say business firms have every right to seek a monopoly wherever they can find it simply because a monopoly pays a greater reward than competition. In any society where there are no public policies whatsoever, one would assume them to seek a monopoly in a sort of random fashion. You would agree with your rivals, you would merge with them, consolidate with them, and all of these things business firms have done in order to reap the rewards of monopoly. However, in a society where you put tremendous constraints on business firms as to how they might seek monopoly, such as in the United States, you can't agree with your rivals, at least, you cannot and be discovered, and get by with im-



munity, you cannot, these days, merge very much and certainly not with rivals, and you cannot merge with very many firms that aren't rivals, but, nevertheless, with these gateways closed, one might argue that one of the reasons you get a very high output of R&D expenditures is that antitrust policy has been becoming much more constraining on business firms, and there is no question about the fact that it has.

Well again at this level in terms of the balance of which Dr. Massel spoke, I don't think one would be content with this as an explanation. The policy implications of this, of course, would be very, very clear that all one needs to do to stimulate a great deal of inventive activity and technological progress in the economy—strengthening antitrust by a factor of two has done all this—is to strengthen it by a factor of 10, go ahead and insist on virtually perfect competition, but don't let them get any monopoly any way other than by monopoly.

I have taken a lot more time than I intended, but I was very surprised to have an opportunity to get to the rostrum at all, as I said, on the basis of last year's performance.

So, once having gotten here and having gotten over the initial shock of getting to the rostrum, I guess I got carried away. Anyway, thank you very much. (Applause.)

DR. MOSEL: Mr. Chairman, the other Dr. Massel has already given my speech. I thank you for the ovation you have given it.

At any rate, my views on this sort of thing have already appeared in the pages of the *Journal* and the proceedings of earlier meetings, minus of course the scatology which usually accompanies the original presentation.

So I would like to donate my time to Dr. Siegel, who, experience teaches, will need it, and who will use it much more fruitfully than I. Irving? (Applause)

DR. SIEGEL: It is remarkable how we overwhelm each other.

Having the advantage or disadvantage of hearing the other speakers before me I shall make a few peripheral, but I hope not marginal, observations on my research of the past decade with the Institute. I shall point to a few of the ideas developed in my research that are pertinent to the theme of this morning's session, "The Changing Setting."

First, I refer to the persistence of the sole inventor. In a number of articles prepared for the Institute's journal I have noted that de-

spite changes in many relevant circumstances, invention remains essentially an individual act. It is still credited largely to individuals even though individuals now often work in groups and even though societal and cultural influences on creativity can hardly be ignored.

Irving H.  
Siegel

Prometheus, according to the United States sequel to the legend of the Greeks, came here to work as a garret inventor in the 19th Century. According to popular rumor, it would appear that Prometheus has more recently become a committee—a group engaged in team research, especially in a corporate laboratory. Nevertheless, current statistics show that about 50 to 75 percent of the patents granted to persons associated with corporations are credited to sole inventors. The residue is credited to joint inventors—to pairs, trios, et cetera, but mostly to pairs.

In short, there is still a role for people like my generous colleague, the psychologist Dr. Mosel, to study motivations, incentives, and stimuli favoring prolongation of the productive careers of creative researchers. Indeed, this kind of study would seem increasingly important since creative researchers are more likely nowadays to be employees than free-lancers—employees of organizations with heavy commitments to R&D.

My second comment relates to the variety and prevalence of economic and other limitations on technological change. This observation also goes counter to an important rumor of our times—that nowadays profound technological change is fairly automatic and proceeding irresistibly. Indeed, you have all heard how something called “automation” is supposed to be reshaping our society at a galloping rate and as inexorably as crabgrass takes over your garden or mine. The process is not really mysterious, novel, or relentless. The movement so well publicized today is really the continuation of an historic trend, and the rates and directions of innovation are certainly influenced by economic, political, social, psychological, international, and other factors.

Studies made by me and several colleagues at the Institute on the role of patents, among other factors, in the origin and development of small companies and in the evolution of established firms reveal the importance of knowledge and of the profitability test in technological innovation. The problems of using new knowledge are considerable, and these are not only often confused with other barriers but are also literally related to the central issue of profitworthiness. New knowledge is acquired at a cost, if at all, by a firm; and the displacement of old information also involves cost. Mere tech-

nological feasibility is less attractive to any sound businessman than the prospect of net gain, and this prospect is affected by comparisons of current activities with alternatives entailing expense in the realm of knowledge as well as tangible capital.

The fact that our moderator is Dr. Lewis, President of Lehigh University, reminds me of the talk I gave at his school in March. I emphasized the influence of economic considerations on the shaping and constraint of technological tendencies. I called my talk "Sovereign Technology and the Economic Governor." Of course, there are other governors too, as I have already observed, e.g., political. The diffusion of technological knowledge is not inevitable, and the rate may be disappointing. Economic hurdles exist here and political assistance is a popular panacea.

A third point I wish to note is the significance of "positive competition" for the conduct of business in a generally constructive manner in our type of society and with a maximum of "freedom" and creativeness. Dr. Harris and I decided several years ago that a distinctive name ought to be given to the kind of competition that seems to be tolerated or endorsed in the antitrust literature concerning the world of experience. The concept differs from the much more restricted notions encountered in economic textbooks. It is vital that we understand the workings of positive competition, which is different from workable, pure, and other "simple" varieties and which characterizes about 99.44 percent of actual business transactions. The relatively few cases that are litigated, the pathological instances that attract publicity, should not unduly influence our view of the engine of our economic system.

I shall not comment further on this major topic. I am limited not only by time but also by the inhibiting presence of two acknowledged antitrust experts, Dr. Massel of Brookings and Professor Markham of both Princeton and the Institute.

A fourth facet of the changing setting is the growing role of the Federal Government in economics and technology. This topic too is not disposable in a short time. I simply point out that in the course of our Institute studies we have become impressed with the desirability of taking what might be called a "larger-systems view" of such problems as the ownership and effective utilization of patents acquired under Federally sponsored contracts. Having been engaged primarily in operations research in recent years I find it quite natural to take into account the totality of relations between a company and the Government. My Institute inquiries underscore the utility of this approach.

In various Institute reports, I have proposed that the potentially large "giveaways" envisaged in Department of Defense patent policies and in NASA patent waiver grants be juxtaposed against the potentially large "takeaways" provided in the progressive income-tax structure. If a patent developed at public expense is truly valuable, public sharing in the economic benefit derived from private working is automatic and substantial.

My fifth comment relates to United States opportunities for assisting the peaceful industrialization of relatively undeveloped nations. Dr. Behrman has already referred to this need. Dr. Harris and I have paid special attention to Latin-American problems and opinions concerning the role of industrial property. Our joint studies anticipate that the countries of Latin America will strive toward greater compatibility of their laws as they move toward Common-Market organization. Furthermore, closer integration with the United States is to be expected as hemispheric interests are appraised more realistically. But, perhaps most important, from the long-run standpoint and with special reference to patents, is adherence to the Paris Convention.

My sixth and final point is the need for an "economics of information." We are living in a period in which increasing explicit account has to be taken of factors influencing the creation, processing, distribution and application of knowledge—just as though knowledge were a stuff comparable to materials and energy. Of course, economics has traditionally included "labor" as a "factor of production," but it has not been concerned particularly with the specialized, highly differentiated labor characterizable as "knowledge on the hoof." Many problems could be handled more insightfully if an economics of information were formally developed.

Great progress was made early in this century in chemical engineering—if I may speak about Dr. Hershey's field for a moment—when it was recognized that chemical manufacture could effectively be analyzed into more or less standard "unit processes" and "unit operations." These elementary processes and operations form a basic "alphabet" for the organization of larger complexes, for the description and study of whole production systems. We have to do the same thing with respect to information. We have to designate meaningful, more or less homogeneous, units for the treatment of all sorts of transactions and transformations involving knowledge. Indeed, we might eventually find it useful and necessary to make hierarchical distinctions in terms of degree and nature of processing. We might, for example, find it advantageous to distinguish "data," "information" (data organized and intended for communication), "knowledge" (integrated

or structured received communications), and "wisdom." But, having mentioned "wisdom," which is lacked in such abundance everywhere, I come to a very appropriate stopping point. Thank you. (Applause)

MR. WEINBERG: To complete this discussion of "The Changing Setting," some comments on the external or public relations of the patent system seem to be in order and I will say very little about the patent system itself but more about public opinion toward technological change—effects of the patent system.

We must take account in this connection of the debate that is raging about the possible impact of technology, especially automation, on employment and unemployment.

Last month, a widely read public opinion poll brought out the two opposing points of view about this explosive topic. When asked how they felt about automation, i.e., machines doing jobs that people did before, 50 percent of the people interviewed thought it would do more good than harm. One third, however, felt more harm would result. The rest thought it would make no difference.

Edgar  
Weinberg

The principal positive consequences mentioned were greater efficiency of production, better products at lower costs, more leisure, less backbreaking labor and higher pay. Listed on the negative side were increased unemployment, cited by one half of the people, loss of craftsmanship, a threat to the uneducated, and a tendency to dehumanize people.

Controversy over the benefits and problems of technological change has generated much research and speculation over the past few years but few real conclusions. Congress, last year, created a National Commission on Technology, Automation and Economic Progress to explore carefully the available evidence and report their findings by January, 1966. Fourteen distinguished citizens, from various walks of life, were appointed by the President, and they are now trying to find answers to such questions as: how rapidly are automation and other advances being diffused? What are its implications for education and employment? One of the members of the Commission, incidentally, is the outstanding scientist-inventor, Dr. Edwin Land, whom this Institute will honor this evening.

A striking fact that is often overlooked is that concern about the impact of invention on employment is a recurring theme in American history. Public interest has waxed and waned with the valleys and peaks of the business cycle.

A number of Government investigations, some occurring, by co-

incidence, at 17-year intervals, can be mentioned. One of the first was a very extensive statistical study by the first Commissioner of Labor, Carroll D. Wright. His famous report in 1898, *Hand and Machine Labor*, recorded the remarkable gains in output per man hour that resulted from the mechanical inventions of the 19th Century, some of which, incidentally, were comparable to advances cited in our own time.

About 17 years later, President Wilson appointed an industrial commission to study causes of industrial unrest of that period, and a tri-partite task force undertook a study of Taylorism, which you might consider the automation of that day, and concluded it promised benefits and problems for American industry and labor. Their list of pluses and minuses is not unlike those I just mentioned.

Of course the great depression of the 1930's was a period of near hysteria over the impact of machinery on employment. In hearings before the House Committee on Patents in 1932, Representative Hatton Sumners, of Texas, argued that the Patent Office should cease granting patents on labor-saving devices because of unemployment. During the 30's there were intensive studies by the National Research Project, TNEC, and the National Resources Committee. One of the reports prepared by Ogburn, the famous sociologist, *Technological Trends and National Policy*, which Mr. Stevenson mentioned, proposed the establishment of a technological forecasting service within the Government that would monitor the prospects of important inventions and try to anticipate their social consequences. This is an idea that is again receiving some attention here.

Thus, we might say that concern about the impact of labor-saving inventions always seems to lie just below the surface of public opinion. Today, the extent and sharpness of these worries seem to be intensified.

Paradoxically, this is an area of technology's greatest success for the average American as a consumer. As a worker, the average American also feels some insecurity about changes that he believes may affect his job and render his skill unnecessary. This attitude is perhaps understandable in an increasingly urbanized society where income and social status depend so much upon a person's steady employment and occupational achievements.

The present situation, however, differs very much from the past, primarily because of the deliberate efforts by Government to sustain high employment levels, to provide income for the unemployed, and to assist the displaced in finding new jobs. The Government seeks to stimulate a fast pace of technological change through encourage-

ment of the patent system, R&D, higher education, and investment, to assure national security and economic growth. At the same time, the Government is also assuming a complementary role in encouraging social inventions for reducing the costs of change, and for redistributing some costs from the individual to society.

Looking ahead, we see the desirability and inevitability of technological change universally accepted. No responsible person today suggests a moratorium on labor-saving patents, as the worried Congressman did a generation ago; nor does anyone anticipate a decline in patenting activity as a former Commissioner of Patents in the 1880's, who felt inventions had reached a saturation point. In our affluent times, we see a new approach being taken to the challenges and opportunities of changing technology.

The main emphasis of this new approach is to make people more versatile, through education and training, and thereby more capable of adjusting successfully if occupational displacement occurs during their working lifetime.

The present Secretary of Labor, Willard Wirtz, has recently declared "the only clear job security today is in continuous education, even of an informal sort." This new approach could have a far-reaching effect by providing a more lasting protection for workers in the world of continuing and inevitable rapid change. It could also improve the climate of opinion for introducing technological advances which the patent system is intended to foster and which are recognized as the ultimate basis for the welfare of the individual and the welfare of the nation.

Thank you. (Applause)

### *PART III—Panel Discussion and Question Period*

DR. LEWIS: Thank you very much. That is the end of Part II.

We have now come to the part where there is an opportunity for comments by panel members on other panel members' remarks, or questions, and, possibly, even rebuttals.

I think we ought to constitute both the research staff members and the invited contributors as one single panel, and just ask if any of them have any comments or questions about any other paper.

DR. HERSHEY: Dr. Massel mentioned our patent retrieval efforts, and I would like to make a few more remarks about that which may be of interest to you.

First of all, it is still, quite new. Our efforts with this computer retrieval are in a limited area of interest to us and I wouldn't now

be prepared to say with complete confidence how it is going to work out.

An interesting thing happened about it which I think you might like to know about. Several months ago, I was visited by a senior member of our legal staff who reported to me that one of his juniors was rather concerned about the amount of talking that the people engaged in this activity were doing with such people as the American Chemical Society, Chemical Abstracts, and so on. He thought we had a first-rate competitive weapon here which we ought not to talk about. Well, this is really an unrealistic point of view. If this thing is going to be of any use to us, it has to be compatible to some extent with other peoples' efforts.

As I tried to suggest in my remarks, we would be quite happy to cooperate with anybody, including the Patent Office, in trying to get an information cataloging and retrieval system. People have been working on this, as you know, for a long, long time. Of course, there are difficulties in codifying an infinite number of chemical compounds so they are unique and easy to work with.

I did want to say, also, in view of Professor Markham's remarks about the antitrust situation that what he said is certainly true. As you know there are a great many rules that surround the use of patents by an industrial firm. This is a matter of business judgment, I suppose, but in a major development where it takes you some years to get established you almost have to begin thinking at the very beginning of what you are going to do when the patent runs out or preferably what happens several years before it runs out, or you are going to be in trouble. This is a very serious consideration that businessmen have to keep in front of their minds all of the time.

Someone remarked upon the disappearance of price competition in many of the manufactured materials today, and this also is certainly true. As a matter of fact, in our industry, the strongest competitive weapon—or at least one of them—that you can have, is the matching of your product, in case it is possible to have any differentiation, to the almost infinite desires of a great number of different customers.

Now, this gives the manufacturing man a great big headache because he would like to make the same thing all of the time. But in almost all of our products, except such old things as sulphuric acid, which you can hardly differentiate from anybody else's, it appalls me at times when I think of how many different varieties of titanium dioxide pigment we make, for example. I think those of you who don't know anything about the pigment industry would be astonished



to discover how many different modifications of that product we have to make to suit different peoples' requirements.

Finally, I would like to say something about this matter of efficiency of research and development. Professor Markham and I have had conversations about this in my office, and I hope we can have some more. I think it is extremely difficult to find the really critical independent variable in this matter. Personally, I think researchers in this area might want to look at management practices—I would like to ask you what made the New York Yankees so superior for so many years? Certainly it was not the size of the squad they had; it was the quality of the workers, and the management of those workers and the replacement of those workers.

The easiest thing I could do is guarantee that I could spend \$20 million on research programs that would produce nothing. It is a lot easier than spending \$20 million and producing something.

Thank you very much. (Applause.)

DR. LEWIS: Mr. Stevenson has some comments, I believe.

MR. STEVENSON: By way of comments, I have first a question which I would really like to address to Dr. Massel and others who are economists.

I have recently come into possession of a significant piece of data. It is very challenging. I don't know its origin, and I am not sure of its validity, but in attempting to correlate research with economic growth, to appraise in the next ten years the amount of monies that we should spend under the American goal of research and development in order to promote employment, the statistic I picked up—and I don't know where it came from, but it is challenging—is that over the past five years it has been shown that we must spend \$1.5 billion over five years in order to create the base for a million jobs.

Now, that is a rather significant figure, and it ties into this discussion in the sense that if we are to spend \$1.5 billion in industry on research and development, it has to be justified. And one of the incentives is the opportunity for a limited monopoly as provided by our patent system. Can this statistic be validated?

The second observation concerns the ongoing studies of this Institute relative to Government-owned patents. I happen to be consultant to NASA in the field of the transfer of technology, and this program is tied into the patent policies of NASA.

Federal patent policies have been looked at from many critical angles. It has been proposed recently that the Government be satisfied, in order to secure rapid issue, with the issue of a patent without claims after allowing one year for the development of interferences.

I am delighted to see this issue again coming to light, and to say that, from my viewpoints, it is extremely important that the Commission the President is about to appoint comes to grips with the anomaly of the grant by the Government to itself of a monopoly that it cannot exercise. This is sterilizing invention; it is a channel for the transfer of technology abroad contributing to our fiscal imbalance. I would like to so associate our Government patent policy because I have never seen it so associated until I heard a Congressman recently allude to it with this inference: Is there some kind of a correlation between our present international imbalance that is so troubling our econmists and the Government patent policies.

Thank you. (Applause)

DR. LEWIS: Does any other panel member wish to make a remark or address a question to one of his colleagues? Dr. Massel?

DR. MASSEL: I have some trouble with the notion that we must invest \$1.5 billion in order to provide one million jobs and that we should make such investments for future employment. Research and development is not the sole form of investment needed. Education may provide an even more important form of investment. Unless we exercise sufficient restraint, we can push research so far that we do not leave a sufficient supply of competent people devoted to the development of the scientists and technicians needed in the future. We need a balance, an overall view.

Further, we must recognize the many pressures for research and other investments which will reduce employment. It seems to me that we are encouraging the development of a structure of employment costs, including a range of payroll taxes, which serves to make labor costs more and more rigid. Hence, we may be pushing industry into the use of machine-intensive, rather than labor-intensive, processes. These pressures have increased our drive in research and in the development of new machines and new industrial processes. However, much of the development is intended to reduce employment rather than to increase it.

Therefore, we cannot find a clear causal connection between investment in research and employment. We have seen considerable expansion in industrial output without commensurate expansion in employment, and we may see more of this phenomenon. Hence, it is possible to spend \$1.5 billion, or a larger amount, in research and development without increasing employment.

In line with this point, it seems to me that a concensus has emerged from the discussion. If the President's Commission wants to make a substantial contribution to the development of our society it must

take a broad point of view of a wide range of problems. It will not provide leadership by a narrow examination of the technical aspects of the patent system and the operation of the Patent Office.

(Applause)

DR. MARKHAM: I just want to add something to the arithmetic, as to whether the possible statistics may have come from. At least the question caused me to do some hasty arithmetic, but did not give me time for a great deal of thinking.

I think the source of the statistics is that over the past five years, R&D expenditures have increased by roughly about \$7 billion, going from 13 to 20; employment has gone up by somewhere between four and five million jobs, so therefore it figures out that roughly about \$1.5 billion in R&D on the average has created somewhere in the neighborhood of one million jobs.

There is another possible source of the arithmetic that Jack Behrman has pointed out to me and that is a kind of rule of thumb that one dollar of R&D is expended for every 10 dollars expended as capital equipment outlays; and it takes roughly about \$10 billion capital equipment, I guess, to create this many jobs, so by indirection you come back to the point five billion dollars R&D as roughly the amount that is required here to create the one million jobs.

My own comment on this is that obviously—I understand I am eligible to talk not because I am an economist, but the question was addressed to those who are rated as economists, and there is a directory that says I am rated as an economist, I would like to point out that there are quite a number of variables in the economy and obviously employment turns on how these variables, as well as many others, come out. So this average relationship could hardly be used as a predictor.

I think, unless I have forgotten a lot of the other statistics, one could also argue it requires the birth of .3 million blonds to create roughly one million jobs, because it works out also that you get somewhere in the neighborhood of three hundred thousand blonds born with the creation of about one million in the way of new jobs, unless something has happened to the historical relationships between blonds, redheads and brunettes and those who have no hair at all.

(Laughter)

So in sum I don't think this would give us a basis for a very firm prediction, let's say, over the next five years.

Thank you. (Applause)

DR. LEWIS: I assume the changing of blonds into brunettes would induce a higher. . . . (Laughter)

Do we have further comments or questions from the panel itself? If not, I think we would have a few minutes for questions from the floor. Yes.

VOICE: Speaking as one of the members.

DR. LEWIS: Perhaps you should come and use the microphone. It takes a little more time, but perhaps every one can hear the question that way.

VOICE: Speaking as one of the rather lonely members of the Examining Corps of the Patent Office, and hearing all of this learned discussion that has ranged over the entire spectrum involving economics, technology, sociology, and so forth, and of the billions of dollars that are being spent in R&D (to which Dr. Harris alluded slightly to the fact that it is a good aid to increase the finances of the Patent Office) I have yet to hear something about significantly increasing the staff of that office. We have had an expanding technology and increasing complexity of that technology increasing the burden on the Examiners but the number of Examiners has not increased proportionately.

The time it takes to process an application has been increasing as you can well imagine. Yet we are still examining with approximately the same number of Examiners as we did say, five years ago. I am not going to be naive enough to think I am the first one to think about it, but I think this should be emphasized in any symposium that considers what is to be done about the patent system. And I guarantee it won't cost you a dollar of R&D money to reach that conclusion; all you have to do is to look at the facts and to look at the figures.

Thank you. (Applause)

DR. LEWIS: Yes.

MR. WAHL: I am Richard Wahl, also from the Patent Office. I would like to speak to the question raised by Dr. Massel about information storage and retrieval. Lest there be any misapprehension or misunderstanding, the effort put out for example by Du Pont to create a classification, does not necessarily mean that the patent system has failed in its mission of promoting the program of science by providing a storehouse of technology which is retrievable in some sort of semblance of logic.

Now any classification system in logic must serve a purpose. The purpose of any system, if it is R&D oriented, is to pay off for the goals of the organization; most companies therefore will classify information according to their own mission. This has been true—Hoover Company has classified carpet sweepers and refrigeration systems.

Eastman Kodak has a system on silver, its recovery, processing and so on.

The Patent Office operates under two limitations as far as information storage and retrieval: one is budget and the other is statute. By statute and under logic our classification system is to serve the purpose of expediting the examination of applications. Our interest is so much wider than, may I say, the parochial interest of any one particular company, that our classification system is much wider. However, by law it is limited to supplying information to the Examiner and by some extension, which I would rather not talk about, we do have a public search room. Now if the patent system is to fulfill its mission of promoting the progress of science, I think it would be obvious that maintaining a classified search system, located geographically only at 14th and E Streets in Washington is perhaps falling short of the mark.

Now there have been many voices crying in the wilderness of the Patent Office for years, "we would like to see a decentralization of our information storage and retrieval." Geographically this should be in every major city of the United States, they say. This is not true at present. There is only one classified set of patents in the United States and that is at 14th and E Streets.

So I would like to add this to the data base for the President's Commission. (Applause)

DR. LEWIS: We have time for just one more I think.

MR. GOLDSMITH: I am Harry Goldsmith, and I wish to raise the question whether we shouldn't be concerned more about the invention implosion, rather than the invention explosion. If patent applications are a measure of the rate of invention, I think patent application filing statistics will show that we reached the highest rate of invention 35 years ago in 1929, when 94,738 applications were filed. Since then, the number of applications has dropped off over a great number of years, but is now on the rise. I think we are just beginning to hit pretty close to 90,000, applications per year. I believe the statistics will also show that if you take the number of inventions as represented by applications filed and place them against population, that the invention-per-capita ratio, if this statistic is significant, is really dropping.

A cause of the "backlog" problem seems to lie in that you have to file for the same invention, applications in a great number of countries in order to protect your rights. Most of the 520,000 applications filed around the world are duplicates of applications filed elsewhere. Sometimes you may file for the same invention in more than

70 countries, since patents don't extend over national boundaries. Thus, we have a great deal of duplication, and probably one of the basic problems of patent systems is this duplication and the necessity for duplicate examining and searching on the same invention in some 25 countries which have examining systems.

Now with respect to backlog, Commissioner Brenner recently stated that the average time a patent case is in the Office is three to three and one-half years, and in chemical cases four to five years. I believe patent applications in most cases are filed as soon as possible after the invention is made in order to acquire the earliest possible date of priority; and patents come out perhaps about the time you subsequently establish technical and economic feasibility and are ready to get on to the market. It is a well-known fact that it takes several years to test out an invention in practice.

So from the viewpoint of the inventor or the company developing the invention probably "the delay" in the granting of the patent may not be of too great concern. I think we are interested in knowing perhaps at an early date what the likelihood is of getting some patent protection, and therefore an early examination or report on this phase from the Patent Office would be desirable.

Thank you. (Applause)

DR. LEWIS: Thank you very much. First I would like to thank the distinguished contributors and panelists and contributors from the audience as well. I think it was really an illuminating session. It was splendid and sets the stage for later discussion. I have several brief announcements to make.

(Announcements made off the record.)

(Recess)

### LUNCHEON SESSION

MR. STEVENSON: May I have your attention as we open our luncheon session? Please proceed with your desserts as we listen to our two luncheon speakers. We wish to be out of here substantially around two o'clock, in order that we may proceed on time with our afternoon session.

This is a particularly pleasant occasion for me, because I find myself sharing the head table with two very old friends. It will be my pleasure to introduce them in turn.

The first is Dr. Jesse Hobson, presently Vice President of Southern Methodist University—but he assures me he is not a Methodist. He received his Ph.D. in 1935 and his Doctor of Engineering in 1957.

He served as assistant professor of mathematics at Earlham College. That makes him a Hoosier and I am also a Hoosier. He may not have known that previously. From 1935 to '41 he was associated with Westinghouse Electric and Manufacturing Company. He has worked on a great variety of research projects. I have known him most intimately during the period when he was Director of Stanford Research Institute. And I make public acknowledgement now that he was primarily responsible for establishing that institution. He has been the recipient of numerous awards and these I will not attempt to identify.

I think his being with us today and on this rostrum is sufficient evidence of his capabilities and the esteem in which we all hold him. With these few remarks, Jesse, I turn this rostrum over to you.

(Applause)

### *The Nation's R&D Commitment and the Presidential Commision's Task*

## An Industry View

JESSE E. HOBSON

Thank you, Earl, and ladies and gentlemen: Certainly one of the greatest inventions of all time is the invention of the patent system itself which was borrowed in this country from the heritage that we had in older cultures and older civilizations. At this meeting it seems to me that we don't really need to defend the patent system, extol its virtues nor dwell at length on its contributions to American industry, to the American economy or to the advancement of technology and innovation in this country, because those of us who are at this meeting are very familiar with the contributions of the patent system. Many of us have had personal and corporate experience with it.

I am speaking today to you only from my own experience and my own observations in private industry as a former employee of two large corporations, as a former research administrator with two non-profit public service research organizations, as a faculty member and university administrator and as a consultant to a number of research organizations, public and private.

Primarily my interest today is as one who is interested in the advancement of science and technology and innovation in this country, and particularly in the uses of science to further our economic, our social, our industrial, and even our political development. In this regard I consider the patent system to be a most important and most effective instrument of national public policy to relate science to the solution of our economic and social problems and to our opportunities.

Patent policies and patent procedures have had (and they can have to an increasing degree) profound and penetrating influences on innovation and invention and therefore on industrial and economic development. That our patent system has had such a constructive influence for good in this country, that it has encouraged economic and industrial development, that it has reached to bridge the gap between science and technology and the market place, that it has been an important feature of public policy will surely not be questioned by any of us who are here.

It is satisfying to me to notice that we come now to a point where we can, we should, and we must re-examine the patent system and all of its objectives, policies, activities and operations, to make certain that it is established, operated and interpreted as effectively as possible in the public interest, for the perpetuation and the strengthening of our free enterprise, profit-motivated, capitalistic, risk-invested, freely motivated system of economic society.

The abundance of natural resources is no longer a guarantee that we will have economic prosperity, or that we will have social advancement, or political advantage and security. Re-examination of the patent system at this time is most necessary and urgent because we are making tremendous investments of funds and resources, both material and human resources, in science and technology, from both public and private sources to accomplish certain economic, industrial, social and political objectives.

I think we would generally agree that the desired objectives and the ends we seek are valid and are sound and in many cases they are even urgent today. But without the motivation and incentive in the creative brain for innovation, for invention and for application, and without maximum ease in transferring science and technology to application to the market place, (whether that is a private or public market place) we cannot harness the brain-power resources of this country, nor can we take advantage of the inherent strength of our free enterprise system, nor can we accomplish the objectives that we seek.



More than ever we realize that our ultimate national resource is the human brain and we have nearly 200 million of them in this country. Of course that fact is behind our current emphasis on education, on research, and on science. But for the motivations and the incentives of the brain to function best they must be sharpened and strengthened; as well as an urgent need for the brain to be educated, to be informed and to be experienced. The channels through which inventive genius can operate must be clarified and the procedures and systems for the transfer of science and technology to end applications must be made easier and the impediments removed.

Our system works well, far better than any other system that we know. But it doesn't work well enough to meet our needs and our desires. And it doesn't work well enough to meet the opportunities for our people. Procedures are slow, confusion exists regarding policies, and brains may not be stimulated to maximum creativity and productivity.

I think we should remind ourselves that the patent system was developed to protect, inspire and to motivate the individual inventor-innovator and to permit him to benefit from his investment of time, of energy, and brains. There are many indications that the entire system now needs careful and critical review to determine if it is fulfilling those purposes and objectives. There are some indications that it may not be serving the valid and legitimate interests of the individual inventor, in many cases because the time involved in securing patent protection, the extensive costs often involved, the expensive and highly skilled legal assistance usually needed, and the difficulties of maintaining patent position and the difficulties of maintaining familiarity with current and prior art, are generally very discouraging to the individual inventor, unless he has very large funds at his disposal, and unless he has a large industrial organization behind him that can afford to wait for several years for a return on investment, can exploit commercial advantage in our system of free enterprise and can be ready to protect the position once it is secured.

It would seem that full advantage has not been taken of new technological developments in information storage and retrieval to serve the interests of those applying for patents, and the Government may not be paying its full fair share of the costs which are involved. I think we will have to admit, too, that the individual inventor doesn't always receive from his employer, if he is working in an individual company or organization, due credit nor due reward for his specific innovation, or for his background of training and experience and perhaps prior innovative creativity before he joined the organization

for which he is (theoretically at least) being paid to invent and innovate. He isn't always given adequate reward in protection for innovation apart from the direct business and interests of his employer.

I think this should be a matter of serious concern in national science policy formation, because it means that discouragement rather than encouragement is given many times to innovation and to creativity. In this regard in my opinion, private industry should search its own house to see if there may be abuse of operations and policies in dealings with its own employees which are very similar and in fact equally intolerable and undesirable to the very abuse that industry attacks so violently, when practiced by the Federal Government.

Industry shares a public trust with Government to protect, to inspire, to reward, to motivate, and to encourage creativity in the individual creative mind where all creation, all innovation, and all invention must originate. Neither a corporation, nor a computer, nor a state, nor a university, or the Federal Government can create or invent. That privilege and that power and that opportunity is God-given to the brain of man. And I suppose this is as close to theology, and to the reference of this morning to the theological approach as a good Episcopalian who was brought up as a Quaker, dares to venture especially if he comes from a Methodist institution!

Before the Armed Forces Chemical Association a few months ago, Donald Peyton, who is sitting in this audience, of the United States Chamber of Commerce Committee on Science and Technology, called attention to the current attempt to find an equitable solution to the division of rights in inventions produced in the course of Government contracting. He recognized that such an attempt will only be successful if the industrial community is willing to work for a solution, rather than insisting on the status quo, in the face of rapidly advancing technology, ever-increasing expenditures for R&D, and greater recognition of the contribution of inventions and innovations to continued economic growth and expanded job opportunities.

It is my opinion that rather remarkable progress has been made by both industry and Government in understanding the issues and the equities in the policies and objectives involved and that the stage is being set for a sound and equitable Government patent policy. Much credit is due to the members of both the House and Senate, who have studied patent matters in considerable depth and breadth.

Much credit is also due to the United States Chamber of Commerce, which has taken the leadership in studying patent policy and the patent system, as those matters relate to and influence the welfare of private industry. Agencies of the Federal Government have made

sincere attempts to interpret and test the President's patent policy statement. Real progress is being made now in hearings before Congressional Committees; and in my opinion the prognosis is not unfavorable, for steady improvement in the development of sound national policy regarding patents.

My one plea here is that Federal Government and private industry both remember and consider the vital and necessary role of the inventor and that he not be forgotten in the consideration of very broad issues affecting corporate or public welfare. Government agencies must have the freedom to expedite and complete their missions. Private industry must have the freedom and opportunity to make a private enterprise system work. And the fundamental rights of the individual must be protected and the freedom of opportunity and incentive given to him to make maximum contributions to himself, his employer, and to the public good. Whatever appropriately encourages and motivates the individual innovator to make greater technological contributions will serve his own interests, his company's interests, and his country's interests.

Basically there should not be, nor is there, conflict in these interests. This again is the heart and beauty of our economic capitalistic system of free enterprise. The patent system, even though it may be cumbersome and expensive at times, has served well our corporate and our national interests. It is an important instrument of public policy and of national science policy.

It can be used as an effective instrument in the spread and transfer of technology at state and local levels. Just as one example, patents are being used in an interesting and perhaps unique manner as instruments of public policy in the state of Nebraska. Four or five years ago the legislature of Nebraska passed legislation providing a millage tax on real estate in the state, with the proceeds to be used by the State Department of Agriculture and Economic Development for research on new industrial uses for agricultural products. Two to three hundred thousand dollars per year have been spent through contracts with qualified research organizations both within and outside the state of Nebraska for work on wheat, corn, castor beans and safflower, all of which are products of the very rich agricultural lands of the state of Nebraska.

Several promising and patentable developments have come from this research: an edible, digestible film for food packaging made from high-amylose content corn; a promising growth-regulating and rapid-germination substance for treatment of seeds and plants; a rigid structural foam; a material useful in the treatment and proc-

essing of paper; and a concentrated, balanced food product called Nebraskits, which can be used for defense shelters and for populations which have low and unbalanced nutrition.

Patents have been sought on these developments and have been obtained, with rights assigned to the state of Nebraska. The State Department of Agriculture and Economic Development has used those patents to attract new industry to the state, giving exclusive patent rights (with the right to sublicense) to commercial companies who agree to do these things: construct a new plant in the state of Nebraska providing new opportunities for employment in the state; share future royalty income from sublicenses to other companies with the state of Nebraska; pay for all or a part of the research expenses encountered by the state in carrying on the research and development; agree to continue further research and development; and agree to assume commercialization costs at the company's expense.

Already two new plants are being built, or scheduled for the state, promising substantial employment. New markets have been opened for Nebraska products and the attention of industry has been directed to opportunities for development in the state. To me this is a most interesting and a significant use of the patent system for public good, taking full advantage of the free-enterprise system and the protection and incentives of the patent system.

Support from the state through public-research service organizations paid to research, develop and innovate; to produce patentable developments which can be exploited by private industry for the development of new industries and for new opportunities for employment; developing new markets for existing raw materials in the state; and a broadening of the tax base to produce new tax revenues for the state is an interesting use of the patent system for public good as an instrument of public policy. It seems to me that private industry also benefits to the maximum from this use of the patent system as a tool of public policy.

In conclusion let me support the findings of the March 10, 1965 report of the Subcommittee on Patent, Trademark and Copyright of the Senate Committee on the Judiciary. First: that the objectives (and I repeat here, for emphasis, the word objectives) of the patent system are as valid today as at its conception. Second: the patent system has made a significant contribution to the technological progress and the economic growth of this nation. Third: there has not been adequate adjustment of our patent laws and procedures to reflect changing conditions. Fourth: proposals for change should be judged

by whether they will strength the incentive to invent and also contribute to prompt disclosure of the invention to the public.

I would add only this to these conclusions: let us not forget the significance of the inventor, whether he be in industry, in Government, at a university, working in a research organization or working alone. And let's get the facts. On that point, I commend this Institute in its approach to this problem. Then let us face the issues.

Thank you. (Applause)

MR. STEVENSON: Mr. Hobson, we are indebted to you for this enumeration of facts and the circulations which you have reported.

Our second speaker at our luncheon meeting is a physicist by education with some 25 years of experience in industry before becoming identified as he is today with the title of Deputy Assistant Secretary for Science and Technology, Department of Commerce. It is my pleasure to introduce now Dr. William W. Eaton. Bill, you have the microphone. (Applause)

## A Government View

WILLIAM W. EATON

Ladies and gentlemen, just before lunch I talked to Jesse Hobson and he said, "Well, I think I have the advantage of you, because I am going to speak first." And I think now that is right, because probably the best way for me to give this speech or talk is to simply say I agree with everything Jesse said. Some of the things that I had planned to mention I think I could have guessed in advance he would mention, and I certainly agree with him. Maybe there are some other aspects of the problem that I could mention briefly which might be of interest.

I think that one of the most difficult things in our fast moving world of change that we live in today is to get some kind of a proper perspective on where we stand in history. This is particularly true in the research and development field, because we now are in a period in history where our rate of increase of expenditures of time and money and effort for research and development are the greatest in the history of mankind.

I think sometimes we feel that this is the only time that science has ever had a rapid rate of increase. Some of you may know this is not correct. If one goes back in history, and uses any kind of quan-

titative measure of science and science-related activities, one finds that such activities have been doubling approximately every 15 years on the average, not just recently, but for the past two centuries.

Now I say that our rate of increase is the most rapid now than ever before, because since the year 1950, which is 15 years away and in the memory of all of us, I think the total research and development outlays in this country, including everything one could possibly call research and development, might have been somewhere between two and three billion dollars. It has now reached 20 billion dollars, which means it has multiplied by a lot more than two in 15 years. Obviously this rate of increase cannot go on forever.

But I think it is interesting to go back in history and trace development of our policies as a nation toward research and development. For example, to go back to the year 1920 or thereabouts, the policy of this country was to allow free enterprise to undertake virtually all of the research and development going on in the country. By this I mean industry and the universities.

Now we had some few exceptions to this. The Department of Agriculture was doing some very valuable research. We had the Bureau of Standards doing some very valuable research. We had some of the military laboratories that did some excellent research. However, the research in industry was confined to a relatively few large corporations, examples of which were the Bell Telephone Laboratories, the Du Pont Company, the General Electric Company, etc.

Now when World War II came along, it suddenly developed that in order to fight a war, a nation had to fall back on its technical resources. And the main reason why this country was able to win the war was because of our technical resources. Many of you here are familiar with the tremendous amount of inventive activity that went on, not only by industry, but by universities and other organizations during the war to put together the resources that allowed us to win the war. These resources, incidentally, have allowed us to keep the peace by maintaining a deterrent force which is overwhelming.

Now what happened after the Second World War? Suddenly the nation began to think that this business of research and development was a pretty good idea. It helped us win the war; it is something we ought to do something more about. At first the idea was to turn to basic research and this was a slow process as many of you remember; it took something like five years to convince Congress, to convince the nation that the taxpayers should finance a certain fairly

large portion of the basic research in the country. Fortunately during that time the office of Naval Research kept alive some activity along this line. But we are all familiar with the fact that the National Science Foundation finally emerged with an absolutely pitifully small budget to start with, and yet now here we stand in 1965 as a nation willing to spend hundreds of millions of dollars to do this kind of thing.

Then there was the atomic energy program. We suddenly were faced with the possession of a force which had been undreamed of in the past, a force which could not be developed by any one particular company. As a nation we suddenly decided we better put some more effort in this field in order to maintain our deterrent power militarily, and to look for peaceful applications in this fantastic field.

Then, having done this we decided that we couldn't neglect the military side of things. (We actually did for about five years, in a rather pitiful way, it seemed to me.) But eventually we picked up the ball and our military establishment then began to do valuable research and development or, I should say, were allowed to do the work they wanted to do. We then developed the weapons that are keeping us strong today.

Then in 1957 we were shocked into deciding that finally we were going to have to put some money into space technology. In fact you couldn't get anyone to spend a dollar on space the day before Sputnik went up. It was only a few days before that I personally tried to do it and I practically got thrown out of someone's office for even mentioning the word "space"!

Now, what else has happened? In addition, we suddenly woke up to the fact that perhaps we should put some taxpayers' money into medical research. I think in 1947 this suddenly dawned on us. Why this didn't occur to us before, I don't know. But we are now to the stage, as you well know, where we are putting hundreds of millions of dollars into medical and health research for the benefit of our citizens.

So here we are. We have space research, health research, atomic energy research, basic research and military research. More recently we have been putting money into water-resources research, desalination of water, coal research, etc. In fact, we are now as a matter of national policy investing tremendous sums of money into almost every kind of research you can imagine. We are putting \$15 billion a year in it. And industry, which formerly had, according to the free-enterprise system, financed virtually all research, is now coming along with about \$5 billion total, or roughly one quarter.

So we have now an industry which we call the Research and De-

velopment Industry, which is about \$20 billion per year, which is of the order of magnitude of the automobile industry. So here we are faced in 1965 with almost a complete turnabout of our national policies during the past 30 years.

What does this mean? It means a number of things, and I think that one of the most interesting for us to think about today is what it means with regard to the patent system. It means that a great deal of the inventive activity and research and development work that thousands of people in this country are doing is being financed by the United States Government. And one question that arises is what do we do with the patents that come out of this work. Even before that, the question is: Is the present patent system, as we have had it for 175 years, geared to present-day requirements? Is it adequate? Is it effective? Is it doing the job?

One hundred seventy-five years ago our country was an agricultural and handicraft society. In those days people were inventing gadgets. They still do, but most of the patents then were gadgets. Now they are high-speed computers and complicated chemical formulae. One question which arises is whether our patent system today is adequate for the job of today. I think its success through the years is certainly a tribute to the formulators of our patent system.

By the way, if the formulators of the patent system had ever had to sit down for years and do research and try to dig up examples of why a patent system is a necessary thing, we never would have had one. This was done on the basis of a knowledge of human nature. The patent system is one of the most interesting social institutions of all time, because it brings out, using human nature as a basis, the incentives which are required to invent. It gives reward to an individual and yet the conferring of this reward to the individual is only the means to the end. It is the ultimate consumer that benefits. This is what has made the patent system the great thing it is today.

Now the question is, is this system today the best system that we can devise for the job? It is a tribute, as I said, to the basic design that has existed for 175 years, and during 125 of those years, virtually without change. But I think it is time we should examine this system. We don't have any hesitation—I don't think there should be any hesitation—in examining a social institution periodically. We do this periodically with all of our social institutions. One very good example is the school system.

Now surely today we have basically some of the original objectives of the public school system which existed in the little old red school house 150 years ago. But now we have a different set of conditions.



Instead of walking to school, we go and get the kids and bring them to school; and we have different curricula; and there have been other changes that have taken place which I believe we all agree are improvements.

We have improved such things as our urban planning. We have improved many of our social institutions. And I think it is only natural and only right and only logical that we should go into our patent system and say "What can we do to improve, to strengthen the patent system," not with the idea of weakening it, not with the idea of getting rid of it, but with the idea of strengthening it. And this is what the President's Commission on the Patent System is established to do.

I might mention a couple of things in this regard. We had a group of outside people who were asked to come into the Department of Commerce a couple of years ago to study this question. They were a very distinguished group of people from a number of different walks of life. After looking at this question for about nine months to a year, this group came to the conclusion that a Presidential Commission on the Patent System was probably the best way to re-examine, to re-evaluate the system itself, to see whether it was meeting the requirements of the present-day sophisticated technology, to identify areas that might need improvement, to suggest improvement and finally hopefully to come up, based on these ideas, with legislation which might be recommended to Congress.

Now at that time it was recognized—and I think we all still recognize—that it is possible to go into a lot of different related subjects, when you start to talk about the patent system—a lot of related topics. For example, the situation of the individual inventor versus the employed inventor, the question of Government patent policies, what the Government should do with patents after it gets them and so on—these are all related to the patent system. However, I believe it can be logically argued that the Presidential Commission, at least for the foreseeable future, should emphasize the study of the system itself—how one goes about getting a patent, what is the best procedure and what is the best way to run the system—not with the related but somewhat separate question of what the Government does with patents after it gets them, or whether an inventor employed by a company, should get a portion of the proceeds.

The following are some of the more specific topics which might usefully be studied and they are meant to be illustrative, not all-inclusive: a deferred examination system; a more positive definition of the elements of patentable invention; the establishment of differ-

ent classes of invention, to include possibly petty patents, or patents of addition; the modification of the term of patents. (Should it be 17 years in our fast moving world of today? I don't know.) The institution of procedures whereby interested parties may have the opportunity to oppose the granting of a patent; the elimination or modification of the present interference procedures; the restriction of review of decisions of the Patent Office to a single court; the restriction of the review of decisions of validity of patents to a single court; the authorization of technical assistance to the courts by the Patent Office in patent suits. These are the kinds of things that I believe it would be desirable for the Presidential Commission to study. And I am not saying that the question of Government patent policy, which is a question raging pretty violently at this time, is not an important subject. Or the employed-inventor problem either. But I think if this Presidential Commission is to accomplish anything, certainly within a year or 18 months, it has to stick to some reasonably identifiable areas, so it doesn't wander all over the lot and take year after year. Because since the inauguration of the patent system, I think there have been something like 12 different Presidential Commissions, and they have all come up with practically nothing, except perhaps codification of the law.

Now in trying to sum up our presentation, let me say this: I think the question of Government patent policy\* is an important one and although it may not be one which the Presidential Commission undertakes to study, in my opinion it is an important one which involves all of us. I think that really when you mash it all down and try to cut it up, it really comes down to one basic question and that is this: In a world where we as taxpayers and as a general public—which general public has created the patent system—in this world in which we suddenly find ourselves today where three-quarters of all of the technical effort is financed by the Government, are we going to turn our backs on the patent system as we have known it or are we going to utilize the patent system as we have known it in the past to whatever extent we possibly can?

In my opinion some of those who are in favor of having the Government take everything which is—as the saying goes—"tainted" with Government money, are overly preoccupied with the possible benefit or windfall which might occur to some individual.

Now these occasional windfalls in my opinion are inherent in the patent system. We have had them before. But many of those who

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\* Note added: Legislation on this matter is pending before Congress.

advocate this, it seems to me, are not really acquainted by personal experience—as some of us who have done this work are—with the blood, sweat and tears that go into a patent, and the investment required, the years of effort required not only to do the development work, but tooling up for the product, testing out the market, developing a market, all that goes with the product.

To me, saying that you are conferring a tremendous possible benefit on someone, by allowing him to have patent rights to a patent, is like saying that you are conferring a great benefit on an individual by giving him a 17-year permit to climb Mt. Everest, or to develop penicillin or to develop a Salk vaccine. These benefits that are achieved by those who develop patents are usually only achieved if the product or process is successful. And this is only true if the public, if the taxpayer, the individual, wants to buy the product. So that I am not overly concerned with an occasional windfall that someone may have. In general, we can't have the windfall unless the public benefits. Now there may be a few exceptions to that, but this is generally true. It has been generally true in the past and I see no reason why it will not be true in the future. But if we are going to take the attitude that everything the Government touches is going to be Government-controlled, and that public availability is synonymous with the public interest, then I say that we have to a considerable extent socialized the patent system. And I don't believe this is a good thing.

Therefore I say to you that in conclusion we have in my opinion three basic challenges to our patent system, which you who are here to seriously study the patent system will want to think about. We have this world of complex technology, apparently a logarithmic increase in all scientific research and development, technological activities, which at the moment—regardless of how crazy it may seem—it actually shows no signs of diminishing—no sign whatsoever at this day.

Will our patent system be as effective in its present form as it would if we changed it somewhat, if we adapted it perhaps to modern times, if as in the school system analogy, we changed from the little red school house to the nice modern school building with buses to bring the children? These are the kinds of things we need to look at.

Now the second challenge I think, is the Government-sponsorship problem. I think therefore the question is, as I said a moment ago, whether we are going to try to utilize the patent system as we have known it in the past or whether we are going to have something different? I personally think that any institution that has been as effective and has been at the foundation of the development of tech-

nology in this country, that has made this country the strongest country in the world is one which we should not turn our backs on. I think we should continue to use it to whatever extent we possibly can. And I believe that the President's policy for determining the rights to inventions developed under Government contract is a wise and good policy. It is as good a compromise as one can imagine at this time and I hope it is upheld.

The third challenge, I think, is perhaps even more important in the long run. We are living in one world. We can go around the world very quickly; we are all conscious of the fact that we have a one-market world. We are selling abroad increasingly. We have the Common Market system coming along, we have other systems and we are going to be selling increasingly in competition with the world.

Our ability to sell in world markets is based primarily upon high-technology products. This is what we excel at. Sixty percent of our exports are high-technology products. They will probably continue to be, and even more.

Now we are therefore faced with the problem of extending our patent-system concept to foreign countries. We now do this by filing patent applications in foreign countries. But this is getting to be, to put it mildly, a pain in the neck to file in all of these different foreign countries. As you probably know, a very substantial portion of all of the patent applications being processed by all of the patent offices everywhere come from foreign countries.

Well, to put it in a nutshell, this indicates the need for an international patent system. And I think the United States should take the leadership in trying to develop and promote in the long run an international patent system. This may not happen overnight, but in my opinion it will happen faster than we may think, because it will be forced on us.

To sum up my remarks I would say this, the challenge of the complicated technology we face I think can be met to a certain extent by this Presidential Commission. I hope you will cooperate with them and I am sure you will. The challenge of the Government patent policy I hope is met by a sincere attempt to utilize our patent system as we have known it in the past, perhaps suitably modified. And the challenge of the international patent situation I think can only be met by everyone in this room and many others deciding that the United States should take the leadership and not sit back and let the rest of the world get ahead of us.

Let's take the leadership in developing what will be one of the

most necessary things in the world tomorrow, namely, an international patent. (Applause)

MR. STEVENSON: Dr. Eaton, we are indebted to you for pinpointing these issues and for the challenge you leave us with. My only regret is that we do not have an hour at this time which could be devoted to discussing these matters with you further. They will, however, be in the record of these proceedings and I trust those of you who have questions of Dr. Eaton will find an opportunity to talk with him directly. So at this time I call the luncheon meeting adjourned and ask you to reconvene as quickly as possible in the meeting room.

Thank you very much.

(Whereupon, at 2:15 p.m., the luncheon meeting was recessed.)

## AFTERNOON SESSION

### *Administrative and Judicial Requirements for the Patent and Other Established Systems*

JUDGE SMITH: I think this is an extremely hopeful sign that we have filled this room to overflowing, and this even before the time the meeting is scheduled to start. (Laughter.)

You are not going to have to listen to me very long. I do have one observation that I would like to lay on the table, as it were, to start this meeting. That is this: I think it is symbolic of some of the problems that we in the patent profession face, to have had the Washington papers engaged in the last few days with a considerable discussion about the location of the new Patent Office being a matter of a political payoff. Whether this is true or not true, it is beside the point.

The thing which is important is that the patent system, whatever that may mean, has now moved to the center of the political stage. The Patent Office, the location of a site for the Patent Office is no longer a question of location at the central seat of Government, as it was when the system was established 175 years ago. Instead it has become something about which the governor of a state and a Senator of that state are currently engaged in an acrimonious political debate.

This, gentlemen, I think is sad. Yet I am not so sure that it doesn't reflect and symbolize the current posture of the patent system in the body politic. I am not sure but what the patent system is today a political football. I hate to say that. I hate to think that.

I have been in the patent profession for 39 years, and I never

thought that I would come to the day when I would stand before a rostrum to speak to people interested in the welfare of the patent system and have to say—as I feel in my heart I must say today—it has become a political football.

Why has it become a political football? For one thing it is taking too long and it costs too much to get a patent. This is something many of us have said for a long time.

When you have people who are entitled to patents and who do not get them; when you have people who are not entitled to patents and do get them; and when you have people concerned with the Patent Office spending too much money, all this becomes a subject about which to write to your Congressman and the system simply becomes a political football.

After you get a patent and you take it into court, you find, depending on what circuit you may happen to be in, that the chances of holding of validity of the patent vary with the circuit you are in.

This isn't good. This is the sort of thing that causes discouraged and defeated litigants to write to their Congressman and this is a part of the thing that again causes this whole system to become embroiled in the political arena.

So I say to you, ladies and gentlemen, we are faced with an extremely serious problem, not only with the patent system that has served us well and has in it the possibility of serving us well in the future. I think it is high time that we have just the sort of a meeting we are having today, and I am hoping this afternoon that this will be a no-holds-barred, bare-knuckles type of contest in which we will attempt to surface not only the problems but hopefully some of the suggested remedies for these problems, to the end that we can go forward with a patent system functioning as it should function in this year of our Lord, 1965.

In this connection, the session this afternoon is directed to the administrative and judicial requirements for the patent and other established systems. The first part deals with the delays in securing patents. This is indeed a fruitful subject for discussion—and we have a very fine panel to discuss it.

I will take judicial notice of the outstanding qualifications of these panelists, and in the interests of time, I will ask all of you to do the same. I will give you their names; I will give you their present occupations. Should you wish to have additional background information on it, I assure you I have it and I will be glad to give it to you.

But in order that we can proceed at once, may I introduce to you as the first speaker on "How to Reduce the Delay in Securing Pat-

ents," Mr. Richard A. Wahl, who is Superintendent of the Patent Examining Operations of the United States Patent Office.

Mr. Wahl. (Applause)

*PART IV—Invited Contributors*

## **How to Reduce Delay in Securing Patents: A Patent Examiner's View**

**RICHARD A. WAHL**

Honorable Moderator, fellow panelists and guests: On behalf of the Patent Office I would like to present the present program of examining patent applications as a contribution toward a data base for the President's Commission on the Patent System, and also as one answer to our afternoon topic, "How to Reduce Delay in Securing Patents."

You know there is a well-known saying that the difference between communism and democracy is plenty. (Laughter)

The difference between the present program of examining patent applications and the old also is plenty, both in philosophy or practice, and in results.

The present program is based primarily on four key sections of the patent statutes, 35 U.S.C., 111, 112, and 131 and 132. One hundred eleven and 112 require that the application shall be in writing and must meet certain requirements, not the least of these being that the specifications can conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Section 131 sets out that the Commissioner shall cause an examination to be made of the application and the alleged new invention and if on such examination it appears that the applicant is entitled to a patent under the law, the Commissioner shall issue a patent therefore.

Section 132 goes on to say that whenever, on examination, any claim for a patent is rejected or any objection or requirement made, the Commissioner shall notify the applicant thereof, stating the reasons for such rejection or objection or requirement, together with such information and references as may be useful in judging of the propriety of continuing the prosecution of his application and if,

after receiving such notice, the applicant persists in his claim for a patent, with or without amendment, the application shall be re-examined.

Now, it is to the kind of application required by Section 112 that Section 131 refers when it states that the Commissioner shall cause an examination to be made of the application and the alleged new invention. We will refer a little later to the role of Section 112 in the new program.

Under Sections 131 and 132 then, the applicant is entitled to an examination and a re-examination. This is the heart of the present examining program, as announced by Commissioner Brenner in his address to the Examining Corporations on June 8, 1964, which was reprinted in 803 O. G. In that address Commissioner Brenner outlined a five-point program aimed at reducing delay in securing a patent.

I will quickly read the five points. First, priority of examination will be assigned to the patent applications having the oldest filing dates.

Two, the Examiners should, wherever possible, assist the applicant or his attorney or agent by indicating allowable claims or suggesting ways in which claims may be made allowable.

Three, shortened periods will be set for response to most Office actions.

Four, in essentially all cases, second actions on the merits will be final.

Five, the Examiner will be authorized to permit an interview in each case after final rejection.

Point four, "in essentially all cases, second actions on the merits will be final," has had a considerable impact on the prosecution and examination of an application for patent.

Second-action final rejections citing and applying new references were greeted with stunned amazement at the beginning of the program. It was even hard for some of us as Examiners to break with tradition. It was almost like leaving the word "Love" off the end of a telegram, and I believe the Patent Bar thinks we have left that word off.

Yes, the difference between the old program and the new is plenty. The statute does not require, and the pace of modern technology does not permit any more lengthy or time-consuming exchange between the applicants and the Examiner than the examination and re-examination that the statute specifies. The old philosophy of prosecution by debate with the applicants and the Examiner scoring



imaginary victories over one another by fine points of grammatical construction or ringing rhetorical argument can no longer survive in these days of interplanetary or electronic microscope exploration.

The statute does not require more than that the Commissioner shall cause an examination to be made, and if the applicant persists in his claim for a patent, that the application shall be re-examined.

Rule 112 of the Rules of Practice of the United States Patent Office in patent cases has a provision permitting the applicant to respond to a second action by the Examiner, and the rule states that the application will be again considered and so on, repeatedly—that is quoting from the rule.

However, in the next and the closing words, the rule states: "Unless the Examiner has indicated that the action is final." This is Rule 112. It has always made it possible for the second action to be final. But prior to the new examining program, the emphasis in practice was placed much more heavily on the words "applicant may respond and the application will be again considered, and so on repeatedly."

Rule 113 unequivocally provides that on the second or any subsequent examination or consideration the rejection or other action may be made final. And paragraph (b) of this Rule provides a basis for new grounds of rejection by stating that "The Examiner shall repeat or state all grounds of rejection then considered applicable."

Now, what is the impact of this part of the new program, and how does it reduce delay in securing patents? One of the foremost charges made against the present program is that the applicant gets only one opportunity to present his case to the Examiner before receiving a final rejection. However, as I see it, the applicant has two opportunities to present his case. The first is upon his initial filing or making application for a patent under Section 111 and 112. He is required by Section 112 of the statute, the mandatory word "shall" is used, to conclude the specification with claims claiming the subject matter which applicant regards as his invention. This, then, should include claims of such scope and specificity to present to the Examiner the entire spectrum of protection that the applicant believes to be his.

Under Section 112 the applicant is under obligation to present claims initially for that which he regards as his invention. So the first filing should not be a fishing expedition which seeks only the biggest fish, with the idea of later putting on smaller hooks to accept smaller fish.

Too often only the upper or the broad patentability portion of the spectrum is presented. Then when the Examiner finds and ap-

plies prior art to reject the claims, the applicant decides to persist. He does so with amendments, now presenting the lower or the narrow portion of the spectrum. This, of course, often results in the citation of additional prior art and new grounds of rejection in the Examiner's second action, his re-examination. And under the new examining program this second action by the Examiner is made final.

Under the statute, the applicant has received an examination and a re-examination. The statute gives no further right to an examination. But it does permit an appeal, Section 134, to the Board of Appeals.

Now, Rule 113 does make permissive amending the application in accordance with Rule 116, which in turn provides that amendments touching the merits of the application presented after final rejection may be admitted upon a showing of good and sufficient reasons why they are necessary and why they were not earlier presented.

The citation and use of a new reference in a final second action by the Examiner ordinarily is not alone sufficient reason for entry of amendments under Rule 116. The applicant has had two opportunities already under the statutory provisions to distinctly claim the subject matter which he regards as his invention.

The statute gives the right to twice present claims rather than twice to respond to the Examiner's report. As we go along in this present examining program, it is to be expected that most of the initial presentations for claims for patents under Section 112, that is the initial filing, will include claims which cover the entire spectrum of patentability or protection sought. This, then, permits the Examiner to make a thorough and complete first search and action, such that the applicant can verily judge the propriety of continuing the prosecution.

Now a burden rests on the Examiner under the present program to also make his first action as complete and helpful as possible.

Commissioner Bre'ner's second point in the new program is that the Examiner is to indicate in his first action wherever possible the presence of allowable claims, or how to amend claims to make them allowable. This gives the applicant the range or the limits of patentability that the Examiner believes to be proper. Thus, after one action by each of the Examiner and the applicant, the issues to be resolved will be quite clear and in most cases they will be quite narrow.

The applicant will have presented his entire spectrum; the Examiner will have come back and indicated what part of that spectrum,

in his opinion, is patentable, and that narrows the issue tremendously. This, then, is the theory of the present examining program.

How does it look in practice? After 11 months of the new program, our studies show that in over half of the second-action finals, no additional prior art is cited. The percentage actually is about 60 and is showing a continuing rise.

I believe that both the applicant and the Examiner are increasingly making that thorough first and complete action. At the Corps level, based on an average of all of the Examining groups, our studies show an indication of allowable claims or allowable subject matter in about 50 percent of all first actions on the merits.

Now, this translates into a figure of about 75 percent indication of patentability in those cases that are ultimately allowed. In other words, in three out of four cases that are issued as patents, the Examiner is indicating allowable subject matter in the first action.

Now, by combining this examination and re-examination philosophy, with the concept of examining the oldest cases first, the period of active prosecution of an application can now be confined to a span of about eight to 12 months. The time savings represented by eliminating or sharply reducing the third and subsequent actions, together with the benefits achieved by telescoping the active consideration of the case, results in a shorter total period of examining hours applied to each application; the time thus saved is applied to examining other applications.

The net result of the new program, after 11 months of operation, is to reduce the workload of applications awaiting action by over 12,000. This is a reduction after receiving 1,000 more new applications than in the same period the year before. These 1,000 additional applications represent about the normal growth rate for the past four to five years. Such reductions in workload will inevitably show up as a decrease in the time of pendency of an application before the Office.

Our target in this respect is to attain an average pendency of about a year and a half in the not too distant future. The difference in the results of the new program just as in the philosophy and in the practice is plenty.

My personal conviction is that the new examining program is now and will increasingly in the future save time and reduce delay in securing patents.

Thank you. (Applause)

JUDGE SMITH: Thank you, Mr. Wahl.

You will recall one of the speakers this morning mentioned the fact that there was a very solid framework to the patent system, and

that perhaps there were many things that could be done to improve it within its existing framework. I think Mr. Wahl's report on how the Patent Office is functioning under the new system is indeed encouraging in that respect.

Our next panelist is Dr. Herman A. Bruson, Vice President and Senior Scientist of the Olin Mathieson Chemical Corporation. I could tell you a great deal about Dr. Bruson. I will just tell you that he is this individual on whom many of us have lived for many years, called a patentee. He holds a number of United States and foreign patents.

Dr. Bruson. (Applause)

## How to Reduce Delay in Securing Patents: An Inventor's View

HERMAN A. BRUSON

Thank you, Mr. Chairman.

Ladies and gentlemen: He took the words out of my mouth. I am an inventor. During the last 42 years I have been involved in the filing of over 350 patents, of which somewhat over 300 have been issued to me in the United States in the chemical field alone. I have written all of these patents myself, but I have had the advantage of good attorneys to file the claims and prosecute these patents.

Of these patents—and I know many of you will wonder how many of these are useful or are just fringe patents—of these, approximately 30 percent are in commercial production. One has brought in an estimated gross sales of over \$500 million during its lifetime, while another patent, together with contiguous improvements, has recently been sold outright by my company for several million dollars.

To me, therefore, patents are big business. But only so when they are in the right field and at the right time. Timing is most important. We all know that a "bird in the hand is worth two in the bush." An issued patent in the hands of an inventor or a company can open many doors and in many cases an early issuance is desirable.

Last year Edward J. Brenner, Commissioner of Patents, made his first objective doing something about the problem of the Patent Office dilemma. You know what this is now. In an unprecedented step, he sent a copy of a major statement of changes in goals, policy and procedures to every patent attorney and patent agent in this country.

Commissioner Brenner pointed out that for the past three years the Patent Office each year received 10,000 more applications than it was able to dispose of. The backlog is particularly severe in the chemical and electrical operations of the Patent Office. For a chemical or electrical patent, the period of pendency—that is, the time that elapsed between filing and granting—is now about four years. If the backlog is not checked, Mr. Brenner pointed out, the pendency period may approach as much as five years.

On the other hand, the pendency period for general and mechanical applications is only about two and one half years. Here the backlog has been relatively small. In order to cut down the chemical and electrical backlog, the plan was to increase the strength of the chemical and electrical operations by about 75 Examiners, and at the same time reduce the general and mechanical by about 50—this is as of a year ago—through normal attrition.

As Examiners leave the operation, replacements would not be hired. Instead, they would hire new Examiners for chemicals and electrical. Certain procedural changes were to be instituted.

Now, I would like to read a few of these, just so you don't forget them, and because they are very pertinent and many of us are not aware of them.

One, patent applications with the earliest filing dates will get priority. Previously an Examiner could begin work on a newly filed application even though an older one was on his desk, and awaiting action. Under this new rule, an Examiner will be required to work on the oldest application on his desk. This will make the older cases available as references against cases filed later, and it should also help to improve the overall validity record of patents.

Two, Examiners will be encouraged to assist the applicant or his attorney or agent by pointing out those things that are allowable or suggesting ways to make them allowable. Previously Examiners could simply reject claims without suggesting how they might be made acceptable.

Three, applicants will be required to respond to actions of the Office within four months. In the past they had six months to reply.

Four, second actions on the merits will be final in essentially every case. Under the old rules there was no limit on the number of times that an applicant could rework a rejected claim and resubmit it. Examiners will be authorized to grant an interview to applicants whose applications have had a final rejection.

Commissioner Brenner believes that this will reduce the number of cases brought before the Patent Office Board of Appeals. These

changes are sure to stir up some controversy among patent-law practitioners.

However, if these changes achieve what the Commissioner expects, the improvement will do much to smooth the ruffled feathers.

Now, I am quoting again. "These changes, along with other improvements in the Patent Office," Commissioner Brenner says, "should go a long way toward helping us meet our goal of handling an average of 100,000 applications per year during the next five-year period. The Office now handles about 75,000 applications per year." Commissioner Brenner hopes to cut the pendency time to one and a half years within the next five years.

The Patent Office dilemma, as spelled out by Commissioner Brenner, is not new to the patent profession. For all too long a staggering backlog has plagued the Office. Since 1956 it has seldom slipped below 200,000. Patent Office officials consider 145,000 as normal. And as far back as 1948, the backlog hit a record high of 233,000. Commissioner Brenner's move should go a long way in solving this backlog problem.

But, lurking in the background is the basic cause of the backlog—a rapid turnover of patent Examiners. About 200 of the roughly 1,000 patent Examiners leave each year. The chemical examining operation has been severely hit by this exodus. As of March of 1964, the chemical operation had a staff of 271 examiners. However, Commissioner Brenner, in view of the chemical workload, plans to increase this staff to about 300.

Some 50 to 60 chemical Examiners leave the Office each year. Thus, it will be necessary to recruit about 100 or more electrical Examiners, or chemical Examiners, during the next year.

The shift of Examiners which will also benefit the Chemical Examining Corps was in part forced by the Patent Office budget restrictions. Neither in fiscal 1964 nor in fiscal 1965 did the budget allow for hiring additional Examiners. This was not always the case, though. In the mid-50's the Patent Office received a shot in the arm with both money and manpower. From 1955 to 1957, the Corps of Patent Examiners grew from 808 to 1,169. During this same period, the budget increased from \$11.6 million to \$17 million. The Corps of Examiners had slipped to 1,113 by 1963, but the squabble over the site will not prolong the use of the Patent Office's present quarters. And I have skipped three pages. (Laughter)

The Patent Office represents a depressing picture. The Examiners are confronted with a demanding task, taking great concentration, are crowded into small offices—sometimes two to three men to a room.

The environment is noisy, dusty, dingy, and in the summertime steaming. Taken separately, these factors would be trivial; together they amount to a formidable obstacle to reducing the Patent Office personnel turnover.

Patent Office officials have already carried out clean-up campaigns, and air conditioners are being installed as quickly as possible. However, none of these campaigns can really substitute for a new building. Despite these conditions, one official says we do have some good men who are making the Patent Office their career. Here they are on the forefronts of technological development and they can become experts in a given technical area.

A new patent Examiner progresses rapidly up the salary scale. His starting salary will be somewhat in the range of \$6650 to \$6770, depending on experience or college graduates. Within four to five years his salary can rise to \$11,725. Now, this may have been changed recently. However, from this point on, promotion is not so rapid. And patent Examiners then begin to look beyond the Patent Office for their future.

Among the many patent firms in Washington, there are always some who are looking for experienced patent men. These firms offer more opportunities at the higher salary range than the Patent Office does. Couple this with the fact that about two-thirds of the Patent Office's Examining Corps either have or are working toward a law degree, and the result is a rapid turnover.

However, turnover is not the only factor behind the increasing backlog of the Patent Office. The complexity of today's patents is another factor. This complexity puts an added burden on the Examiner, tends to reduce his output.

In 1935 a patent Examiner had an average of 160 applications a year. Partly because of added complexity, the average today is only 80. One old hand at examining chemical patents says that much of the chemical knowledge needed to become an expert chemical patent Examiner is not even taught in the schools today.

Well, I could go on and on with this, but I think I have made the point.

Now, what I would like to get down to is my own and similar situations of the patentee who applies to the United States Patent Office for a patent. First of all, I would like to mention the fact that most of the issued United States patents, which I have read in the chemical field, give a brief, usually deprecatory citation of the prior art. You are all familiar with that. (Laughter)

In many instances the applicant merely states that prior processes

give poor yields of an impure product, prior processes are uneconomical, tedious, practically impossible. Yet we who are in the position to know realize that many of these prior processes are actually manageable money-making industries. In most cases the primary Examiner is not in this preferred position to really know. So he begins to make a time-consuming patent search to really determine if the applicant has made an invention. This may take days or even weeks. As was pointed out here, it may take even years. It seems to me that much time and effort and expense could be saved—and this is my own suggestion, maybe many of you have thought of it, but at least I will get it out—that if the applicant would list all of the prior art which he knows about, giving the published references, this would help a little.

Now, to expedite the searching and lessen the primary Examiner's workload, the applicant might actually attach the pertinent photostats of these annotated references to his application.

It seems to me that such an application could and should receive preferred treatment to expedite its early issuance, because the inventor has cooperated with the Patent Office over and above the usual *modus operandi*. When the inventor signs his application, makes his oath, he says that to his best knowledge and belief he has never seen this invention or heard of it before, or prior for one year in any other place in the United States, or any foreign country, something like that, a lot of gibberish, we all sign it, but nevertheless, it really is an oath that has been signed.

And if he has signed that oath, he really should stick by it. And therefore, he should be outgoing and give to the patent Examiner everything he really knows about it, even something that is so very close that it practically touches it. But if he can distinguish in his claims and specifications, then he may have a fringe patent. Now, this doesn't apply, of course, to these geniuses who discover something that has absolutely no priority, even though the Examiner will find some. (Laughter)

Now this was the only good thing I thought I thought of. I talked it over with a number of attorneys, and they scowled a little bit. They said, "Well, you are taking away our prerogative; we like to hold back a few things." You know how it is. (Laughter)

But, after all, consider we have to do a good turn and it will help things along.

I have found in getting my patents, and I have been involved in three or four lengthy litigations, and fortunately I have been fortunate in winning every one, but I don't like them; they make you take all



sorts of oaths, they make you bring in notebooks which you no longer have, you have to go through a lot of skulduggery, all to satisfy a few words or adjectives, and to prove diligence is sometimes very difficult if you don't have a good notebook record.

So, over the years I have learned that all of the skills that I was born with, have been multiplied tenfold in this business, and somehow or other finally, when a rejection comes in and the Examiner just can't see the light, I have found that the best thing to do is to go to the Examiner and meet him. He shakes your hand, he is very glad to meet you. He, as a matter of fact, is relieved of the tedium of sitting in that dusty old room without anybody coming in to talk to him.

So you have a glass of water or tea and we talk about politics for a minute, and then he takes out the case and says "Well, now, here is your lousy case; what am I going to do with it." I say "Look, you know and I know I have an invention here. The only thing is we don't quite agree on semantics. If I change this word and that word—" He says, "Oh, change these three words and it is okay with me." I say "Fine," and there it is. He says "It will be ready for allowance whenever you are ready to pay the final fee." And that is the way I have found that you can settle things quite often. And I always go with an attorney—don't get me wrong. (Laughter)

I always go with an attorney, but he sits in the background. (Laughter)

And when we walk out, he puts his arm around me and he says "Herman, we did a fine job." (Laughter) (Applause)

Now, some of you may do this; I don't know. My attorneys have never done this, but another way of reducing delay in securing patents would be to file all of your divisional applications which are based on the same identical specification, at a filing of the original application, by simply attaching sets of the divisional claims to the application, instead of waiting for the Examiner to tell you to divide, which you knew in advance would have to be done anyway.

Now, this way may not be so good. I see a couple of people here don't like that. But it is a suggestion. I think if I were to file a patent, and I knew I would have to divide it into three or four separate groups, I would attach the divided claims to each of the groups and let it go, and I would get his good will instead of his ill will, and I would save six months. I don't know.

Now, the other thing I would like to suggest is this: I have seen many foreign patents issued which bear the United States filing date of the corresponding, but as yet unissued United States application.

I should point out to you that for 42 years I have been reading every United States chemical patent that has issued, and also every one that has issued in France, Germany, England, Switzerland, Holland and Belgium. Now, I love to do this. This is a hobby that I have. I bring home stacks like this, but some of them I just skim through. Some of them that are of interest to me, I make a little note of where they can later on be found.

It seems to me that in regard to many of these foreign countries where no prior search is made, or where the patent issues within a relatively short period of time, where there is no priority completely anticipating the invention but there is prior art that I know of, there ought to be a provision which would allow an outside party to file such priority references with the United States Patent Office to expedite the search of the Examiner and to cut down the issuance of invalid patents.

Now, maybe I didn't express this properly, and I am sure I left out a couple of words. What I mean is this: I pick up an extremely important Belgium patent. I know that patent has been filed in the United States. I know that the doggone patent is not worth anything, on the basis of prior art that I know about. But I also know it will probably fall into the hands of an Examiner who may be a neophyte, he can't find the reference, so that patent will issue and it will choke somebody; it may choke me, particularly me. Therefore I would like to have some provision whereby I could send in to the proper authorities at the Patent Office a statement that the United States Patent Application No. "x," which we don't know what it is, but which corresponds to Belgium No. so-and-so, has gotten some prior art in it, with which I am familiar, and which is as follows—and you can have it for the five-cent stamp. This would save a lot of trouble.

Now you have to be a little bit outgoing to do this. But at my age, I can afford to be. I only have one more year to go to retirement and it doesn't make any more difference. (Laughter)

Those are the only suggestions I have to make. I can see that some of you don't think too much of them. The real heart of a patent, of course, is its novelty. Patent applications dealing with new chemicals and new processes, on which there is no priority whatsoever, should obviously be expedited by the Patent Office, to issue sooner than those which are cluttered with much prior art, even though the latter were filed much earlier. This is not always done.

Now, in this brief talk I have looked at this subject from the inventor's viewpoint. I realize that a Patent Office can do a great deal to reduce delays by having more well-qualified Examiners, better

searching techniques, better facilities, using computer memory methods and better working quarters in general.

I hope that all of the things we heard today will redound to the benefits of our inventors and to our attorneys.

Thank you. (Applause)

JUDGE SMITH: Thank you, Dr. Bruson.

JUDGE SMITH: Our next speaker is an old-time friend of mine, a Michigan product, by the name of Dean Laurence. He is a member of the firm of Laurence & Laurence. I might say senior partner, but this wouldn't carry the right idea. He may be senior in point of years and time, but when it comes to running the firm, the other partner of the Laurence firm does, I think, run the firm. Understandably, the fact that this gentleman is one of the two known authorities on the Confederate Rules of Practice of the Confederate Patent Office, will help our critics who think we of the patent profession are living 125 years in the past, when we say there is something good about the patent system that should be saved.

I would also say to the same people who would look at his credentials that he is one of the most persistent gadflies the Court of Customs and Patent Appeals has seen, certainly during the six years I have had the privilege to serve. (Applause)

## How to Reduce Delay in Securing Patents: An Attorney's View

DEAN LAURENCE

Mr. Moderator, you said there wouldn't be any introduction. Even Judge Rich doesn't always guess what you will say in your beautiful dissents.

You know, you didn't warn me about this. I feel like the comedian who has to follow Bob Hope after listening to Dr. Bruson talk.

Many years ago I used to talk to American Chemical Society meetings on occasion, and one time I ran into a chap about five years after I gave a talk to their section, and he came up and said "Do you remember those stories you told us about so and so?" I didn't know him—he must have been in the audience—and I said, "Yes." I said, "What did I say about patents?" And he could remember the stories,

but could remember nothing I said about patent law. So I suppose I ought to tell you a story here so you will remember me after five years.

Recently I was told a story about the young married couple—I told this story to a couple of you before, so forgive me—the young married couple who were going on a vacation and the wife said she was going to get a topless bathing suit. And the husband said, “You can’t do that; you’ll be embarrassed.” But she wanted one, and she finally got it.

They took off and they get to the hotel, she looks down and sees a beautiful swimming pool down there, so she said she was going down. The husband said, “I told you the result will be nothing but embarrassment for both of us; you shouldn’t do it.”

She put on her robe and went down, and about 15 minutes later she came back upstairs and she was crying. He said, “All right, I told you so. Tell me what happened.”

She said, “Everything was all right, until a guy came up to me and said, ‘Hey, buddy, have you got a match?’ ” (Laughter)

That is a rather brief story.

Now I am a working lawyer with about 35 years’ experience—and the assigned subject title is “How to Reduce Delay in Securing Patents.” I suggest what we are really talking about is how to prepare and negotiate a contract in less time than is now involved.

A patent is a contract. The title would give you an opportunity ——. By the way, I have but one little sheet here. I can’t skip three pages like Dr. Bruson did. The title would give you an opportunity to go way back to the time when the invention was made, because remember the delay in securing a patent has to start with the time the invention is made. Anything after that is delay in issuing the patent.

I will not touch on the clerical or administrative functions of the Commissioner’s shop, or the attorney’s hideout. I want to talk only about that portion of the period of delay which results during the actual negotiation of the contract instrument.

Judge Smith said he wanted a little “bare knuckles” here. I think Dr. Bruson gave him some idea—I could see some heads going this way, and others violently the other way. So I have a proposal to put forth, which perhaps might create some discussion. It arises in part out of some recent decisions. I am going to criticize both sides—the Patent Office and the attorneys.

There is a recent case, published at 145 Q400, *In Re Herrick and Bock*. In that case, the Court said, “We shall rely upon the Board’s

statement of rejection of the various claims, since that constitutes the last official word on the subject."

Now as to Claim 1, the Board said: "Claim 1 stands rejected as unpatentable over any one of Pollack, Ammonn, Thompson, Schrader, Schwartzberg, Dietz, Schappell or Sandig, each alone, or in view of Carswell or Martin."

Now, the learned member of the CCPA who had occasion to decide or author the opinion in this case—it was unanimous, I might say—took a look at that, and I think he was reminded of his days when he taught in law school, and he used to get from the students these garbage-can answers that he had to study, because some place in there it might be right.

He said, "Regarding Claim 1 and the rejection, the most reasonable interpretation—note, that is the "most reasonable"—interpretation of the Board's statement leads to the conclusion that there is in fact the astounding total of 24 separate rejections of the Claim." And there is, if you count it up.

If you take one alone, there are eight references, and then any one of those, in view of any one of the other two makes 16 more, that is 24 separate rejections. The Court refused to go into the matter any further and remanded it.

Now that is a severe criticism of both sides. I am not at all certain the attorney there was quite as much at fault as the Patent Office, although he ought not to have let the thing get up without endeavoring to clarify it at least. But it is a severe criticism of the way Office actions are written today. We have a great deal of difficulty understanding what the Examiner is trying to get at, and I agree wholeheartedly with Dr. Bruson, that the best way to get your allowance today is to get over there and talk to the Examiner and try to find out what he was trying to say when he wrote the action. I think that can be remedied and I think the remedy is worthy of very serious thought.

In the first place, when a Federal District Judge decides a case, he is required by one of the rules of civil procedure to make findings of fact and conclusions of law. He can say all he wants to—and sometimes he embodies his findings and conclusions in a sort of an opinion. But by rule, he is required to make findings of fact and conclusions of law.

Suppose that Office actions were written in that fashion, that the Examiner, having made his search, having studied the art, and gained such understanding as he can from the patent application, then makes a group of numbered findings of fact. He says finding one, reference

(a) shows, page three, line 24 to 28, and then he recites exactly what it shows without interpretation. He does the same thing for other references.

If it is a section 112 matter, he says the patent application shows at page six, lines 24 to 28, the sole statement of utility is . . . Now, the point is that what the Examiner does is to start out his Office action by setting forth a series of facts. When you get the Office action in your office, and you look at the reference, you are compelled to either agree with the statement of facts or to disagree with that finding of fact.

If you disagree, fine; you have your argument. If you agree, that is out of the way. We don't have any gobbledygook from either side. And you get it equally from the side of the attorneys. They will say that a reference doesn't show something, and stop there. But we would get, if we had findings of fact required, by the Examiners, and suggested findings of fact by the attorneys in responding, denominated as such, a clearer statement of the fact issues. So at least when it got to the Board of Appeals, they could take a quick look at it and see whether there is a disagreement on any of the fact issues.

And when it got to the CCPA—I haven't discussed this with any of the judges at all. I don't know whether they would like it or not. I would be real happy to have Judge Smith comment on it, because I am not at all certain I have ever seen this thought advanced for Office actions. But when it got up to the Court, it would be my idea that here the facts in the case are succinctly presented and there would be quickly apparent any disagreement or agreement upon the facts. If the Examiner says "I think this is a fact, I find this as a fact," and the attorney suggests an alternate finding of fact based upon a reference, all that judiciary has to do is look at it and adopt one or the other, whichever they feel is correct.

I think also then that the Office action ought to embody conclusions of law. For example, there is another case *In Re Hughes*—and I am not sure this case has been published as yet. It was decided May 20 of this year. In that case, the solicitor took the position—I don't know whether Joe was on this case or not.

VOICE: No.

MR. LAURENCE: That is fine, then. I can talk about it.

The solicitor takes the position in that case that the holding by the Board constitutes reliance upon 35 USC 103. The Court went on to say, "Scrutiny of the Examiner's answer makes it clear that the Examiner's action was based on Section 102."

Now, one way or another, that case ought never to have gotten up there in that posture. It ought to have been clear—. Well, to show you how much trouble the Court had with it, I observe it was only a majority decision—there were two dissents in the case. It gives the Court a lot of trouble to get a case of that sort. Actually, the Court could have felt this, that they ought not to allow those claims. But they are bound—their jurisdiction and their consideration of cases—in that they are bound by statute.

When they look at it, they have to review whatever comes up. Now, if it comes up there and it is in the posture of a 102 rejection, and they have to consider it as such, the Court might well feel that had the rejection been grounded on 103, they wouldn't have allowed the claims. In this case they allowed them, and from the tenor of the opinion, I have the feeling that a couple of the dissenting judges felt very strongly that actually those claims ought not to be allowed.

But there they were. They couldn't use 103, the majority felt. So if there had been conclusions of law in the Examiner's answer, having stated his findings of fact, if the Examiner had concluded as a matter of law that the claims were unpatentable under Section 102, all right, that is it.

If he had concluded as a matter of law they were unpatentable under 103, the case would have followed that posture up through the CCPA, and they would have had a perfectly clear statement as to the statute upon which the rejection was grounded.

So much of the time cases get up to the CCPA and the Court just can't figure out what the ground is, the statutory ground for the rejection of the claims. This is a pity, and the attorneys ought, back in the prosecution, to endeavor to get the statutory grounds stated by the Examiner.

I know sometimes Examiners just won't state it. I well remember an Examiner, now retired, who that when we got the new statutes, and I was sort of chastening him with the idea he didn't have a statutory ground for rejection; said to me "I have never read the statutes, and I never will." (Laughter)

I felt very sad about that, because I think that is a very unhappy situation.

You know I think the Academy has done a lot. I observe the younger Examiners we have now, and we have much less difficulty in getting them to state their rejections in terms of a statutory ground. Now, all of these things I am saying merely go to the proposition that what we need is, so to conduct ourselves as attorneys and to persuade

the Office, so to conduct themselves or itself as Examiners that the contract can be negotiated in less time.

This patent application must be prepared as a contract is prepared. I am chiefly in the chemical field, so I refer to that. I say too often what I see is a patent application, the descriptive portion of the specification of which is perfectly suitable for publication in the Journal of the American Chemical Society, and tacked on to it are some claims.

Now, that is not an appropriate specification. It simply doesn't comply with Section 112, generally. I think a man like Dr. Bruson, who is writing his own applications, he got that way by just writing so many of them. I suspect, Dr. Bruson, if you look back at the first application you prepared, you would hold your nose, as you do now. But you have now educated yourself to prepare an application in accord with the statute and the rules.

Remember, it is a contract. You know when you draft the contract, you start out by reciting the parties. Well, we don't need that. But you say "WHEREAS," and then you go on and say what each party represents and wants. That, in a way, fits in with what Dr. Bruson said about maybe we ought to give the Patent Office the art.

By the way, I am not certain Dr. Bruson, you knew there was a sort of a proposed rule and a request from the Commissioner that we do furnish to the Patent Office the art. I have trouble with some of the clients who seem reluctant to do that. I could never see any real objection to kicking up the best art of which you have knowledge. After all, and I think this is perhaps because I do have some experience in endeavoring to defend or prosecute patents after they leave the Office and House Counsel generally doesn't, their theory is get the patent out, and then we will worry about it later.

The trouble is, if they had cited the best art known to them in the Patent Office—you can bet the defendant will poke it up—he will spend money to poke it up, so it will be there anyway. And you are far better off, as the opinions repeatedly state, "but the reference wasn't before the Patent Office—and therefore the appropriation section which says that the patent shall be presumed valid has no force and effect."

How much better it is to give the Patent Office this reference. And then, when you get out, you have got the best art; it has been before the Patent Office and the defendant really has to do some digging.

Now, in the preparation, if you prepare your application as a contract, you have to get down and think about what the invention is,



and what the scope is, and you have to set it forth much more clearly than we do today, generally. And in so doing, in thinking of it as a contract, and preparing it in that fashion, what you say is the invention is a representation to the public and then, when the Examiner gets that, he can quickly grasp what you intend to say is your invention. He doesn't have to rummage around in this garbage heap of an application with two or three pages—you know there is a big fat formula up there with a lot of "R" primes, "R" double primes, "X's", "Y's," and they get down in here hunting for the "X" and the "Y" and once in a while they leave out one.

I often have trouble determining what the invention is in the chemical cases. And I think the Examiner does. I think it would reduce the time that Examiner has to spend if the attorneys would set forth much more carefully, precisely, what their invention is in the specification, in the beginning. Then, when the Examiner is required to list his fact findings and you can quarrel with them or agree with them, those you agree with, that is the end of the matter; let's get on, suggest your own findings of fact. But don't agree with the Examiner's conclusion of law that the rejection ought to be under 102 or 103, suggest it ought to be under another as a conclusion of law and explain why.

Now, I have no objection to an Examiner, after he has made his findings and conclusions, also giving you some argument, with his advocate's hat turned around, but as a judge he ought to perform those two functions.

Thank you. (Applause)

JUDGE SMITH: The next section of the afternoon panel is entitled "How to Reduce Time, Expense and Risk of Patent Litigation." Now if this isn't a subject to tax the ingenuity of man, to cover within the next few minutes, I hesitate to think of a subject that might do so. We have, however, three very excellent experts, and I am sure that if anyone can do this, they will do it. Our first speaker is Joseph Gray Jackson, who is senior partner, William Steell Jackson & Sons.

I have known Mr. Jackson for many years, more than I like to think of, actually. I have found him during this period of time to be an avid student of the patent system. I have found him one of the patent lawyers who has contributed untold and I mean untold hours of his time, his energy and his thoughts to the betterment of the patent system. I know of no one who gives me more pleasure in introducing to you than Joseph Gray Jackson, who will open this phase of the discussion. (Applause)

## How to Reduce Time, Expense, and Risk of Patent Litigation: An Attorney's View

JOSEPH GRAY JACKSON

Honorable Chairman, ladies and gentleman. In my 15 minutes I am supposed to tell you how to increase the certainty, reduce the delay, and reduce the expense in patent litigation.

### *The Problem*

There is much to recommend the predecessor of litigation—trial by battle, from the standpoint of swiftness, and cheapness in money. It was probably more certain than litigation also, as there must have been few bets paid on David's as against Goliath's. Trial by battle was given up. It was messy.

If both attorneys and both clients were competent and reasonable, there would be no need for litigation. Litigation is a symptom that something went wrong. It resembles an operation in the medical field.

Litigation is a service performed by the Government. It seeks to decide disputes in a way which will inspire confidence that justice has been done.

### *Delay*

No electric power company could operate with as poor a load distribution factor as the Federal courts.

Some Federal courts cannot try your case in the next three years. Some of these are conscious of such pressure that they run like a cafeteria, and you feel on your neck the hot breath of the next litigants in line as you try your case. Attorneys in such courts long for the British type of trial, where the case is tried to the hilt before a specialist judge who usually decides it from the bench.

In other Federal courts, the clerk and the judge almost literally watch the courthouse stairway hoping that the next item of business will come in. Some of these courts try ordinary patent cases not by the day but by the month.

Speaking of courts where delays are commonplace, Chief Justice Earl Warren said, "Interminable and unjustifiable delays in our courts are today compromising the basic legal rights of countless thousands of Americans and imperceptibly, corroding the very foundations of constitutional government in the United States."<sup>1</sup>

### *Certainty*

If you can pinpoint in advance the locality at which your case will be tried, the patent field is as certain as any other area of Federal litigation. But if the case may be tried anywhere in the country, on validity alone the box score may vary from say 5 to 40 percent.

Even when they are decided by a single judge, many patent decisions are figuratively five to four. They do not inspire a strong gut reaction. They are like the old question as to whether a common recovery should bar an entail. Who cares? Palmquist is an example. Pax vobiscum.<sup>2</sup>

### *Expense*

Many litigants are staggered at the high expense. This is both direct and indirect; for example, the time taken by company officials in connection with discovery. There is a by-product advantage, in that there is a strong urge to settle, but this factor is not helpful to the person interested in justice.

### *Remedies on Delay*

As showing what can be done to conquer delay, I will refer to the Pennsylvania State courts, for example The Philadelphia County Court.<sup>3</sup> It had a backlog of more than 1,000 cases. Compulsory arbitration was instituted as to each case in which the amount in dispute was \$2,000 or less. A massive appeal to the public spirit of lawyers was made, and 2,500 or about half of the members of the Philadelphia Bar, have served as arbitrators, George Wharton Pepper among them. The compulsory arbitration system stood the test of constitutionality in the Pennsylvania Supreme Court and in the United States Supreme Court. Thirty-seven thousand cases have been disposed of since 1951; the appeal rate has been 6 percent, the reversal rate 1 percent.

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<sup>1</sup> David Foulkes, "Compulsory Arbitration—A Philadelphia Experiment," 152 *Legal Intelligencer* (No. 88) 1 (May 10, 1965).

<sup>2</sup> *In re Foster*, 145 U.S.P.Q. 166 (CCPA 1965) indicates disapproval of *In re Palmquist*, 138 U.S.P.Q. 234 (CCPA 1964) by a court (one judge dissenting) which a year before had unanimously enunciated the Palmquist rule.

<sup>3</sup> *Supra*, note 1; 113 *Univ. of Pa. Law Rev.* 1117 (May 1965).

Would it not seem logical, therefore, to submit to compulsory arbitration all patent cases having less than a certain amount in controversy? If the court could dispose of some cases by compulsory arbitration, it would leave more time for protracted cases. Settlement-backed arbitration would be an extra assurance to the parties.

And why should we not authorize Federal courts which are overloaded to transfer cases to Federal courts which have light case loads, in the interest of justice?

### *Remedies on Certainty*

Chief Judge Caleb Wright of the United States District Court for the District of Delaware, in a very interesting recent article,<sup>4</sup> suggested that we can no longer permit the luxury of repeatedly litigating the same patent when it has once been held invalid by a final decision of a court having jurisdiction. He proposes that patent decisions which hold a patent invalid should operate *in rem*. This is a very practical proposal.

A great obstacle to certainty is that the Courts of Appeals cannot even agree on the rules of the game; for example, as to file wrapper estoppel, and the Supreme Court has shown no disposition to intervene. Furthermore, each Court of Appeals is applying a different concept as to unobviousness. Such litigation is truly like the game of billiards in Gilbert and Sullivan, "On a cloth untrue, with a crooked cue and elliptical billiard balls." Would it not seem logical to put all patent-infringement cases through one Court of Appeals, possibly the Court of Customs and Patent Appeals?

There is another area which is highly productive of uncertainty. The Patent Office cannot decide whether it is controlled in case of conflicting decisions, by the Court of Customs and Patent Appeals or the District Court. Should we not establish a trial part in the CCPA for the case which requires trial *de novo* and thus eliminate the uncertainty as to whose decisions are to be followed?

In spite of the fact that we are now observing the 175th Anniversary of the patent system, there are many new points being decided by the CCPA. The court follows accepted modern judicial practice, and usually makes a spot decision. There are all sorts of variations of the particular point, however, and the Patent Office feels the urge to carry all these second and third differentials up to the CCPA. They will do this more since Palmquist has been swept under the rug.<sup>5</sup> Would it not be appropriate for the CCPA in enunciating new

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<sup>4</sup> 47 JPOS, (August 1965).

<sup>5</sup> *Supra*, note 2.

doctrines to write restatement-type opinions which will chart out the implications more clearly so that the Patent Office would not feel constrained to take up 19 similar cases? The Supreme Court has done this; for example, *Corona v. Dovan*.<sup>6</sup> And perhaps this would encourage the Patent Office to exercise more restraint in taking up on appeal variations of a point already decided.

Evidence rules in Federal litigation are a mare's nest. The whole situation should be re-examined to promote certainty and expedite trial. Should a joint inventor be disqualified to corroborate, or should this merely go to the weight of his testimony? Can Federal courts agree on the function and permissible range of testimony by expert witnesses in patent cases? Must the exceptions to the hearsay rule remain a quagmire?

### *Remedies on Expense*

A Federal judge is often at a disadvantage when he must deal with engineering or science. The usual practice in a heavy case is to spend some days of expert testimony orienting the judge. See *Hooker v. Velsicol*,<sup>7</sup> which explores at some length basic facts of chemistry. One answer may be to expand the concept of judicial notice to cover all the necessary background.

Another cost-saving expedient would be to provide the court with Government-compensated consultants who can participate in the trial. I once attended in England the trial of an admiralty case in which the elder brethren, the British admirals, sat on the bench according to the ancient admiralty practice. The court asked them at various stages of the case to comment on the record on technical points which arose in the testimony, and it saved much time.

Trial courts give too much attention to the Examiner as an "expert." Let's face it. In the meaning that the court ascribes, he usually isn't. This leads, however, to greatly excessive cost in searching, to find different prior art from that cited by the Examiner. The court should review the Examiner's prior art on a par with all others.

Our courts are dedicated to paper work during the trial. This leads to the trial lawyer's 14-hour day. And it costs the clients thousands of dollars. The usual evidence points can be properly decided without memoranda. And briefs in a trial court are not always necessary.

A few days watching the trial of British cases might be instructive. The court usually decides a case at the end of the trial without de-

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<sup>6</sup> 276 US 358 (1928).

<sup>7</sup> 144 U.S.P.Q., 88 (1965).

laying while attorneys write briefs. We might give our judges sabbatical leaves to advantage to permit them to witness trials in other jurisdictions, such as England, France, Germany, Canada, or even courts in other parts of the United States.

The remaining problem: there are just too many claims. This falls squarely at the feet of the attorney. Perhaps the Patent Office can help by adopting, say in the Manual of Patent Examining Procedure,<sup>8</sup> some rules for claim interpretation, that hopefully might be followed also by the courts.

JUDGE SMITH: In order that we will not cut down on the time of the speakers, and also in the hope that we will not cut out any of your questions, we are endeavoring to so arrange the time on the program that there will be time for questions. I think, however, it might expedite matters, if you have questions on the matters which have been discussed thus far, or which will be discussed by the subsequent speakers, if you would write them out and pass them up here to me. There frequently are duplicate questions and we will see if we can't handle them in such a way as perhaps to save a little time and thus cover more questions during the question period.

We are very fortunate in having the next speaker on this panel. In the days that I can remember when I was trying patent cases in various parts of the country, I made it an invariable practice, whenever I could, to find a good general lawyer whom I could retain as my local counsel. I did this for one very definite and deliberate reason—not that I didn't enjoy the company of my fellow patent attorneys—but too many times the fellow patent attorneys talked the same language that I did and I found that that was not always the language of the courtroom in which my case was to be tried. I am certain that if I had had a case in the Western District of Pennsylvania in those days, I would have tried to get such a man as Judge Miller to have been my local counsel, because Judge Miller, in those days, spoke the language of the general attorney.

Judge Miller has been good enough to take his time from a very busy court to come here today and to share with us the views of a District Judge concerning this problem we are now discussing. It is, therefore, my very great pleasure to give you the Honorable John L. Miller, Judge of the United States District Court for the Western District of Pennsylvania. Judge Miller. (Applause)

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<sup>8</sup> I believe that the *Hornbook Rules of Claim Interpretation* could be set forth, in the manner of the Restatement, in about 20 pages of text. Since the Patent Office is following such rules, should they not be drawn out of the cases, and positively stated.

## How to Reduce Time, Expense, and Risk of Patent Litigation: A Judge's View

JOHN L. MILLER

Judge Smith, ladies and gentlemen: I want to thank Judge Smith for his introduction and I am very happy that he has made it plain to you that I am not an expert in the field of patent law.

At the outset I would like to say to Mr. Jackson that I would be very happy if some arrangements could be made for the referral of patent difficulties by Boards of Arbitrators. The topic for consideration, "How to Reduce Time, Expense and Risk of Patent Litigation" is one that can invoke a great deal of discussion and debate. The latter part can be handled better by the members of the practicing bar. I shall confine my remarks to the handling of litigation in court.

The problems inherent in the trial of the protracted or complicated case, and I include patent cases in this category, have received considerable thought and attention from the Bench and Bar during the last decade. Modern business is big and complex. Many of its controversies are big and complex. The normal procedure of the courtroom was designed years ago for simpler disputes.

Recognizing the need for streamlining procedures, the Federal Rules of Civil Procedure became effective in 1938 and many of the states have adopted similar rules. The discovery provided by the rules has added to the cost of litigation. But in the protracted or complicated case, discovery is of vital importance.

I was advised by representatives of the Patent Bar, in my home community, that the charge for handling depositions is \$25 to \$30 per hour for a junior, and from \$30 to \$50 per hour for a senior lawyer. This may be an approximate cost in many metropolitan areas.

The expense of preparing for trial, coupled with the cost of trial, which may last as Mr. Jackson says "X" months or weeks, makes the trial of patent cases very costly to litigants. The courts can play a part in cutting down the expense. A carefully prepared plan of procedure can keep the discovery within the realm of reason and shorten the trial time.

In the Western District of Pennsylvania all patent cases are assigned to a particular judge upon filing, who thereafter handles all proceedings in the case. Thus there is judicial control from the very filing date.

To properly take and hold control of the case requires common sense, ingenuity, and a willingness to experiment. There are many recommended procedures for handling this type of litigation, but there can be no fixed formula to be applied to each case. The approach must be flexible. Different techniques may be necessary in different cases.

In the run-of-the-mill case I hold the pre-trial conference after discovery has been completed. But in a patent case I hold an informal conference with the lawyers as soon as possible after the answer is filed. The purpose of this conference is to ascertain what kind of a case I have in my hands, what the case is generally about, what relief is claimed, and what defenses are generally proposed.

The Patent Code itself contains some definite provisions in regard to defenses in patent cases. Section 282 provides that the patent shall be presumed valid, that certain matters shall be defenses and they shall be pleaded. Those defenses briefly stated are non-infringement, absence of liability for infringement or unenforceability, invalidity of the patent or any claim in suit on any grounds specified in Part 2 of the Patent Code, as a condition for patentability, for example, lack of invention, lack of novelty, prior patenting, or publication, abandonment, prior use by others, and loss of right to patent for one reason or another.

Section 282 also specifies that another defense is invalidity for failure to comply with requirements of the reissue statute, Section 251, or the requirements of Section 112, which relate to the specification and claims.

These defenses being set forth we have something more in this type of case than the mere notice pleading which the Federal Rules provide for. The pleadings provide a framework within which the parties can function and they provide a guide to the court in the handling of the case and particularly as regards discovery.

At this conference I attempt to bring the parties to a tentative agreement of the issues involved and work out a timetable for discovery, to spell out the issues developed. I also fix a time for trial.

I am well aware that development of facts during scheduled discovery may call for a change in the plan or in the schedule. Moreover, either of the parties may change his mind as to his view of the issue or issues, in which event further discussion should be had at the next pre-trial conference or at a conference called at the request of any party for either purpose. After a schedule has been agreed upon, future pre-trial conferences depend upon developments.

Often during discovery facts are developed which indicate that the



trial of a single issue could dispose of the litigation. When counsel can show to the court by proper means that there is a single issue that could dispose of the whole case, I think most courts are receptive to the idea of trying that issue separately and without all of the preparation that would go into a full trial.

Mr. Owen, of the San Francisco Bar, in a talk at a seminar held at Stanford University a few years ago which I had the privilege of attending, pointed up some of these defenses. One defense that could be tried separately, that is to show that the patentee himself inadvertently, or for some reason, sold or used publicly the device covered by the patent more than one year before the patent was applied for.

Another defense which lends itself to a separate trial is defect of plaintiff's title. I am advised by patent lawyers that this sometimes is uncovered upon taking the plaintiff's deposition on discovery. Another worthwhile place for a separate trial of a single issue is where defendant's accused device can be shown to have been on the market for over a year before the plaintiff's patent was applied for. Another use of separate trial of a special issue is where the defendant can show it has a license.

Another issue that sometimes settles the case is the issue of res adjudicata, and still another issue that is oftentimes raised is called the misuse of patents. This generally involves a complicated license structure which may involve price control or cross-licenses, with price control; or it may involve an attempt to control the use of unpatented materials. The trial of such an issue could be more complicated than the validity and infringement issues.

I might say in this respect that a few years ago I heard an antitrust case involving cross-licensees and alleged price control, which turned out to be a rather complicated case, and for your information the expert in that case was Mr. Jackson, and he testified for three days.

(Laughter.)

After completion of discovery I have in some cases issued a pre-trial order for a final pre-trial conference. This order calls for the parties to do the following:

It calls upon the plaintiff, on or before a certain date, to serve a concise written statement of the facts that will be offered by oral or documentary evidence at the trial upon all counsel of record and file a copy with the Clerk of the Court. There shall be attached to said written statement the names and addresses of all witnesses plaintiff expects to call, and lists all of the exhibits which the plaintiff intends to offer. On or before a certain date counsel for the defendant shall serve a concise written statement of the facts that will be offered by

oral or documentary evidence at the trial upon all counsel of record and file a copy with the Clerk of the Court. There shall be attached to said written statement the names and addresses of all witnesses that the defendant intends to call and a list of all exhibits which he intends to offer.

Another provision of the order is that on or before a certain date, counsel for the parties shall confer in a place found mutually convenient to all concerned and consider the factual and legal issues involved and stipulate in writing as to all matters which are not in substantial dispute. Counsel shall mark all documents and note on each whether the exhibits may be admitted into evidence by stipulation, if not admitted by stipulation, they shall note thereon whether the authenticity of the exhibit is admitted, and if not, the same shall be marked only for identification. Then I fix a date at which time counsel shall file a brief on any disputed question of law.

My experience with this plan of procedure has been very satisfactory. Often at the final conference facts not agreed upon and exhibits to be offered in evidence which have not been agreed upon can be resolved, resulting in the saving of trial time. I am a firm believer in the pre-trial procedure, and with effective judicial control from the time the suit is instituted, time and money can be saved in the handling of patent litigation.

An interesting sidelight to the effective pre-trial procedures is that settlements are effected at or about trial time. With full disclosure and each lawyer knowing the strength and weaknesses of his case, a settlement conference presided over by the judge, has produced settlements in patent cases, as well as in other types of litigation.

Another interesting sidelight of the pre-trial conference is the education of the Court. The Court can benefit from a pre-trial conference, for regardless of how complicated a patent may appear upon first reading, after adequate pre-trial the Court begins to get the feel of the patent and the feel of the case and is in a better position to govern the trial and speed up the litigation.

In conclusion, I would like to call your attention to an address delivered by Chief Justice Warren to the American Law Institute last month. The Chief Justice pointed out that the District Courts are facing increasing difficulty in disposing of their litigation. During the first nine months of the current fiscal year ending March 31, 1965, the number of civil cases filed was 50,142. The number terminated, 47,815. Leaving the pending case load at the end of March as 74,522, the highest figure on record. These filings and terminations

compare with 48,789 civil cases filed in the first nine months of the last fiscal year, and 45,714 terminated.

The Chief Justice also stated that the time has now come when we must probe more deeply than we have in the past and with a much higher degree of inventiveness into the diagnosis of the problems of judicial administration, to assure that our system is responsive to the demands of the age in which we live, that we must utilize the aids and techniques which this generation has developed, so we can assure to our people the prompt and effective administration of justice to which they are entitled. And he urged that the entire legal profession, professor, practitioner, judge, and learned societies, should devote their talents and efforts to effecting a solution to the problem.

We who serve as judges in the courts are as much interested in ways and means of saving time and expense in the handling of litigation as the litigants. I am sure that such discussions as this with the exchange of ideas will be of some aid in developing ways and means for the prompt dispatch of justice.

It has been very interesting to me to be present with you this afternoon. I have gained by what I have heard.

Thank you. (Applause)

JUDGE SMITH: Thank you, Judge Miller.

Our next speaker, Lyman C. Duncan, has the title of vice-president in charge of Medical Affairs of the American Cyanamid Company. I was interested to learn that he was trained as and has a Master of Science degree in economics. This should be good. Mr. Duncan.

(Applause)

## How to Reduce Time, Expense, and Risk of Patent Litigation: A Business Executive's View

LYMAN C. DUNCAN

When Mr. Harris called me a month or so ago to talk about appearing on this program, he told me they were looking for a businessman who would be bold enough to stand up and talk frankly about what an executive has in mind when he initiates patent litigation.

As you can see, I accepted that assignment in what I now think

may have been a moment of weakness. I had expected to talk before a group of patent experts, although not quite as large a group as I see here, but what I hadn't realized was that I would be preceded by a judge, and introduced by another judge. And I can tell you that while it is a novel experience, it is a most gratifying one, to be sitting on the Bench with the judges rather than in front of them as a witness.

(Laughter.)

What does a businessman have in mind when he initiates patent litigation? Perhaps I could best describe his state of mind by starting on the day when he first learns that a basic patent on one of his most important products has been infringed. To be perfectly honest, some of my more volatile colleagues think first of mayhem; then of various kinds of torture. You might describe their reaction as akin to that of a knight of old whose castle has been invaded, his honor smirched and the surrounding countryside laid bare to waste and pillage. And why not? For couch it in whatever delicate terminology you will, the deliberate, flagrant infringement of an important patent is stealing. What is more, it is pillage and thievery of a most reprehensible kind, for it involves more than depriving the rightful owner of a very valuable asset. It is really an attack on our way of life in the business field, an attack on an orderly way of life that has allowed us to live without fear and to pursue knowledge in a civilized way, in a civilized society. It undermines the incentive to invent and innovate and threatens the security necessary for freedom of action and freedom of publication, for freedom to press forward openly without shrouding in secrecy.

Like the attachment of the farmer to the soil or the sailor to the sea, the executive guiding and supporting a large research organization has a strong bond with his scientific people, and a fierce pride in their accomplishments. He rises instinctively to defend their claims to their scientific achievements and to guard the sources of revenue from the new products they discover. For these are the funds that provide the life blood of the research organization and make their continuing work possible.

Do you wonder, then, that the initial reaction of the typical businessman to a case of patent infringement is charged with strong emotion?

Now I rather like to think of myself as a more temperate man, perhaps a little like Henry Higgins of "My Fair Lady," a "good-natured man whom you never hear complain, who has the milk of human kindness by the quart in every vein."

I am also well aware an angry man makes a poor client. Besides,

I have some inkling of what lies in store for anyone who opens the Pandora's box of patent litigation. If my hand is a little shakier, and my hair considerably grayer, it is because I have been through this experience before. Therefore I try to throttle what emotions I may feel and take up the gauntlet to defend my patent rights and the system which confers them with a sense of resolution, but perhaps a little less enthusiasm than I once could muster for the task.

You have often heard it said that all it takes for evil not to prosper is that good men should sit by and do nothing. It is just as true that any fine institution like the patent system, will fall into disuse and become ineffective if those who believe in its virtues are unwilling to rise to its defense and assert vigorously the rights it confers upon them.

The basic patent system, itself, is under attack in this country and in many countries abroad. I firmly believe that it is the duty of those who support its principles to demonstrate its advantages by making the system work. It is true that an individual patent suit is only a minor skirmish, but major wars are won by victories in a great many minor engagements. Besides, every time an executive takes upon himself the burden of a patent suit, he encourages others, by example, to do likewise. And every time he prevails, the victory acts as a further deterrent to those marauders who do no inventing or innovating of their own, but lurk on the sidelines to muscle in on the discoveries of others.

Responsible executives who believe in independent research really have no choice. They know full well that in the long run it cannot be financed and continued except under a sound and functioning patent system to protect it.

Now you may well ask, do you really think all of these noble thoughts when you contemplate patent litigation? And I would have to say that if I don't, I really ought to. For these are the fundamental issues at stake in every patent suit. However, to be perfectly honest I must admit that at such times a great many lesser thoughts do come crowding in, and some of them cause me to face the future with something of a feeling of resignation. I am well aware, for example, that righteous indignation is one thing. But proving in a court of law by a preponderance of the evidence is quite another. And an experienced executive knows that the battle, if you can call it that, will not be fought on his terms but the court's terms. The champion in the pit will not be him, but his attorney. And have you ever yet seen a businessman who is really convinced that his attorney can really convey his point of view, or more importantly, his indignation?

At the very best the pending litigation will represent a period of

interruption and frustration. At the worst it will be an attack on his credibility as a witness, his ability as an executive and his integrity as a person. If he has been through it all before, he is aware of the amount of his own time and effort that will be involved. He knows that his scientists in the laboratories and the engineers in the plant will be drawn from their normal pursuits and spend long hours and many days in helping to prepare the case, in giving depositions and appearing in court as witnesses. His files will probably be opened to prying antagonistic eyes. And he must look forward to days of questioning by hostile attorneys, who, in getting at the facts, may not be entirely above a little intimidation and confusion on the side.

A determined attack on the validity of the patent itself is to be expected in every suit. But the most irritating and frustrating experience for the businessman is what you people euphemistically call an "affirmative defense," which has nothing directly to do with the question: "Is he infringing or isn't he"? When this is raised, the delays and time consumed in finally resolving the major issues seem endless.

So far I have tried to describe the state of mind of the executive when he faces the decision as to whether or not to initiate patent litigation. His state of mind will influence how he decides but the decision, of course, must be based on the facts of the particular situation—and on advice of counsel. His paramount consideration is the justness of his cause and the chances of success if a suit is undertaken. At this point he enters into an alien world, whose intricacies are usually entirely foreign to his experience. It really is two worlds.

The first is the world of science. Technical processes are no longer simple. And the question of infringement may hinge on thousands of pages of testimony by scientific and engineering experts—on the opinions of experts in fields in which the full realm of discovery has not even been approached.

Some of the processes used in the manufacture of everyday products, which we take for granted, are mazes of technological know-how from the efforts of the scientists and technologists from many fields. The executive must first come to grips with these scientific facts of the case. He must study the technology of the process involved, and then must understand the nature of the conflict. He must review with his research people and legal advisors the interpretation and breadth of the claims at issue in the patent or patents involved. Sometimes this requires consultation with technical and legal experts outside of the company, because differences of opinion among his own people develop.

Only when the businessman has sojourned in these unfamiliar worlds until he has grasped the basic scientific and legal points at issue is he competent to make the decision.

The typical executive is rarely a patent attorney or scientist. And yet in the last analysis he must decide for both. In addition, at no time can he forget his position as a leader of a complex business organization, as a businessman fighting for his company's position in the marketplace, and as a responsible citizen of the world. He is all of these things and they come to bear as he makes his decision.

As a leader of the corporation he guides, supports and encourages his scientists and engineers. He has a responsibility to protect their creative efforts, to fight their battles outside of the laboratory or manufacturing plant. He can ill afford to lose their loyalty and enthusiasm by yielding, through default, the fruits of their efforts and their inspiration. As a businessman he cannot give an inch in the marketplace.

A patent, though presumed to be legally valid when issued, is not a bar to others who choose to duplicate the product or practice the process until it has been upheld in a court of law in a suit in which its validity is the principal point at issue. Until that time the threat of possible damages sometime in the future is the only deterrent to an infringer, or to others who might follow his example, unless he is challenged. Thus, the executive must at times engage in litigation if he is to insure to his company the exclusive rights to its discoveries which are granted by the patent system.

On the other hand, as a businessman he cannot be guilty of wasting the company's resources in a fruitless effort or in one which does not promise adequate return for the money and effort involved. As a responsible citizen, he must not abuse the patent system or waste the time of the courts by engaging in frivolous litigation or initiating suits where the chances of success are minimal.

Such is the decision-making process when dealing with patent litigation. I speak from some experience because my company is a research-oriented organization whose existence depends upon a strong patent system. I speak from experience because we are in the pharmaceutical field which, as you all know, is in the vortex of a world patent crisis. And I speak from experience, because my company has been involved in patent disputes around the world for many years.

We have made the decision to enter patent litigation on numerous occasions. And I can tell you that never was a decision made lightly. But once the step was taken there was no backing away. We have

tried to give our legal counsel our full support and to make available to them the full resources of time, information and effort of the company.

In entering patent litigation, the executive makes not so much a decision as a commitment. But this is a commitment he must make, and all of us must make, if we are to continue to have a strong patent system, not only here in the United States but all over the world. Unless each of us protects his patents, the entire system will falter and give way to chaos. And there are many forces in the world waiting for this to happen. What is more, they are actively seeking to destroy the patent system.

You hear the question asked in many countries these days, "Can we afford a strong patent system"? Rather, I would say the question should be, "Can we afford not to have a strong patent system"? Can any industrial nation keep its place in the rapid march of technological progress or compete vigorously in world markets without the incentives to discover, to invent and to innovate provided by a sound patent system? I say it cannot. And the lessons of recent history bear out this assertion.

The inability of the Communist, and like systems of government, to feed their people adequately, or to provide the basic necessities of life is a damning indictment of state ownership and control in the production field. How, then, can you expect state ownership, state direction, and state control of the instruments of research to provide the leadership and stimulation required to nurture the delicate seeds of inspiration and genius, and provide the climate for productive research—except, of course, in limited fields where the state machinery finds it politically desirable to achieve spectacular results by concentrating its efforts. There are other standards, but I predict that the industrial progress of leading nations in the future will be measured by the viability of their patent systems. But such patent systems are not an idea or a concept which feed upon themselves. Like any living, developing thing, they need to be sustained and strengthened by use.

To my mind, it is the responsibility of the Government, of the legal profession, private industry and the individual executive to provide this support. It is not an easy thing to do, as I can tell you from experience. But it is something everyone of us must do.

Thank you. (Applause)

JUDGE SMITH: Thank you, Mr. Duncan.

I have the first question here. I will be glad to have others come up, if there are any.



While you are getting your questions in shape, we are to have the privilege of hearing from some of the Research Institute staff contributors. We will have as our lead-off man, Pat Federico.

(Applause)

#### PART VI—*Research Institute Staff Contributors*

MR. FEDERICO: I will give myself not more than 10 minutes. I have to start out by saying that anything I say has nothing to do with the Patent Office. I speak purely personally and any notions I may happen to state are my own. In fact I didn't know myself what I was going to say until after the proceedings started. But Mr. Bruson gave me the main idea. He illustrates the fact that if you can pry an inventor or company executive away from their patent lawyer, you can get some pretty good ideas out of them.

Mr. Bruson was a prominent inventor in the field of insecticides at the time I was an Examiner of insecticides, and I hope I didn't treat him too roughly in those days. My recollection, which is a little bit faint I will admit, is that we didn't have too much trouble with his cases, even though there are one or two decisions, *ex parte Bruson* and *in re Bruson*, and also those cases seem to have been a bit freer from the type of fluff that patent lawyers put into chemical cases usually. Perhaps Mr. Bruson had a stronger will than his patent lawyer, because of an incident that occurred to me several years ago.

My old professor in chemistry was probably in about the same position as Mr. Bruson. He had made a large number of inventions in his field and had several hundred patents; I don't know if any of them were worth \$500 million, but some of them were worth something. He came to me one day and asked me how he could stop his patent lawyer from putting all of that junk into his patent specifications, most of which he knew nothing about. All I could tell him was that all he needed to do was to refuse to sign them. Well he couldn't do that, because the company wouldn't like it.

This fluff reminds me of another story that came to me third-hand, so I can't vouch for its correctness. An applicant was rejected on a prior United States patent, with reference to particular statements in the patent referring to a particular compound. So the applicant wrote to the patentee to get information as to that compound and the effects, not agreeing with the statements in the patent. He got a letter back from the patentee stating that he didn't know anything at all about it, his patent lawyer had put it in. (Laughter)

I want to talk about two remarks that were made during the day,

on disconnected occasions. One speaker referred to the fact that the basic principles of the patent system must not be changed. Now the meaning of that statement depends on what you regard as the basic principles. To most of us, the basic principles are those principles which must not be changed. So the statement amounts to, we must not change those principles of the patent system which must not be changed.

A statement made by another speaker referred to harmonization of patent laws. This is a slogan that is coming into use, which has a good deal of hollowness to it, if you analyze it. But in general the situation is arriving where attention must be paid to the patent laws in comparison with the laws of other countries, to determine what points could be made more uniform, particularly if there is going to be greater cooperation among countries in patent matters. If there is to be a uniform patent or a single patent covering several countries, everything doesn't need to be made the same, but a good many points will need to be made the same in the laws of different countries. Now that affects the United States in this manner:

The European countries have been through a long siege of harmonizing their patent laws on certain basic principles, mainly the principles relating to the basic requirements for the patentability of inventions, what can be patented, what types of material can be used to defeat novelty, the specification, claims, and so forth. This continued over a period of practically a decade, in three different groups, with people from the same groups working in the other, so it really was one movement.

The Scandinavian countries have already arranged to put their laws into shape according to these uniform principles decided upon. The Common Market proposed patent law adopts the same uniform principles, and the result of the European countries has been a treaty signed, at that time, by about 12 of them, agreeing to change their laws in certain respects. England is one of the signers, and the treaty requires extremely drastic changes in the concepts of patent laws in England, of the type that has been strange to England for centuries.

Now in reviewing the details of this treaty, which I don't do now, there is one main basic point of difference between the United States law and the laws relating to patentability as these countries have agreed to conform them. This relates to permitting an invention to be publicly used and known, call it published, for a one-year period before the patent application need be filed.

In all of these countries they have agreed that any publication before filing, publication including uses, will defeat the right to a

patent. There are some minor exceptions which are of no consequence.

Now we have the period of one year during which the inventor or anybody else may use the invention publicly and it may become known in general. Now a period of permissible publicity has not been adopted by any of the industrial countries except Canada. A few of the smaller countries—when I say any, I didn't mean to include Canada, which followed our law in many respects. But aside from that, it has not been adopted by any industrial country. So the time may come when we should re-examine that principle. I mention it here, because it would have a profound effect on administration and the way patent applications are handled.

This principle came into our law in a peculiar way. The first statute, the Act of 1790, was a little obscure, but no cases ever came up under it; the Act of 1793 specifically required that the invention be "not known or used before the application." However this requirement was read out of the statute by a misinterpretation of another section.

I only want to mention one more point.

These European countries are continuing their program of harmonizing their laws and at the present time they are considering several additional principles. A meeting was held earlier this year in which the language was developed, and there will be further conferences in which it will be refined and eventually adopted as a part of a treaty. One of these is a principle that every patent application must be published a certain period after filing, 18 months after filing, counting a prior foreign filing date if any. This has already been placed in a bill in Sweden, which will be law next year perhaps. It has already been enacted in Ireland. This is independent of deferred examination although it is in effect in Holland. This may have a profound effect on examination, a simplifying effect because every single patent application will be regularly published at a certain period after filing. They will become available as prior art regularly in their proper order and will avoid many of the difficulties that are now faced because of the long pendency of applications and because of the diverse times in which patent applications issue and become available.

As a simple example, many interferences are declared solely because of the fact—or were declared, we attempt now to eliminate them—solely because of the fact that both applications were pending and you had to have one out to use against the other; not having it out, you had to have an interference. I don't want to be too positive. I am

merely stating this as one of the things that may come up to be considered in determining what changes, if any, should be made in our patent laws.

Thank you. (Applause)

JUDGE SMITH: We are fortunate to have with us Mr. George Frost, from Chicago. As most of you know, he is a practicing attorney there and also is a well-known teacher of patent law at the John Marshall Law School.

I think George came to the same conclusion I did some years ago, that I might as well quit trying to teach the old fellows any of my ideas of patent law, because I was well out of step with them, so I started in on the younger ones at the University of Michigan. I think George has done the same thing, but with more success than I did.

(Applause)

MR. FROST: I just have a couple of short points I would like to express. In the first place we are here this afternoon talking about the expense and delay of patent proceedings. I thought it was rather fortunate to see the way the program was set up and I had nothing to do with this, in that we have it in two components, one is how to secure patents and the other is the enforcement of patents.

And it seems to me that perhaps something ought to be said about keeping our eye on the ball here. It is a healthy thing to be looking at this whole question. The fact is there is a great deal of reason to believe that something must give, something must be done. At least there is a general consensus that the matter should be looked into. But if this kind of a matter is going to be looked into, there is a good deal to be said for looking into it with the same viewpoint toward economy as raised the question in the beginning. For example, if we assume that one out of every 300 patents ends up in litigation, isn't it logical to say for every dollar saved in the application side of the proceedings, it is equivalent to \$300 saved on the litigation side. Of course that figure is rather meaningless, but I think there is a leverage there that certainly warrants very careful consideration.

And it does seem to me that there is reason to consider short cuts in the Patent Office. Maybe not in the spirit of perfection, but just with the thought in mind that there is a place where you have leverage working in your favor.

Let me go to just one other. When we think about patent litigation, we are all of us I think inclined to think that this is something special, something different from other litigation, something that is an esoteric field and our problems are not those of other people.

Nothing could be further from the truth. I thought Judge Miller put it very well indeed when he spoke of pre-trial conference and that type of thing.

After all, when we are talking about personal injury or antitrust, on contract, or tax litigation, they are the same procedural rules, the same Federal rules of civil procedure, the same opportunity for people to abuse them, the same difficulties of people going wild and putting work on other people, and all of the same problems I might add that Mr. Duncan referred to. Now we do have a vast number of people who are concerned with just these problems of the judiciary. And in those areas the judiciary itself and all manner of advisory committees are working very hard and I would just like to suggest that in that area the ground is being ploughed by other people and perhaps we ought to give major attention to the areas where the patent litigation differs from other litigations.

Here we have one aspect of patent litigation that is really quite unusual, and that is this twofold area of what we might call judicial unfamiliarity. One aspect of that is in the field of patents, Patent-Office procedure, patent law, if you will, that just comes up in every patent case, and nine chances out of 10 the judge that has to decide the case has to pick that phase of the patent law up from very little background and experience.

Of course it takes time. And of course it means that it gives attorneys chances, sometimes, to perhaps bamboozle the judge—maybe that is a strong statement—certainly it induces a stronger chance element, lottery element, call it anything you will, into patent litigation.

The second thing of course is the scientific aspect of patent litigation. This problem of expert witnesses, and interminable expert testimony, the problem of judicial decisions which as Joe Jackson pointed out sometimes sound like text books on elementary organic chemistry or whatever else the court may be discussing. Well now here we have an area that certainly could be approached from the standpoint of the patent law with considerable profit.

Now I happen to be one of those persons who has in the past discounted pretty heavily the whole idea of special courts, special proceedings and that type of thing. I am not so sure that is right. It seems to me there is time to give more serious consideration to the whole subject and there are places where we can look for some experience. I don't pretend to know what the experience is. For all I know, it is not a happy thought at all. I would only pass on the fact that in the Court of Claims right now most if not all patent cases. I understand, are being decided in the first instance by a Commis-

sioner who has had patent-law training, and it ought to form some kind of a guide as to what can be done.

Well those are just a few thoughts. It does seem to me, though, that when this matter of time and delay is approached without keeping our eyes pretty closely on the practical things that can be done, and where the opportunities lie, all effort becomes so indefinite, misdirected, that very little is likely to get done.

Thank you. (Applause)

#### *PART VII—Panel Participants in Discussion and Question Period*

JUDGE SMITH: Gentlemen of the panel, on behalf of the group that is here, I want to express the thanks for papers that have been stimulating, in which there have been a great deal of thought, time and effort expended, to the end of surfacing some problems for discussion. The remainder of our program will be given over to a panel discussion and question period. In response to my request for questions, I stuck out my neck, the axe came straight across it, but just to show you that I am willing to let you whack away, here is the question.

Is it true that the—this is addressed to me by the way—is it true that the person of ordinary skill in the art, to which the subject matter of the claim pertains, is a hypothetical person, like the reasonable and prudent man of torts law? I don't know how to answer that question. I might as well start out by pleading ignorance. I would say this, that as I studied torts law, and as I worked in the field of torts, I came to the conclusion that it usually was the plaintiff or the complainant, as the case may be, who was the reasonable and prudent man. The other fellow never was reasonable and never was prudent.

As I got into the patent-law field and began to meet with and discuss the problems with technical people and technical personnel, I found that there were many persons of skill in the art, but I have never yet been able to find one who would admit that he was a person of skill in the art. So I would say this, that looking at it from a base of factual experience, there "just ain't no such beast" as a person of ordinary skill in the art. Yet at the same time he is a very real person in the law, but Section 103 requires that we make this determination of obviousness from the standpoint of what would have been obvious to a person of ordinary skill in the art.

Now there is no question but what the courts have, through the years, in discussing this matter of invention against the work of the ordinary mechanic or the mechanic skilled in the art, have given us certain guide lines or criteria from which we can draw a profile of a

person who for the want of a better term we can call the man of ordinary skill in the art.

I was told one time, when I first started in the patent business, that it was always desirable to find what this lawyer called a little bit of invention magic. At that time we were litigating the Alemite patents, and if any patents needed some magic, I think they did.

However, these patents were sustained in some 300 litigated cases. The particular magic in that case involved a slight movement of a washer for sucking the grease off the end of the pin fitting, which gave a clean uncoupling, in theory. The end result of it was that we developed a criterion in that case that, well, if this thing had been so obvious, if this is a thing any mechanic could have done, why didn't he do it?

There were sales of upward of 20 million pin fittings a year at the time. There was an industry, which could be built upon those patents. Yet, when we asked of the mechanics, that would come in, "Well how did you take care of this uncoupling?" they said, "I had a grease rag, I wiped it off." When asked whether they had to do it after they had the Alemite coupling the answer was "No." This is the kind of a story a judge likes to hear, we found, and I think that out of all of these things and with sufficient study of the case, you can draw a profile of the theoretical, and I emphasize theoretical, a person skilled in the art from which you can ultimately meet the requirements of Section 103. I don't know whether that answers the question, but at least it gets something off my chest.

Now we have some other questions here. I think perhaps we will start and get these questions out of the way and then ask the panel members for any comments they have. The first is: What effect would elimination of 35 USC 103 have upon litigation? Do any of the panelists care to comment on that? I see Dean Laurence looking very much as though he has a section of the Confederate Rules of Practice on that. Come on up. What effect would elimination of 35 USC 103 have upon litigation?

MR. LAURENCE: Apparently we would be right back where we were before the 1952 Act. That would seem the "Compleat Angler's" answer to the question. But I should dislike to see 103 eliminated—of course we are going to find out a lot more about 103, when the Supreme Court gets through the case next fall.

One hundred three, as I understand it from talking to some of the people who helped in the formulation of the Section, was intended to spell out a little more clearly the standard, and of course goes to this man of ordinary skill in the art, which had been enunciated in

some of the opinions of courts previously, but it also was intended to put in some other things which were not clear in the case, the case law, before we got 103.

One of the things is something that our moderator has been harping on in his opinions over in the courts, in many of them dissenting opinions, and that has to do with the fact that you can have an anticipation, or a reference available for obviousness only as of the time the invention was made. That is a very important feature of 103, which has been perhaps more honored in the breach than it has by actual observation. And it seems to me something that wasn't very clear in the case law. Therefore I think it would be desirable to retain 103 to make it perfectly clear to the Federal judiciary that that is a feature which cannot be overlooked. I don't know any reason why we couldn't live if the court threw out 103.

For example, this fall suppose the Supreme Court said for some reason 103 is out the window. Well, we would go right back to the prior case law and I think we would be able to live with it. I should not like to see it out, however.

JUDGE SMITH: Thank you. We are fortunate to have as one of our panelists here one of the men who had a great deal to do with the drafting of the current Patent Act, and Pat Federico will be glad to give us a few of his views concerning 103.

Question from the floor.

What effect would elimination of 35 USC 103 have upon litigation?

MR. FEDERICO: I think what the questioner had in mind was where would we stand in patent litigation if section 103 was eliminated in the examination and granting stage of the procedure. The reason I have that belief is that a bill was introduced recently for that purpose. Now the effect of the proposal is that consideration of obviousness—or unobviousness—would be deferred until a later stage of the proceedings. I doubt whether the questioner had in mind that the requirement of 103, that we used to call the requirement for invention, now called the requirement for unobviousness, be eliminated from the patent law. That would be practically impossible. It would grow up again by itself.

It was in the law before 1952, without being explicitly in the statute, and 103 picked it up from the law as it existed and used milder language than some of the previous decisions in defining that requirement, hoping that the milder language would have some effect. But coming now to what I think is the real question, if the question of obviousness was excluded from the first examination by the Patent Office, what would be the effect on subsequent litigation. I can't give



you any answers except to state that that is exactly the situation in England.

The requirement of inventiveness, they do not use the word obviousness or unobviousness, they use the phrase "involves an inventive step," is a requirement in their statute; the subject matter must involve an inventive step over the prior art. The Examiners are precluded from ruling on that question. Patents are granted without considering it. Then the question is considered in revocation proceedings, infringement suits, or in opposition proceedings.

So what is the patent litigation situation in England? There are many causes for the differences, but basically there is less patent litigation, patent litigation meaning after patents are granted, in proportion to the number of patents that are granted than in the United States. I don't suggest there is a correlation on this effect, but to answer the question would be extraordinarily problematical, perhaps it might increase litigation, perhaps it might even decrease it.

JUDGE SMITH: Another question which has been forwarded to me is what effect would a registration system have on litigation? Mr. Frost has agreed to handle that question.

MR. FROST: I had a few moments to chat here so I made a few notes. In the first place, there would be no such thing as file wrap estoppel, if we had registration, there would be no such thing as having a file wrapper which would have some sort of an explanation of where the invention is really supposed to have resided.

This is a real good time to make it ever so clear, it seems to me, that in this area of file wrappers estoppel, particularly, the Patent Office has on the whole done a magnificently good job and the courts have done a rather rigid job in following what the Patent Office has done. Now maybe everybody won't agree with me that this is a good thing. Certainly there are harsh cases, bad cases, and unfortunate cases. But I would point out that here is one very good example of a place where the patent system and our present patent examining system is doing a good job of working.

Secondly, if there is a registration in lieu of the examination system, there would be no such thing as a presumption of validity, or if there were, it would be utter nonsense. Interestingly enough I have the feeling that there are a few courts in this land where that won't make much difference. (Laughter)

But in the vast majority of the courts, it makes one whale of a difference, as it seems to me it ought to. And this again is an important thing.

Now finally we should not overlook the fact that we once did have

a registration system. This was from 1793 to 1836. And during that time things degenerated until we finally had the Ruggles Report which listed about a half-dozen things that had gone wrong. Now I think it is only fair to say that 1836, which was the year of the Ruggles Report, and 1965, are a long way apart.

Pat Federico is smiling here, but we have tossed this around a little bit. But I do think, even if history is a long time ago, it certainly warrants some consideration. Now we do get some cause and effect relationships here that are fuzzy. One is in the area I just mentioned.

Now a note was just handed up to me pointing out that there is less patent litigation in Belgium, Italy and France, in proportion to the number of patents, than in the United States. Somebody can argue that proves the examination system only increases the amount of litigation. And I suppose no one can argue too hard about that. But you can just as well say the other and it doesn't prove anything. In the last analysis, we are not talking about possible changes in the French patent system, we are talking about the United States. And in the United States, we are dealing with United States people, who have a United States tradition, and I would only suggest, makes a whale of a difference.

Again the note states here, and it is a fact, that patents are presumed to be valid in France and Italy. Well, on this one I feel even more strongly. I think anyone who thought they could be rid of the examination system and keep a presumption of validity is dealing with sheer nonsense.

Thank you very much. (Applause)

JUDGE SMITH: We have a question, a series of questions actually, that have been handed up dealing with the suggestion made by Mr. Laurence concerning the findings of fact in the Examiners' actions. I have asked Mr. Wahl if he would be good enough to comment on those questions and he has agreed to do so.

MR WAHL: This is with respect to this idea that the Examiners include findings of fact and of law. For example, in a reference citing Holman Line—the first question is, well there is a statement here, in many cases the part of the disclosure is so clear that simply reading it would apprise the attorney of what the Examiner has in mind. Now a question. Would this suggestion apply even to the simplest case? Without reading Dean Laurence's mind, I would say that, yes, it is pretty hard to say what is a simple case. Further, if the case is so simple, then this requires only a moment or two of the Examiner's time to write down a column and line reference, with a very brief summary as to what that reference establishes. At least it zeros the

attorney's attention right in on the point the Examiner wishes to make. Then there can be no question as to whether or not he has read the patent.

Question "b" is: With the present pressure on the Examiner to cut down the time spent on a case, how can this suggestion be fully implemented without requiring more time to be spent on writing an action? I believe a typical well-written Examiner's action now develops these facts in narrative and paragraph fashion, and then based on a setting of facts, will come to a legal conclusion. I don't think the Examiner would spend a great deal more time by perhaps listing his findings of fact in even more cryptic fashion than he does now in his paragraph-type statement. Then the statement of facts would marshal a line of thought which it seems would rather naturally develop into clear conclusions of law, including whether you are operating under 102, 103, 112, whatever the particular section of the statute is.

So this would be my answer, that from within the Office, I don't believe we would find much, if any, increase in time on the part of the Examiner, and I do believe we might have clearer presentations across the board with what might be a standard format rather than leaving our letters to the standard paragraph narrative exposition that we now use.

MR. WAHL: At least I have covered the inside view of this.

DEAN LAURENCE: I am very happy with your statement.

JUDGE SMITH: This brings us down to the time when some of the members of the panel, I know, have to catch planes. Judge Miller has to go. I am certain that other members of the panel would be willing to stay if there are other questions and other matters to be discussed.

I believe that Dean Laurence made some comment to the effect that he would like to know what I thought about this finding-of-fact suggestion he threw out. Frankly, I like it. I am speaking now as an individual. And I speak from an experience I had when in practice. I was called in for a pre-trial before Judge Lederle in Detroit one time and he said "I expect you to prepare findings of fact and conclusions of law in advance of the trial and give them to me rather than a trial brief." I said "Certainly you are joking, aren't you"? He said "No, I was never more serious in my life. You prepare findings of fact and conclusions of law in advance of the trial." Well, you don't argue too much when you are trying the case at that level. So I sat down to prepare findings of fact and conclusions of law in advance of trial in a rather complicated case.

My own personal experience was it did more to clarify my thinking and did more to clarify my preparation for that case than any other single thing I could have done. So for the remainder of my years in practice, and even though they were not required by all the courts, I voluntarily followed the practice of preparing findings of fact and conclusions of law for my own guidance and used them many many times as my trial outline and my trial notes.

Now looking at it from the standpoint of a judge, in a court which has a limited jurisdiction, and is very much bound by what happens below, those of you who read our opinions in recent years know we have had a considerable amount of trouble in getting at the legal base of many rejections, in getting at what the facts are upon which that legal base of the rejections is founded.

I think, and I am speaking now purely as an individual, I am not speaking for the court, I don't know what the other judges might think, but personally I would feel that the discipline that that type of action might put upon an Examiner in his thinking and writing about the case would go a long, long way toward getting actions which would be understandable all of the way through, and the more understandable the action, the more apt, I believe, it is to be affirmed.

Now are there any questions from the floor? Or any comments from the panel?

(No response)

I appreciate your patience, I appreciate the cooperation of the members of the panel, and with this I declare the Conference adjourned until 7:30 o'clock this evening.

(Whereupon, at 5.20 p.m., the meeting was adjourned).



## Kettering Award Address

### On Some Conditions for Scientific Profundity in Industrial Research

EDWIN H. LAND\*

For about 20 years I have been interested in the question of how to establish in the United States a large number, perhaps several thousand, of new companies based in science. My dream was that each of these companies would conceive of a new field and would carry on from the basic scientific work in that field through research, development, engineering, production, aesthetic design, lively, honest advertising, and efficient distribution. Our life up until that time in our own

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\* An address delivered by Edwin H. Land, President and Director of Research, Polaroid Corporation, at the Award Dinner of the Ninth Annual Public Conference of The Patent, Trademark, and Copyright Research Institute on Thursday evening, June 17, 1965 at the Washington Hilton Hotel, Washington, D. C. Dr. Land received the Institute's annual "Charles F. Kettering Award for Meritorious Work in Patent, Trademark, and Copyright Research and Education."

technologically creative company had been so satisfying and happy that we wanted not only to continue in the same way ourselves, but also to induce others to create companies similar to ours. Nothing that has happened in the generation that has intervened makes me feel any less faith in the dream I then had, although the fact is that for one reason or another not nearly as many of these companies came into being as I would have hoped. Because I still believe in that dream, I want to talk tonight in some detail about the inventive experience in a company based in science.

Before I start on that detail, I must emphasize that the kind of company I believe in cannot come into being and cannot continue its existence except with the full support of the patent system. Since this Conference is dedicated to detailed discussion of understanding the needs of a healthy patent system, I shall make only one comment: namely, that except for the intricacy that has entered into interference procedures, the patent system as I have known it for the last 40 years is satisfactory in principle to support the kind of science-based industrial renaissance that I believe in. For this purpose, all that is required is an expansion of the Patent Office—an expansion of budget, facilities, and equipment, comparable to the expansion of demand being made on the Patent Office.

The specifications I now set for these ideal scientific companies are no different from the ones I set for myself in 1927—pick problems that are important and nearly impossible to solve, pick problems that are the result of sensing deep and possibly unarticulated human needs, pick problems that will draw on the diversity of human knowledge for their solution, and where that knowledge is inadequate, fill the gaps with basic scientific exploration—involve all the members of the organization in the sense of adventure and accomplishment, so that a large part of life's rewards would come from this involvement. My faith was that in the long run this kind of activity could be self-supporting rather soon, that it would inspire the desire of others, not participating directly, to share indirectly, by contributing sometimes advice, sometimes financial support, and sometimes a market, even though, to begin with, the market may have been created just to encourage us. Over this 40-year period, I have found that Americans bring instinctive optimism, generosity, and enthusiasm to the support of any effort that they believe is fundamentally creative. My only dis-

appointment then is that this instinct has not been tapped in the way I feel it can be to bring into being the thousands of new companies.

I want to review with you case histories from our own experience of the inventive process, in the hope that before the evening is over we may gain insight into how to encourage such companies as I seek.

As I review the nature of the creative drive in the inventive scientists that have been around me, as well as in myself, I find the first event is an urge to make a significant intellectual contribution that can be tangibly embodied in a product or process. The urge, as pure urge, precedes in a perfectly generalized way the specific contribution—so that the individual hunts for a *domain* in which to utilize the urge. The early stage need not be early in life, it can occur intermittently throughout life. The hunting process is fascinating to contemplate because during it there may be many abortive first approaches at the verbal level to fields which are then rejected as being either not significant enough or not feasible enough—and then, quite suddenly, a field will emerge conceptually so full blown in the creator's mind that the words can scarcely come from his mouth fast enough to describe the new field in its full implication and elaborateness.

This domain which neither he nor the world had known until some magic moment, now is for him so vividly real and well populated with ideas and structures that he will lead you around through it like a guide in a European city. Then it appears to him that all that is left to do is to parallel that intricate "reality" which came into being in his mind, with a corresponding reality in the world outside of his mind. Sometimes this process of creating the outside reality may take five years, sometimes five hours. For the creative person this process of establishing the correspondence between the outside reality and the one within his mind is a timeless undertaking, reminiscent of the relativistic trips through space in which people return to earth only a little older while the rest of mankind has aged.

Whether the process is the five-hour process or the five-year process it always turns out to be true that many subsidiary and supporting inventions and insights are required to go from the thing in the mind to the thing in the world. These subsidiary inventions are born of accurate analysis, patient research, broad experience, and total devotion to the perfection of the final outer reality. For this sequence of rather tedious virtues there is available no new series of *grand* excitements. Basic emotional energy must continue to flow from the initial perception of the field and from that first excitement.

Now I take you through these details of the genesis of inventions because it must be clear that this kind of timeless life can be lived only



in an appropriate environment, a different kind of environment from what we must establish for some of our important massive engineering undertakings, such as the moon probe, undertakings in which a date must be met at all costs, and in which individual profundity must be largely displaced by rapid-fire interaction between brilliant members of large groups. Since it is somewhat easier for the general public to understand and for the Government to manage this latter type of intellectual activity, we must be extremely careful to nurture and protect the former type with which tonight's discussion is chiefly concerned.

Now for examples: As for the generalized urge: Thirty-eight years later, I can still recall the full vividness of my own need at the age of 17 to do something scientifically significant and tangibly demonstrable. At the age in which each week seems like a year, I picked field after field before I decided that the great opportunity was polarized light.

Jumping ahead 17 years, I recall a sunny vacation day in Santa Fe, New Mexico, when my little daughter asked why she could not see at once the picture I had just taken of her. As I walked around that charming town I undertook the task of solving the puzzle she had set me. Within the hour, the camera, the film, and the physical chemistry became so clear to me that with a great sense of excitement I hurried over to the place where Donald Brown, our patent attorney (in Santa Fe by coincidence) was staying, to describe to him in great detail a dry camera which would give a picture immediately after exposure.

In my mind it was so nearly complete and so real that I spent several hours describing it, after which it was perhaps more real to him than even the ultimate reality. Only three years later, three years of the timeless intensive work referred to above, we gave to the Optical Society of America the full demonstration of the working system.

What is hard to convey, in anything short of a thick book, is the years of rich experience that were compressed into those three years. It was as if all that we had done in learning to make polarizers, the knowledge of plastics, and the properties of viscous liquids, the preparation of microscopic crystals smaller than the wavelength of light, the laminating of plastic sheets, living in the world of colloids in supersaturated solutions, had been a school and a preparation both for that first day in which I suddenly knew how to make a one-step dry photographic process and for the following three years in which we made the very vivid dream into a solid reality.

Once again we can see the significance of environment, of a corporate life whose managerial center was concerned with scientific ideas, a corporate life in which everyone participated in the mastery, day by

day, of the new technological problems that arose in our search for better polarizers and new ways of using them. The transfer from the field of polarized light to the field of photography was for us all a miraculous experience, as if we had entered a new country with a different language and different customs, only to find that we could speak the language at once and master the customs. In short, the kind of training we had given ourselves in the field of polarized light had endowed us with a competence we had not sought and did not know we had; namely, a competence to transfer what must be a common denominator in *all* honestly pursued research, from one field to an entirely different one.

I am inclined to think that only in a corporation, however small or large, in which individuals are expected to make the center of their life the intellectual life of the laboratory can this kind of transferable talent be built. This process must continue for year upon year and decade upon decade. I find men around me in our laboratory who have lived this way and who now seem more alert, creative, and productive than when they were 30 years younger. That creativity is tied to some youthful age is a myth that comes about, I believe, because for one reason or another men stop living this way perhaps because they are encouraged to think there is more dignity associated with tasks implying power over people than with tasks implying power over nature.

Remember that we are searching these case histories not for the purpose of intimate revelation, but to try to find out why more scientific companies do not survive. Whatever the other reasons may be, I think that a primary reason is that at just the time when a man's talent might be maturing, he is drawn off into a variety of so-called managerial activities. It is impossible for the long, long thoughts, the profound thoughts, the unconscious accumulation of insights, to come into being after these serious digressions into management. I am not saying that other good things do not come out of these diversions, but these other good things are not our subject. Actually here is an endless opportunity for use of managerial aptitude of every research man, *within the intimate domain of his own investigation*, and within that domain he may exercise his managerial aptitude without the stress and distractions he will necessarily find outside of the domain of his own scientific investigation.

I think the important and nearly impossible projects such as we set for our goal require prolonged periods of intensive concentration. Frequently, the problems can best be solved, perhaps solved *only* if the work is done in a relatively short time. In most of the worthwhile

problems, so many variables are involved that the human mind cannot keep them in order in the presence of interruptions. It is simultaneous mastery of a hundred interacting variables that is the glory of the kind of scientist we are talking about for our scientific companies.

When I started on the actual program of making the black-and-white film for our camera I set down the broad principles that would also apply to color. I invited Howard Rogers who had worked with me for many years in the field of polarized light to sit opposite me in the black-and-white laboratory and think about color. For several years he simply sat, and saying very little, assimilated the techniques we were using in black and white. Then one day he stood up and said "I'm ready to start now." So we built the color laboratory next to the black-and white laboratory and from then on until the time many years later when we released our color film, the program of matching the dream of the color process that was in our mind with the reality of the color process in the outside world never stopped. My point is that we created an environment in which a man was *expected* to sit and think for two years. May I suggest that there is a difference between that environment and the one which we tend to create when we think of national projects for massive engineering purposes.

You will note that the qualities that I am concerned about in corporate life are not related to bigness or smallness as such. There are small companies and small businesses that are not oriented towards thoughtfulness and profundity, and there are a few large corporations in which they are encouraged. But our universities do not train for patient and extended thought, and those few areas in Government which have provided thoughtful environments are in certain danger of being swamped by the great mass undertakings. The one *Governmental* device for protecting the profound thinker is the subject of your meetings this week—the patent system.

During the period ahead of us, many of us will be working to invent methods whereby the Government can catalyze the formation and growth of creative companies. We shall also be trying within the universities to generate men with competence for profound individuality. It would be most unfortunate if by the time we have succeeded with these undertakings the patent system is robbed of the power to perform its part of the new task.

## FRIDAY MORNING SESSION

JUNE 18, 1965

### Legislative Objectives and Proposals

MR. WATSON: Gentlemen, in this last conference I've just had with Lou Harris it was pointed out to me that certain of our guests from the Congress had not yet arrived, and there was some uncertainty as to whether we should commence to put on our program without their presence. And we voted to proceed, knowing the uncertainties of life which Senators and Congressmen meet with in ordinary day-to-day operations. So we will start our meeting.

I think that a great many of you, if not all of you, were here yesterday afternoon at that very interesting meeting which we had, and which dealt primarily with the problems attending the issuance of patents. I detected among the audience a large number of persons from 14th and E Streets who hoped to derive some benefit from the presentation, and I trust that they did. I have no doubt of it.

Today, however, we are not primarily concerned with the matter of examination of applications and the issuance of patents, but will consider possible changes in the laws of patents, trademarks and copyrights. And any such change requires a long-term effort. Ordinarily a number of years must elapse from the inception of an idea for legislation in the field of patents to bring the desired law into being.

And as I look back at the operation of the Coordinating Committee, the result of whose labors resulted in the passage of the '52 Act, the O'Mahoney hearings in which the Patent Office was thoroughly investigated, and the activities of the Representatives who were sent by the House Appropriations Committee to investigate the operation of the Patent Office, I realize that it takes years of serious effort to effect changes in the substantive law.

Now I see by reading the program that the Moderator is not expected to make any speech, which is a happy thing both for the Moderator and for you ladies and gentlemen. But I can't refrain from making one comment on yesterday afternoon's presentation when the Judge who spoke said that he had been in attendance when Chief Justice Warren had made his report to the American Law Institute. I also happened to have been in the audience at that time. And the Chief Justice said, as I interpreted his remarks, that lawyers were in sort of an embarrassing position, having represented to the Congress that if 73 additional judges were appointed, the backlog would be

taken care of and the congestion in the courts would be relieved. And he added that the backlog is now unfortunately higher than ever, and asked "What are we going to do next"? Now those are not the words of the Chief Justice: those are my words.

But I was reminded of the old problem of the backlog in the Patent Office. And when we represented some years ago that if we were given more Examiners the backlog would disappear, we got some of the Examiners needed but the backlog didn't disappear.

So it's an old, old problem. And for those of you who are concerned, I would recommend that you start reading the reports of the Commissioner of Patents beginning with the report of Commissioner Mason in 1853. (Laughter)

Large portions of that report could be removed bodily and put in the next report of Commissioner of Patents. And so we do have certain problems which are never quite solved.

Now we have a schedule of events which calls for a certain sequence of speakers. We cannot quite adhere to the printed program for a very good reason: Judge Giles Rich, who is seated at the end, on my right, whom you all know and who hardly needs any introduction to anyone, has come here despite the fact that the court of which he is a member is holding an important meeting this morning which he must attend as soon as he can.

So I am going to ask him to speak first and to tell you of the subject in which he has been interested for so long a time; and which is still not quite accepted by Congress, as I understand it. Judge Rich, who has done so much for so long a time for the patent system. (Applause)

#### PART VIII—*Invited Contributors*

## The Design Bill

GILES S. RICH

Thank you, Mr. Watson.

MR. WATSON: Judge Rich was the first patent lawyer to be appointed to the United States Court of Customs and Patent Appeals.

JUDGE RICH: And depending on whether you win or lose you can either thank or blame Robert C. Watson for that fact. It was his idea. (Applause)

And I have now been there for nine years. Sometimes I wonder

whether in the next nine years or so I might retire. And then I wonder if I did retire what I would do. I think the answer is beginning to come clear. When I retire I can devote my time to an effort to obtain the passage of a bill for the protection of ornamental designs.

Design bills are not for the fleet; they are for the patient. Since 1914 there have been 58 design bills. Right now there are three. Every two years you must relearn the numbers. And so here they are. In the Senate we now have S. 1237, and Talmadge-Hart Bill. In the House we have H.R. 450, January 4, 1965, and H.R. 3366, January 25, 1965, Ford and Flint. Those are the same names we have had on the bills at previous hearings, and I believe those bills are identical with the previous bills except in their numbers.

These bills are the direct descendants of H.R. 8873 of the 85th Congress introduced in July of 1957. And we are now in the 89th Congress. So that makes them the fourth generation. These are the great-great-grand-children of a bill which was drafted by a Coordinating Committee of which I had the honor to be Chairman from 1954 I think to date, because I have never dissolved it, and I think it still exists. It might turn out to be a useful device some day for getting the Patent Bar behind a bill when it looks as though a little extra push might get it over the fence.

I may say some things this morning—and I'm not going to talk very long—which many of you have heard before, and not long ago. But it is coming to pass that I am now talking to a different generation of patent lawyers than I was talking to when we first got going on this enterprise.

Just to remind you of the history of the most recent efforts, the efforts behind the presently existing bills in Congress: In 1954 the National Council of Patent Law Associations revived the same "Coordinating Committee," as Commissioner Watson called it, which did the major part of the writing of the 1952 Patent Act. And when we did that we all knew because of this long history of design bills running from 1914 to 1950, that the design problem was a sticky problem; and so the people who undertook having a new patent act completely written from A to Z, as a codification of sorts, decided that the design problem would simply be laid to one side. The law would be left as it was without any attempt to improve it or tinker with it or make any radical changes.

That is exactly what happened. And Section 171 of the present Patent Act is that law with very little change from what it had been before.

After the 1952 Patent Act was finished this Coordinating Committee

fell into disuse for a couple of years, and the then chairman of the sponsoring organization, the National Council of Patent Law Associations, Foorman Mueller of Chicago, revived it one Sunday afternoon, October 17, 1954, by calling me on the phone and saying "Will you be the Chairman of the Coordinating Committee now, and undertake that design project that was laid aside." Which I agreed to do.

The Committee was revived. It was basically constituted of a representative from each of the 24 or 25 local patent-law associations plus the ABA Patent Section and the APLA; to which we added, as had been done in the writing of the Patent Act, other interested groups. This time we got in some people from the field of designing, from the field of fashions; and, in fact, invited any group that was interested in the project who would say "I would like to get on this wagon and help you write a design bill."

So for quite a while we had quite a number of people, and we had many meetings in many different places. Eventually not one bill but two or three bills were drafted. Some of the drafters are right here. Pat Federico was always part of it. George Cary was part of it. His companion on the bill at the Copyright Office, Barbara Ringer, had a great deal to do with it. One of the main proponents of it in the early days was the late Arthur Fisher, Register of Copyrights. Eventually this bill was drafted. As I told you, it was first introduced in 1957 by Representative Willis, H.R. 8873.

Now what has happened to that bill so far? Rather good progress for a bill, I think. It has twice passed the Senate. There have been two Senate reports on it. In the House they have had one day of hearings, and in the Senate they have had hearings twice.<sup>1</sup>

The strange thing to all of the people working on it was that nobody ever seemed to oppose this bill. There were a lot of fights about what should be said about this, and said about that. But when it actually got into Congress and the hearings were held, almost all the people who came to testify about it favored it. And I think that is why it passed the Senate twice.

But by the time it got to the House a dormant opposition discovered that here the bill had already gone through the Senate and they were having hearings in the House and it could conceivably pass the House. Suddenly the opposition came out of the woodwork in the form of the National Retail Merchants' Association.

Now it has always been assumed that they were very largely

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<sup>1</sup> The next hearings are scheduled in the Senate for one day on July 28, 1965, before Senator Burdick (N. Dak.).

sparkplugged by R. H. Macy and Company of New York. And then it developed that not only the retail merchants and Macy's—who won't be understood—were joined by the Apparel Industries of New England. And that was and is the principal opposition. The proponents of this bill are scattered all around.

A little further history of what happened. I started this, as you realize, long before I was a judge. Arthur Fisher was Register of Copyrights. And one day he said, "You know, you and I shouldn't be promoting bills in Congress. You are a Judge and I am Register of Copyrights. There ought to be some other organization to do the promoting. We ought to get one organized."

So we called a meeting and there was then organized what is now called NCEDL, National Committee for Effective Design Legislation. It got a secretary—in fact Arthur Fisher suggested the man, then a lawyer just leaving the Copyright Office and starting a practice in New York. They were delighted to have him. This is how Alan Latman became involved in the design bill enterprise. He is still head of the NCEDL, and if you want to get in contact with him, if you want to give it a push, if you want any information, write him, call him up. Alan Latman, 200 East 42nd Street, New York. This is the nature of the promotion for this bill.

The opposition comes out whenever it seems likely that the bill will get anywhere. The difference between the promoters and the opposers is this: the promoters perhaps are represented by half a dozen Congressmen and Senators, and they keep pressure on them. But the opposition is this enormous National Retail Merchants' Association which is a trade association of the retail stores all over the United States. And the retail stores are everywhere. They are behind all of the Senators and all of the Congressmen. When the NRMA wants to oppose a bill they stimulate the usual flood of Congressional mail that comes in on the Hill, and they drop it off in sacks and distribute it all through the House and Senate. And it looks terrific, I am sure.

I'm doing a little bit of imagining here, but this is the nature of the opposition.

If you will read their published statements, the things they said at the hearings, I doubt if you could make much sense out of them. But I don't think that that is too important sometimes. This is a sort of egghead's promotion against political opposition. And I have never figured out what happens when you have that situation.

This is why I think perhaps I will still be working on it nine years from now. (Laughter)



If you want a nice review of the whole project and to read some of the answers to the NRMA's statement, picking it apart and destroying it, I think, it happens there is a young fellow now working on the Court as a law clerk who has been interested in this subject for several years. He will be the patent editor for *The George Washington Law Review* next semester. His name is Jacques Dulin, and he has written a paper which he put into a prize competition—an incentive system—a very good way to get people to work hard and do some hard thinking. It is called "Walking the Pirate Plank." He didn't win the prize in the Nathan Burkan national competition, but he got honorable mention. I understand his paper is going to be published in the near future in the August issue of *Bulletin of the Copyright Society* and also a modified version in *The George Washington Law Review* No. 1 (October 1965). I read it last night. It is very good. It gives you the whole history. It gives you the picture. It even discusses something I'm not going to take the time to do, the relationship between this proposed design protection and the recent *Sears*<sup>2</sup> and *Compco*<sup>3</sup> cases, which present some very nice problems.

I think perhaps the design bill is the answer to the *Sears* and *Compco* cases, which, remember, were decided on the basis of state unfair-competition law in the absence of any Federal protection. What would happen if you had Federal legislation, and Congress provided design protection, and protected the Stiffel pole lamp on principles of copyright by a quickly registered design?

Now to bring you up to date as of a year ago, I think the best summary is to be found in the *Annual Report of the Register of Copyrights For the Fiscal Year Ending June 30th, 1964*, on pages 6 and 7:

"Efforts to secure enactment of legislation for the protection of original ornamental designs of useful articles—" and that's the title of the bill, I think: at least that's the gist of it—"continued throughout fiscal 1964. As the year began there were four identical bills pending in Congress."—I won't give you the numbers: Flynt, Libonati and Hart-Talmadge—. "The Senate had passed an earlier version of the bill during the 87th Congress, and on December 6, 1963, it again passed the bill, following a favorable report submitted by Senator Philip A. Hart on December 4th, 1963. On December 12, 1963, the House Judiciary Committee held a one-day hearing at which the preponderance of the testimony favored the legislation. In the weeks

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<sup>2</sup> *Sears, Roebuck & Co. v. Stiffel Co.*, 140 USPQ 524 (Sup. Ct.).

<sup>3</sup> *Compco Corp. v. Day-Brite Lighting, Inc.*, 140 USPQ 528 (Sup. Ct.).

that followed the hearing, however, there were reports of strong opposition by certain retail merchandising and garment manufacturing interests, related largely to the feared impact of design protection on the wearing apparel industries. Serious attempts were made to compromise the conflicting views and to work out statutory solutions satisfactory to both sides, but no further action had been taken by the House Judiciary Committee as the year ended."

And then, of course, the bills died.

That was the report as of the end of last year. I wouldn't be at all surprised to see a report sounding very much like that one, with different names and numbers in it, for next year. But what of the future? Where do you think we are going to get with this?

I think that gradually—what shall we call it?—business morality?—is rising, and that the standard technique of knocking off the successful merchandise by piracy of designs may in the end turn out to be something which the Congress will decide it is not necessary to encourage for the benefit of the public.

Some of the principal arguments in the NRMA opposition are these: first of all they scream "monopoly." Well that's great, except that it makes no sense. The patent system is based on monopoly. The copyright system is based on a sort of monopoly: it's slightly different. What's wrong with taking the economic power of monopoly and using it as the patent system uses it, to promote better design in this country, protection of the ethical businessman against the pirate who makes no effort, spends no money, waits for something to be a success and then grabs it. This isn't even good for the retailers, but the retailers don't seem to realize that. The retailers get stocked up with unprotected fashion merchandise, and when it gets knocked off they have got to sell it at a loss.

It's going to take a while for some of these ideas to sink in. The opportunity will now arise in this next year or two for the people who know what it's all about to answer these foolish arguments of the NRMA.

I said they scream "monopoly." The other thing they do is to try to create the impression that if there were design protection of fashion wear the American woman would be dressed in sackcloth. I don't think that will stand analysis. So I think the effort will continue. You all know why it is being made.

We have two kinds of protection already for designs: the design patent law under which patents may be obtained on the ornamental design of useful objects. And we have, strangely enough, copyright, which is the principle underlying this design bill. The patent law has

defects which I think most of you are quite familiar with. It takes too long to get the patent, especially on fashion goods. They are obsolete before you get it. It costs too much. But the main obstacle is that the design law is written into the patent law and you have to get over the hurdle of Section 103 and prove the design would have been unobvious to an ordinary competent designer, which is a very hard thing to do. So it isn't a very practical law, except for certain odd classes of designs.

The trouble with the copyright law is there is too much protection. You can get 28 years and then a renewal for another 28, 56 years total protection on a design. However, the problem is: Can you get any protection? The copyright law lets in "works of art." This is a limited category. I can remember debating what this meant many times in the drafting of this bill. In the jewelry field: cuff links and a tie clasp versus a necklace. Cuff links are useful, functional. Tie clasps are functional. Necklaces? Not functional.

Jewelry, enamelware, glassware, paper, textiles, fabrics; you've seen it. Copyrights have been obtained, litigated, and sustained. It's a very limited little field with great protection. But in between what you can get out of the copyright office and design patents is a very well defined gap which is of very great commercial importance. The primary object of these design bills is to fill that gap and give some decent protection to things which don't come into the works-of-art category and which you can't practically protect by design patents.

I think this gap, just as a matter of logic and intellectual tidiness, ought to be filled so that we have a system of intellectual property law properly covering different categories of creations by patents, by design registration and by copyrights. Mr. Dulin says he is going to name this proposed new right "designright" because it is analogous to "copyright." It might catch on. So I still live in hope.

And with these words I will thank you and leave you. (Applause)

MR. WATSON: Thank you very much, Judge Rich.

I can remember when I was in the Patent Office the proposals which were made to register or protect designs along the line of the statement which the Judge has just made. And my principal concern was where the operation was to be conducted. The bills which were then introduced had no reference whatsoever to the place, the bureau, the department, which was to assume the responsibility of effecting the registration. The registration was instantaneous, and cost little. And what was to become of our design Examiners and all of the thousands of design patents that we had in our files?

So I was working toward getting that operation into the Patent

Office. I don't know whether such a provision is in any bill now or not.

Thank you very much, Judge Rich.

JUDGE RICH: Maybe George Cary will tell you that the problem was solved by putting it in the Patent Office and leaving the design-patent law and the copyright law untouched.

MR. WATSON: We have arrived at the point where Mr. Howard I. Forman will take over, and will discuss Government patent policy. That subject, to my personal knowledge, he has been working with for a long, long time. And there was a time when he and I both entertained at least one concept of identical character, and that was the creation of a Government invention-management bureau with Government-wide authority. And I don't know whether or not he has changed his views, but I certainly haven't changed mine.

The United States Government is the greatest of all "corporations" in the world with so many different areas where authority is exercised in a management sense that it seems to me to be good business to concentrate it in one person or group acting under direct Congressional mandate and with Congressional authority, which could provide the necessary degree of central control.

Now I think you all know Howard. And would you kindly take over from here, and defeat me entirely if you've changed your mind on that subject. (Applause)

## Government Patent Policy

HOWARD I. FORMAN

Thank you very much, Bob.

Distinguished Moderator, distinguished guests, and no less distinguished ladies and gentlemen of our audience:

The 175th Anniversary we are celebrating today is of the Act of 1790 which established the United States patent system. It is interesting to note that it was almost 75 years after that notable beginning, on June 3rd, 1864, to be exact, when a law was enacted which authorized the Government to take title to patents as an incident to certain infringement suits.

Perhaps that date could be considered the beginning of all the ruckus we hear today about Government patent policy; in which case it is 100 years old and still not settled.

Actually, I prefer to consider the Act of 1883 as the starting point, for it was in that year that the Congress decided to authorize the

Executive Branch to obtain patents on inventions of its employees, without charging the applicants any fee for filing the application, in return for a non-exclusive royalty-free license to the United States. In that event, the abortive attempts to establish a uniform Federal patent policy only go back a little over 80 years.

During most of that time each Government agency established its own practices and procedures, some with and some without any stated policy. Although many bills or resolutions have been introduced in Congress seeking to establish a uniform patent policy for all Government departments and agencies, none has been passed to date.

I will not attempt to explain the reasons why so many bills have been introduced and why only a few were passed which established patent policies for a few agencies, and why we have been between 80 and 100 years in the process of arriving at a uniform Government patent policy. At least 2000 printed pages of such explanations have been published to try to tell this story, and that's just counting the three-volume, 1000-page report of the United States Attorney-General which appeared in 1947; my own book which I published in 1957; and seven law-review articles since then which total altogether 600 pages; the 100 pages of the dozen or so monographs published by the Patent Subcommittee of the Senate in the past 10 years; the more than 200 pages which have been devoted to the subject by the journal of The Patent, Trademark and Copyright Research Institute of The George Washington University, and some 100 pages of symposia in the *Federal Bar Journal*.

Obviously I just don't have the time to discuss the facts represented by all that material this morning. In view of the relatively short time in which I have to cover so much ground, I would like to get right down to cases and review the situation as it exists today. Nothing could be more timely for, at this very moment, Congress appears much closer than it ever has been to the brink of passing some sort of uniform Government patent-policy legislation. I would like to try to boil down the issues for you and consider some of the suggested solutions, and then perhaps make a point or two of my own.

Our Government, as has been widely publicized, is currently spending at the rate of \$15 billion per year on research and development. As an incidence of this work thousands of inventions are expected to be made; and, in fact, are being made. Some of these inventions may have great potential of various kinds. Apart from their being useful in solving actual problems which the Government has in connection with its conduct of the nation's defenses, development of our agriculture, and the improvement of our general health and welfare,

the inventions may be important to the public in many other ways.

With the aid of these inventions the people may reap a whole harvest of new and better things with which to improve their way of life if some of those inventions are developed for commercial utilization. New plants may be built, new industries may spring up, employment may be given to countless thousands, and many more derivative benefits may result from these new developments. Assuming that this will be done by private interests rather than by the Government, entrepreneurs who invest in the development of these new products, who build the plants, hire and manage the people, and purchase the equipment for them to use, will also stand a good chance of profiting on their investment if their efforts prove successful.

There is one slight "catch" to this, however. Inventions are peculiar things in that their very newness almost always connotes a sense of incompleteness or imperfection, like diamonds in the rough. Rarely are new inventions so simple and so complete that, with very little money or effort, they can be rapidly ready for the market, and quickly meet with commercial acceptance. More often than not, the inventions will have to undergo extensive developmental or product engineering, and this post-inventive developmental phase may take tens and hundreds of thousands of dollars perhaps even many millions of dollars.

This might not be a bothersome problem if each such investment carried with it some assurance of success. But the developments frequently may not turn out as expected; the products may not "catch on" with the public, etc. The expenditures in such cases may be so prohibitive as to discourage many people from such undertakings unless there is some way of guaranteeing a reasonable chance of success. At the very least, the guarantee should provide that when the new products or processes are fully protected, the one who took all the risk would have a period of time within which to try and recoup his investment, or at least a reasonable share of it, before having to face the merciless onslaught of open-market competition from imitators who, having made no such expenditures for research and development, generally can sell at much lower prices.

As a rule, the only way such assurances can be given is under the operation of our patent system. If the inventions are patentable, and if a prospective developer can be given the right to exclude others from practicing the invention for a limited period of time, the risks can be balanced against the thus enhanced prospects of investment recoupment, and the would-be entrepreneur can be more readily convinced to apply his capital, his skills, and his energies to such a development.

Now, if we are interested in having as many of such inventions developed for commercial utilization as we possibly can, common sense would seem to suggest that in those cases where the grant of such exclusive rights is a prerequisite to inducing entrepreneurs to tackle the developments, we should try our best to make the grants available to them. If this were to be considered in the public interest there would, of course, still be certain other problems to consider. One is who should own the patent rights at the outset: the Government? the Government contractors? the Government employees?

If it is the Government, the next problem is to determine the basis on which the Government should grant rights under those patents to a potential developer of the inventions in question. Such a determination obviously will cause many political problems. Allegations of favoritism will be among the milder forms of criticism, and more such unpleasanties will be bound to occur.

On the other hand, if it is decided to leave title with the Government's employees or contractors, other questions must arise. Mainly they will concern the equities involved in the Government's forfeiture of claims to potentially valuable rights which, at first blush, would appear to belong to the Government (and, hence, to the taxpayers) since the inventions arose out of research and development which were, at least in part, paid for out of public funds.

Until very recently, in considering the complex problems involved in determining a satisfactory Government patent policy, few people gave much thought to the inventions themselves. The inventions were just pawns in a political chess game. Almost no one seemed to care whether it was important, *in the public interest*, that as many as possible of the inventions in question should be developed for commercial utilization. Certain minority, but outspoken, factions in both the Executive and Legislative branches of the Government have demanded that it should take title to the invention on the theory that Federal funds paid for the research from which the inventions were spawned, and the Government therefore should be entitled to receive all the fruits thereof, including full rights to all the inventions. In brief, they have said the taxpayers should not be made to pay twice for the same inventions, once in the form of public funds for research and development contracts or salaries, and again in the form of royalties when the inventions are sold or licensed to a commercial operator.

What would happen to the inventions themselves after the Government took title? Several alternatives have been suggested. One is that the invention should be placed in the public domain by publica-

tion and dedication. Another is that the Government would take out patents on the inventions and then license anyone on a non-exclusive basis with or without a relatively modest royalty.

Only very recently has it been suggested that in some select cases the Government might find it desirable to license on an exclusive basis, again with or without the payment of a royalty, but with the definite requirement that the licensee give evidence that it has brought the invention to the point of commercial acceptance in a stipulated period of time, or else forfeit the license.

In some special few instances it has been proposed that the Government might undertake to manufacture important inventions itself, rather than chance their going undeveloped because private interests did not find them sufficiently attractive or just too hazardous to tackle on their own.

Note that in all of these suggestions a principal objective is the *utilization* of the inventions. They differ from each other only in their methods of accomplishment. In effect, under one extreme the inventions would be completely outside the patent system, with no inducement to manufacturers in the form of advantages inherent in the right to operate on an exclusive basis for a limited period of time. At the other extreme the inventions would be subjected to the protection afforded by the patent system, and the promoters of the inventions would have the help of a head start over their competitors.

Now, I do not mean to suggest that only inventions which are covered by patents and which are exclusively licensed will attract manufacturers and developers. There are, of course, numerous instances where the potential market is so enormous, the required investment for development relatively so small, and the risks of failure so limited, that many entrepreneurs will be attracted to practice inventions without the benefit of any exclusive rights. But the chances obviously are much greater that, if given some head start or lead time, as can be done by exclusive patent rights, in many situations inventions will be manufactured which otherwise might remain completely unattractive to would-be manufacturers.

I don't have to illustrate this point for you by examples. Just ask yourselves the question: Wouldn't you be more inclined to invest \$10,000, \$100,000, a million dollars or more, if you felt that you had a fair chance to fight off imitators who are intent on pricing you right out of the market by copying your invention as soon as you introduce it into commerce? Wouldn't you feel it is only reasonable to have some protection against such imitators until you had gotten back some of your investment and perhaps had "sold" the public on the merits



of your invention before some cheap imitators might sour the consumer by putting out copies of it that won't work, or won't last very long?

Yesterday, Dr. Hershey told how the Du Pont company felt about the importance of having a sound patent position before investing a million dollars, and sometimes 50 or 60 million dollars, in a new development. If a company of Du Pont's resources and pre-eminence in its field finds it must rely on patents, it should be obvious that a small concern, or an independent inventor, surely needs that protection even more.

Some years ago the late Circuit Court Judge Jerome Frank, in commenting upon the then current abuses of the American patent system and the need for legislative reform to eliminate the opportunity for misusing patents, made a statement which has been frequently quoted: ". . . but we must be careful not to throw out the baby with the bath water."

Likening the patent system, or patents, to a baby calls to mind the biblical story of King Solomon. You may remember this. He was obliged to make a decision when two wailing women were brought before him, both of them claiming to be the mother of an infant child. You'll recall he declared that, since he found it impossible to decide to whom the child rightfully belonged, he would cut the child in two and give each one half. One of the women said that would be satisfactory to her, but the other said "Oh, no, my King. Give her the child." Solomon then realized that the latter was the real mother, for she preferred to give up the child rather than permit it to be slain. And so he awarded the child to her. In a similar way, it seems to me, the controversy over who should own rights to inventions and patents arising out of Government-supported research and development makes one wonder if we don't need a modern-day Solomon to pull the same sort of stunt all over again.

Too many people in Government circles are concerning themselves with the possibility of "give-aways" of patent rights to Government contractors. Believing that they are protecting the public interest they are claiming that the public is the true "mother," or owner of the child—the child in this case being the patent rights arising out of Government contracts—and they want to cut up the child and hand over parts of it to as many people who want to claim a share. How much better to help the child grow to maturity, and to let the real "mother" the public, share in the benefits of such fully developed children, who can then make contributions of their own to the benefit of all mankind.

According to the National Science Foundation, the Government now is putting up approximately 70 percent of all funds annually expended for research and development in this country. For the sake of discussion, let us assume that the proportion of dollars spent for research can be roughly correlated with the number of patentable inventions which arise out of research.

Let us further assume, in order to keep the numbers small enough for easy contemplation, that every year the total number of patentable inventions made in this country is a flat 1000. This would mean that each year approximately 700 out of every 1000 patentable inventions would be subject to whatever decisions are made with regard to the Government's patent policy.

You can surely see that the way we handle these inventions will become mighty important to the progress and future of this country when you consider that the products of the inventive genius of this country are not unlimited. They are national assets which must be conserved and nurtured, just like our timber reserves and our farm lands. We cannot afford to let them become decayed or eroded through lack of use. We must try and utilize as many of them as we possibly can.

Those of you who have been intimately involved, or for other reasons have followed the great debates over Government patent policy in the past decade, probably are wondering why I have not as yet said a word about the relative merits of the propositions that the Government should, or should not, take title to the inventions in question.

Quite frankly, I have left that issue for the last, because it is the more complex one to deal with, and the one which is far more difficult to resolve to everyone's satisfaction. It is the issue that invariably brings up heated arguments, generally charged with emotionalism and not quite as much lucidity. What's more, in my humble judgment, it is the least important factor to consider from the public-interest point of view. If we could all agree that, from the point of view of the nation's welfare, it is more important to figure out how to maximize the utilization of the inventions than it is to worry about who should own the rights to them, I believe we would agree much more readily and universally as to who should own the title to the inventions, and whether any conditions should be attached to such ownership.

Now, the sophisticates among you in this field of Government patent policy know the arguments which have been advanced by the Government's contractors as to why they should be allowed to keep title. The main one is that the contractors usually sought by the

Government are those who have a good deal of background know-how in a given area of technology. They probably have had years of experience and have plants, facilities, personnel, all of which were assembled with private investment. As a rule, they could be expected to solve the Government's particular research problems with the best possible solutions in the shortest period of time, and therefore with the least possible cost to the Government. Inventions which may arise out of their contractual operations can be expected to be the product of their background know-how, as well as of any advance in the art or foreground developments which they may chance to make in the course of working on the Government's assigned problems.

It will generally be impossible to determine how much of the background, and how much of the foreground, developmental efforts have gone into the making of the inventions. Whether considered in terms of cash, personnel, time, facilities, or know-how, if the amount of investment by either the Government or the contractor is to be the basis for determining the respective equities in the invention, the baby-dividing decision that King Solomon had to make becomes a simple one by comparison. Obviously, every contract situation will be different from every other one, and the equities may range from zero percent investment of background developments by the contractor, in some instances, to perhaps 90 percent or more with others.

Apart from the obvious problems inherent in attempting to balance such nebulous equities, there are numerous other problems to be considered which I have time only to mention briefly. For example, the incentive of the contractors to report all inventions willingly and fully is bound to be less when the contractor does not keep title to them. If the Government takes title there still is the job of evaluating the inventions and deciding whether or not to license them, who to license, and how to license, etc. Finding extremely hard-to-get patent and other technical personnel to review the contract records to make certain all inventions are reported, to evaluate them, to prepare and prosecute the applications covering them; these would be problems of immense magnitude.

The cost of doing all of this is a factor which should be given serious consideration. It has been suggested that to leave the rights to inventions with the contractors is to give away benefits that belong to all the taxpayers. No one will ever be able to place a dollar value on that alleged give-away, because no one can ever tell what the intrinsic value of such inventions are when they have not yet been developed for the marketplace, and the cost of such development and the ultimate price which the consumer is willing to pay for them

have yet to be determined. But, on the other hand, one can estimate with some reasonable accuracy just how much the taxpayer will pay in actual cash if the Government proceeds to take title to all inventions arising out of its contracts.

I have been advised that some Government agencies calculate their present average cost of evaluating, filing and prosecuting a patent application to be about \$2000. This, they say, is a direct cost which does not include overhead, but is presumed to cover such functions as liaison between the patent advisor and the inventor, the follow-up of the contracts to obtain invention reports, searches in the Patent Office, drafting of drawings, preparation and prosecution of the application.

In 1964 there were 11,000 inventions made by Government contractors and employees, according to the Patent Advisory Panel of the Federal Council for Science and Technology. At \$2000 per case, this would amount to some \$22 million annually. If the promotion of these inventions to maximize their utilization is undertaken, the cost will increase by at least that same amount.

In 1964 the National Aeronautics and Space Administration devoted about \$3.5 million to promote some 1500 inventions which they had on their docket available for public use. At that rate, promotion of the Government-wide total of patents would run to \$22 million also. Thus, the total bill under the current practices of most Government agencies, according to which title is taken only in a relatively small percentage of cases, would be over \$44 million.

If the legislation now pending in Congress should cause a sharp increase in the number of cases to which title is taken by the Government, probably amounting to many more thousands of inventions, the taxpayer will be paying on the order of perhaps \$100 million or more each year for these programs. Compared with such real, measurable expenditures, the so-called "give-aways" of nebulous patent rights might turn out to be so-called "chicken feed" by comparison.

In a statement which I submitted to the Senate Patent Subcommittee two weeks ago, I suggested that if any bill is to be enacted which plans to take title to many inventions and patents, as has been proposed, it would be desirable to have that law require an annual report to be made to the Congress of each and every cost of administering that program. Then, in years to come, the Congress and the public can have some factual data on which to decide whether to continue or terminate such a program.

Now for some final and concrete observations.

After a decade or so in which the whole matter has been gathering

momentum in the Congress, the issue of a Government-wide, uniform patent policy appears finally to have reached the decision-making point. Three bills are in the 89th Congress at the present time, and they are the focal points of this attention. Two of them are so close together in principle—namely Senator Saltonstall's S.789 and Senator McClellan's S.1809—that they may be considered as representing the same general approach to the problem. The other one, S.1899, introduced by Senator Long of Louisiana, represents quite a different approach.

The McClellan and Saltonstall bills rather closely parallel the *Memo and Statement on Government Patent Policy* which the late President John F. Kennedy issued on October 10th, 1963. That directive, incidentally, currently is being followed by all Government departments and agencies which are not by statute bound to follow some other type of policy.

These two bills and the Executive Branch directive, by the way, seem to be winning support and endorsement from most of the industrial and Patent Bar groups who testified at the Senate Patent Subcommittee hearings this month. In essence, all three tend to leave title with the Government contractors except in certain specified situations: for example, if the field of research is a new one to the contractor, and the Government has made, or is making substantially all the financial investment involved; or where the research is in the public health or welfare areas; or where the contractor is to develop or improve things intended for the use by the general public; or where the contractor is to operate a Government-owned facility. Provisions are made for compelling the contractors who are permitted to retain title to bring the inventions to the point of practical application. Failure to do so may result in the voiding of rights given to the contractors or their being obliged to grant licenses to others to practice the inventions.

Thus, by either compulsory working or compulsory licensing provisions the present Kennedy directive and the proposed McClellan and Saltonstall bills are aimed at promoting *utilization* of the inventions to which the Government does not claim title. As to those inventions whose title is claimed by the Government, either exclusive or non-exclusive licenses may be granted under certain specified circumstances.

Now the Kennedy, McClellan and Saltonstall approaches to the problem of settlement of the Government patent policy controversy are as close to being in the *true* public interest as any bill or regulation can be, and yet stand a reasonable chance of being enacted into law

in the present political climate. Their only drawback is that, in attempting to resolve the so-called equities between the Government and the contractor, instead of providing for Solomons they are establishing Shylocks.

In those cases where the Government's procurement officers are going to have to determine when to take title and when not, they will be plagued with the awful responsibility of exacting just one pound of patent "flesh," no more and no less. Of course, if a contractor feels he has been made to bleed there are provisions for administrative or judicial review, and this might solve such problems in the best Shakespearean traditions.

The Long Bill is essentially a title in the Government approach, with practically no exceptions. Senator Long, unfortunately, has been completely sold on the notion that leaving any patent rights with contractors is sheer folly. For years he could only see them getting richer and bigger and stronger as they are permitted to accumulate patent rights on inventions arising out of Government contracts, and he decried the fact that this tends to make them more and more monopolistic. Only recently has he given consideration to the utilization of inventions which the Government would acquire by his current legislative proposal. And provision is made in his current bill for licensing them, with or without royalties, under such terms as would be established by the administrator of an agency newly created for the purpose.

In the long run, it is submitted, this type of legislation will not be in the true public interest for it will do far less to promote the utilization of inventions than will the McClellan, Saltonstall and Kennedy approaches that encourage the original inventors or assignee—contractors to develop the inventions which their expertise helped to originate.

Although I do not believe that Senator Long's approach is truly in the public interest, I do believe that he has done this nation a great service by carrying on a relentless and effective campaign to enact legislation which will embody his concepts of a uniform Government patent policy. Without his efforts there undoubtedly would not have been created the issues which spurred President Kennedy to issue his directive. Senator Long's piecemeal legislative efforts, by which he has succeeded in tacking on Government patent rights, title-taking amendments to several bills that have become law in the past few years, undoubtedly will prod the Senate into acting on whatever bill on the subject of a Government-wide uniform patent

policy that Senator McClellan's Senate Subcommittee on Patents and its parent Judiciary Committee will report to the full Senate.

At the same time, credit must be given to Senator McClellan for his painstaking efforts in resisting the hurried and harried piecemeal legislative approach, and his patient sifting of testimony and evidence in the quest of an acceptable Government-wide law. And in this effort, of course, he has been aided by the considered interest and support of a number of members of his subcommittee. Only two weeks ago, incidentally, Senator McClellan successfully led a battle on the Senate floor to prevent adoption of Senator Long's amendment in connection with a vital NASA appropriation bill. In the course of that debate, by the way, several Senators vowed to do their utmost to promote the passage of a uniform Federal patent policy bill this year.

Now my one lament at the moment is that all the legislative proposals which purport to establish a uniform patent policy for the Government have omitted any reference to patent rights on inventions made by Government employees. They are currently being administered by the Patent Office pursuant to an executive order, in a more or less secretive manner, and apparently will continue to be so unless Congress does something about them too.

If maximizing utilization of inventions arising out of Government-sponsored research is to be the objective of any legislation in the interest of giving the public the advantages of as many as possible of those inventions developed under the inducement of the benefits of the American patent system, shouldn't this also apply to inventions of Government employees? Certainly a truly uniform national policy regarding rights to all inventions arising out of Government-subsidized research will not be achieved until the problem of those inventions is also disposed of by statute. Those inventions should not be treated like unwanted orphans. They are just as much a part of our national assets as inventions made by Government contractors.

It must be apparent that this whole area of Government patent policy is a difficult matter. It is confusing to people who cannot consider it from a broad philosophical outlook such as I have outlined for you this morning. So in concluding I will cite one instance of the confusion that arises when almost any aspect of this subject is discussed.

On April 8th I was privileged to serve as moderator of the symposium which opened the 175th Anniversary of the American Patent System at the Sheraton-Park here in Washington. One of the three distinguished persons who spoke that morning was an internationally known labor leader whom I greatly admire and respect for his tre-

mendous achievements in many fields of human relations and public welfare. In discussing our patent system he pointed to many of its faults which prevent inventors as a whole from obtaining greater rewards for the products of their "blood, sweat and tears."

He had my complete sympathy there.

But then he went on to endorse Senator Long's view that in the field of Government contracts for research and development, inventions and patents obtained at public expense are being given away with little regard for the social and economic consequences. His recommendation was that all patents developed at public expense should be put in the public domain. What he failed to appreciate, of course, was that if this were done there would then be no way of getting for the inventors a share of the profits or other proceeds which he was advocating that they should have.

In other words, he was suggesting that we should kill the goose that lays the very golden eggs which he wanted to have shared.

Or was he in favor of cutting up the child because he was unhappy with the manner in which its "mother" was being determined?

Shades of King Solomon!—or, shall I say, Senator McClellan?

(Applause)

MR. WATSON: Thank you very, very much, Howard, for the most thoughtful dissertation. It takes me back a long time.

In World War I, I was Army Inspector of Ordnance at a cost-plus plant making guns. And two inventions were made. And they were obviously Government-owned. But I had no authority as contracting officer to pay for the patent applications. And that started a chain of events which took about six months to resolve. And in the meanwhile the inventions disappeared and became the property of private industry. And later on, one patent suit was brought in the Court of Claims.

Yesterday I was in the hearing room of a Subcommittee of the Senate Committee on Appropriations, listening to pleas for research funds to be used by the Veterans Administration for this purpose and that purpose, research. One alarming exhibit was displayed which interested the chairman, who was rather elderly, and myself; and that was a chart showing the life expectancy of people. And we didn't like it too much. (Laughter)

We will next hear from a copyright expert, Mr. George D. Cary, Deputy Register of Copyrights.

The copyright people have their problems. Some of the patent fraternity can't quite understand them. They haven't any backlog. They haven't any problem of computer searches. And they haven't



got any problems that we have in the Patent Office. But they nevertheless seem to have a lot of problems. And I think that we will hear of some of those problems. (Applause)

## Copyright Revision

GEORGE D. CARY

Thank you, Mr. Commissioner.

Ladies and Gentlemen:

I have sometimes been asked whether I get a little nervous when I look out into an audience and see people looking at their watches rather frequently. And my answer is: No, not until you start shaking them. (Laughter)

So I hope I can finish this before such an untoward event occurs today.

As the Commissioner has told you, we do have problems. Right now our biggest problem is entitled "H.R. 4347." For four weeks now Chairman Kastenmaier has been listening to pros and cons and in-betweens of the provisions of this bill. And I am afraid he is not through yet. Indications are that it is going to be a long, hot summer.

But I thought maybe the best thing to do here today to give you an indication of what this bill contains would be to note that the American Patent Law Association at its spring meeting in Houston a few months ago passed a resolution approving 11 specific principles upon which a copyright-revision bill should be based.

In the same resolution it stated three principles which the Association would oppose. Since all of these principles go to the heart of this bill it seemed to be a good idea to make a comparison between the principles as stated in the resolution and the provisions of the bill, so that those of you who are unfamiliar with both the resolution and the bill may grasp the general principles of what is in the bill, and also some indication of the views of the Patent Bar.

I will discuss these in the order in which they are mentioned in the resolution. The first principle which the resolution approved is the single Federal system of copyright.

Well, the bill under Section 301 does establish a single Federal system of statutory protection for all works, whether published or unpublished. Common law would continue to protect works up to the time they are fixed in a tangible form. But thereafter they would be subject to exclusive Federal protection under the statute, even

though they are never published or registered. So as respects the first principle there seems to be pretty complete agreement between the resolution and the bill.

The second principle approves the philosophy that there should be a basic term consisting of the life of the author plus 50 years after his death, with an extension of subsisting copyrights. For works made for hire the term should be 75 years from publication.

In Section 302 of the bill it so happens that there is stated a term of life plus 50 years, which brings it into line with the resolution. For works made for hire, the bill provides a term generally of 75 years from publication, with a maximum limit of a 100 years from creation of the work. The duration of subsisting copyrights would be extended from the present 56-year term to a total of 75 years. So, as with the first principle, there seems to be agreement.

The third principle of the resolution is that there should be a modified statutory license for the making and distribution of phono records of musical works. The bill retains the present compulsory license for the making and distribution of phonograph records, but it would modify or clarify a number of the statutory requirements. In particular, it would raise the present statutory royalty ceiling for each composition from a flat rate of two cents to a rate of three cents per record, or one minute of playing time, whichever is larger.

Instead of the special limits on liability under the present law the bill provides that the failure to obtain either a compulsory or a negotiated license makes the user fully liable as an infringer, and the same result would follow from default of payments under a compulsory license. So as I read it we have agreement with this provision also.

The fourth principle calls for a modified form of reversion after 35 years, and permitting a continued use of derivative works made during the 35-year period. Under the present law there is a renewal copyright which, after the first term of 28 years, reverts in certain circumstances to the author or to certain specified beneficiaries. The bill drops the renewal device because of the shifting-over to the life-plus-50 term. But it permits the author, or his widow and children, to terminate any grant he himself has made of his right after a 35 year period. In some particular instances it may go up to 40. The termination would not be automatic but could be effected by serving in advance a written notice on the grantee within a specified time limit. Grantees would be given the equivalent of the right of first refusal, and those grantees who had made derivative works during the 35-year period could continue to use them in any event.

So I think there is pretty general agreement between this provision of the bill and the resolution also.

The fifth principle of the resolution is that there should be protection of sound recordings against unauthorized dubbing. Section 112 of the bill grants protection to sound recordings against unauthorized dubbing—that is, the duplication of the actual sound fixed in the recording. “Dubbing” is a term used in the record industry to connote a situation where a person will take a phonograph record that is on the market, perhaps as a big hit; they will run a tape of it, make a master from that, and run pressings from this master, and then sell these to dealers at a cost considerably less than the original record. This is termed “dubbing” or “record piracy.” The provision in the bill would protect against this sort of activity.

The sixth principle of the resolution is that there should be recognition of a doctrine of fair use. Well, the bill specifically recognizes for the first time a doctrine of fair use.

The seventh principle of the resolution is that there should be elimination of the juke-box exemption. Now the bill has in it a provision which is a word-for-word repetition of a bill to eliminate the juke-box exemption which the House Judiciary Committee approved in 1963. So, once more, I think you can say there has been agreement with the resolution.

The eighth principle in the resolution is that there should be a relaxation of formalities as to the copyright notice. The bill provides for substantially the same form of copyright notice as that required under the present law, but the location of the notice on a given work is not as rigidly specified as in the present law. The bill merely indicates that it should be affixed to the copies in such manner and location as to give reasonable notice of the claim of copyright. So you can see there is not going to be the difficulty of interpreting whether or not an individual may lose his copyright under certain circumstances.

If there is an omission of notice from a relatively small number of the publicly distributed copies this in itself would not invalidate the copyright if registration is made within a five-year period after the omission, and if there is a reasonable effort made to add the notice after its omission is discovered.

There are also other relaxations of the rigid requirements of the present law but for sake of brevity I will skip over them, but in general I think we can say that here, too, the bill is in agreement with the resolution.

The ninth principle listed under the resolution is that there should

be a divisibility of copyrights. Like the present law the bill would make the copyrights transferrable by any means of conveyance or by operation of law. In addition, Section 201 of the bill attempts to solve the problems that have arisen under the present law because of the theory that a copyright is indivisible, thus, that a transfer of less than all of the rights under the copyright is a license rather than an assignment.

The bill specifically provides in this section that any of the exclusive rights comprising a copyright including any subdivision of the rights may be transferred and owned separately, so I think here there is also an agreement with the resolution.

The tenth principle listed in the resolution is that there should be provision for a judicial review of a determination by the copyright office. Now I am not clear as to what this exactly means. I assume what they are referring to is that the bill itself should contain such a provision for judicial review. If that is the intent of the resolution, then this is the first one of the principles with which the bill is not quite exactly in agreement but I think for all practical purposes, as I shall try to illustrate, it may well be.

I assume that for all practical purposes again what is involved here really is a situation in which the applicant finds that his application for registration and his claim for copyright has been rejected by the Office. Obviously, if the application is registered, he would probably have no complaint but if it is rejected, then he may find himself out in the cold, so to speak. Well, first of all, statistically, rejected applications amount to a little less than 21½ percent of all applications that are received and of those 21½ percent, perhaps pretty close to half of that are rejected simply because there is no notice on them as the law requires, so there is no real argument over that. If he publishes it without notice, there is nothing anybody can do and we have to turn him down.

The controversy arises in the area where the rejection is made because of the Register's belief that this is not a copyrightable work and it is in this limited area where the necessity for judicial review perhaps arises. However, I don't think this presents any real problem because there is a system for judicial review of this type of problem.

You simply go to court, file an action in the nature of mandamus against the Register to compel him to make registration. This has been used since 1897 and it is still used. As a matter of fact, we have had two cases this year, one of which was fortunately dismissed and the second one of which is presently pending. So as a practical matter, I would say that there is a method of obtaining judicial review of

this type of action so at least there is a partial agreement I would believe with this particular principle of the resolution.

The last of the principles which the resolution favors is that there should be protection of foreign works, both published and unpublished, only on the basis of a treaty or a proclamation. There is no problem here with respect to published works because the provisions of Section 104 of the bill, just like the present law, spell out the necessity for a Presidential proclamation or a treaty as a condition precedent to the protection of foreign-published works.

The area of difference between the resolution and the bill lies in the matter of unpublished works. Under the common law at present, protection is granted to unpublished works without regard to the nationality or the domicile of the author. The bill in this regard merely codifies the present state of the common law.

Now there have been made various suggestions for establishing the same requirements of national origin for unpublished as for published works. However, it seems to us that to set up citizenship and domicile criteria for unpublished works would not only narrow the present scope of the common-law protection without any compelling reason for doing so, but it would also present many technical difficulties. Citizenship and domicile are, of course, things that can change and there is no point of time in which it would be practical to fix the status of unpublished works. I could go into this more at length but again for the sake of brevity I am not.

So out of the 11 principles which the APLA resolution has favored, I think that we can say clearly that nine of those principles are found in the bill. As to the other two, there is only a partial disagreement.

Now what about the three principles that the resolution opposes? The first one is that it opposes Government ownership of copyright. Well, in a limited way, the bill does provide for Government ownership of copyright, just as the present law may be construed to do. On the other hand, Section 105 of the bill makes it clear that copyright cannot subsist in any work of the United States Government. This is in the present law, I might add, such a work being, of course, in the public domain and freely available to all.

The limited matter of Government ownership that I have referred to arises only when an individual or a corporation holding a valid copyright assigns or bequeaths it to the Government. For example, in the early days of World War II, Irving Berlin wrote a song—many of you may remember it—"Any Bonds Today?" Kate Smith used to sing it on the radio many, many times. This was a patriotic contribution on his part to help out the sale of War Bonds, and subsequently

Irving Berlin assigned this copyright to the Secretary of the Treasury, which official now holds that copyright.

This type of Government ownership is relatively insignificant in amount and seemingly is innocuous in nature so in this respect, the bill is not in disagreement with this particular part of the resolution. However, I should point out a related matter of possible interest in view of the remarks of the former speaker.

Under the bill, there would be nothing to prohibit an independent contractor or grantee from seeking to copyright works prepared by him under Government contracts or grants so long as the contract or grant permits it. The bill thus preserves the basic right of the private authors to secure copyright in these situations.

Now the cases in which it is considered desirable from a policy viewpoint to deny or limit copyright protection can be dealt with by agency regulations or contract provisions, for example.

The second principle which the resolution opposes is any limitation of copyright by way of a manufacturing clause. For those of you who are not familiar with a manufacturing clause in the copyright law, briefly it is this:

Since 1891, there has been a provision in the law which was put there as a sort of a protective tariff for the printing unions which would require, in effect, a book in the English language by an American author to be fully manufactured in the United States before it could receive complete copyright protection. There have been modifications of this, but it is something that has been protested against over the years by authors as being not in keeping with the requirements of any copyright law. The United States, as far as I'm aware, is the only country that has such a provision and at a meeting of the International Publishers Conference which was held here in Washington a few weeks ago, there were several blasts at this country by these foreign publishers because of this particular provision.

Well, the Copyright Office went on record some years ago as being in favor of the complete elimination of this provision. However, for a number of reasons we have changed our minds to the extent that we have now come to the conclusion that maybe it might be a little difficult under other treaty arrangements, and I am speaking here particularly of GATT, to try to eliminate this entirely so what we have put in the bill is a watering-down of this particular provision.

For example, it eliminates a provision which now causes you to lose your copyright if you violate it. The author would not lose his copyright if he went abroad to have his work manufactured; he would not be able to recover against an infringer, but at least he

doesn't lose his copyright. The point is that he would still have his right available if he wanted to sell it to a motion picture company for motion picture or television rights and so forth.

So as respects this particular provision of the APLA Resolution if the resolution refers only to limitation of copyright by means of the manufacturing clause, I think there is fair agreement because the provision of the bill does not limit the copyright as the present law does, but it is not completely in agreement, I must admit.

The third and last of the principles which the resolution opposes is the only one, I think, where there is rather substantial disagreement between the bill and the resolution. The resolution opposes any exemption from copyright protection which permits free use of copyrighted material except under the doctrine of fair use.

This particular section of the bill has been one of the hotly contested areas in the hearings so far, but basically what the position of the Office has been is that the author's rights should be given to him in an affirmative manner and that any limitations on those rights should be as restricted as possible, only in keeping with what is in the public interest.

Now the bill, in Section 109, sets forth seven limitations on this right, other than fair use. Four of these limitations are, in effect, in substance in the present law so they are really nothing but a restatement of the present law. The other three are new. Let me briefly comment upon each of them:

The first is what we call the educational exemption. This permits teachers in classrooms to utilize copyrighted material without any restriction.

The second one is the educational television. Now to a certain extent, educational television rights in the bill are restricted over what they now have under the present law. The present law affords to educational television a free ride on any copyrighted material. The bill cuts this down to a certain extent.

For example, channel 26 here in Washington broadcasts during the daytime educational programs to the area schools. These are financed by the schools and it is intended for the school activities. Of course, if you have a UHF receiver you can tune it in and you can participate in this if you wish.

Well, the bill continues to make free from copyright restriction this type of educational activity. However, the change comes with regard to what I would call the nighttime portion of their programming. The nighttime portion of their programming, while they claim it is educational in one sense, so how do we define "education"?

But at any rate, a great many of the programs that appear on the nighttime adult-type home-situations is the same type of thing you will find from time to time on the sustaining programs of the commercial networks.

So the bill would require educational television to get permission or to make royalty payments for the use of copyrighted material in this situation, as I would say, the nighttime situation.

The third limitation, which again is in the present law, exempts certain copyright material used primarily in churches.

The fourth limitation is the case where there is a performance—not a broadcast, but a performance, say, by the Army band on the Capitol steps, where there is no admission charge—there is no intention of making any money out of it. This is just a public performance. This type of performance would continue to be free of copyright restrictions.

Now the three areas where there is a difference between the present law and the bill relate first to translators or boosters in the community-antenna television areas. People way out in rural areas frequently have to put up an antenna on the top of the mountains so that they can receive television programs from a distant signal. They frequently have to translate the signals from one channel to another or they may have to use a booster to amplify it. These in many instances are cooperative efforts that are used and the bill recognizes that this type of activity should not have to bear any copyright liability.

So this particular—this non-profit, cooperative type of boosters and translator activity is free of copyright restrictions but—and this is one of the big “buts”—it does not free community-antenna television *per se* from liability. If any of you are interested in this point, you come around next Thursday at the hearings and you will hear the community-antenna side of the picture.

The second particular change from the present law relates to the relaying of a broadcast by a hotel to the private rooms of the hotel. They may receive a program and then they will pipe it into the various rooms and if you go in your hotel room and turn a switch, you can get three or four local programs. This type of activity under the bill is free of any copyright restrictions, as is the last one, which will relate to the situation where a local bootblack stand has a radio sitting up on the shelf and he tunes in the station for his own entertainment and the entertainment of any of the customers who may be sitting there getting their shoes shined to a glossy luster.

In a sense, this is a public performance and it could be urged as a public performance for profit under the cases so today this boot-



black does have a legal liability hanging over his head although as a matter of active fact, the Performing Rights organizations don't generally go around licensing bootblack stands. (Laughter)

But in order to make this clear, the bill does remove that from copyright restriction.

So I think all in all, when you look at the entire picture of the principles set forth in the APLA resolution, I come out with a pretty good endorsement by the APLA of the bill and I would like publically here to thank the American Patent Law Association for what I consider to be its confidence in the principles of this bill.

The hearings are presently in mid-stream and as I indicated earlier, there may be a long, hot summer ahead but a good start has been made and we hopefully await the ultimate outcome.

Thank you. (Applause)

MR. WATSON: Thank you very much, Mr. Cary.

In the event that only 21½ percent rejections was the rule in the Patent Office we would be delighted also.

It has been quite a while since we gathered and I suggest that we have about a five-minute break.

(Recess)

MR. WATSON: The next speaker is Beverly W. Pattishall of the firm of Woodson, Pattishall and Garner, who will discuss the Unfair Commercial Activities Bill.

I shall listen with great interest, having never engaged in any unfair commercial activities,— (Laughter) —and I wonder what they are.

Mr. Pattishall has a distinguished record in the Bar and in the field of law. I can remember his extraordinary activities in management of the affairs of the AIPPI when it met in Washington a few years ago. He has just resigned, or been promoted, from the position of Chairman of the Section of Patent, Trademark and Copyright Law of the American Bar Association.

Mr. Pattishall. (Applause)

## The Unfair Commercial Activities Bill

BEVERLY W. PATTISHALL

Thank you, Commissioner.

Distinguished panelists, distinguished participants in this Institute:

My statute, my bill today presents a somewhat different problem than that which you have just heard discussed. You just heard George

Cary summarize magnificently in about 15 minutes a 40-page bill and I have a much more difficult problem. My bill is only four pages long and I have got to hold your attention somehow with this four pages and not have you shaking your watches as George suggested was his main concern.

But this four pages of bill does have some rather dramatic lines in it. It has a long history and it has a great deal of background which I think will be of interest to you. I am really just going to confine myself to discussing the bill itself, the need for the bill, the background of circumstances upon which the bill appears on the present scene and the areas of argument in the bill. I am not going to try to discuss the legal aspects of it, the legal-philosophy aspects of it, but just give you a sort of a news report on what the situation is.

The bill was introduced by a very distinguished Congressman whom some people are referring to now as His Honor, the Mayor, John Lindsay who, as you know, is now running for Mayor of the City of New York. John Lindsay is a very successful Congressman, as you know, successful in being re-elected by a very heavy plurality in his District but somehow or other, he hasn't been quite as successful in getting this piece of legislation through.

The present Unfair Commercial Activities Bill,<sup>1</sup> introduced February 25, 1965, the Lindsay bill, is really the second Lindsay bill. Its predecessor<sup>2</sup> died, never having gotten out of Committee, with the adjournment of the last Congress.

The bill starts off with a preamble which describes it pretty well. I shall read it to you:

"A bill to provide injunctive relief from activities which dilute the distinctive quality of a trademark or trade name, or which otherwise constitute unfair commercial activities."

Now Commissioner Watson says, and quite correctly, that he has never engaged in any unfair commercial activities to his knowledge, but as a practitioner in this field, I can only say that while unfair commercial activities are objectionable, there will be some of us who will be rather hard-put to make a living if the practice is entirely abated. (Laughter)

The bill provides for injunctive relief, taxable costs and disbursements and reasonable attorneys' fees for the plaintiff in the discretion of the court. Its definitions are a major part of the bill.

<sup>1</sup> H.R. 5514, 89th Cong., 1st Sess. (1965).

<sup>2</sup> S. 1038, H.R. 4651, 88th Cong., 1st Sess. (1963).

The term "trademark" is defined as including trademarks, service marks, certification marks, and collective marks.<sup>3</sup>

The term "trade name" is defined in accordance with the definition of the Lanham Trademark Act and specifically is noted to include commercial names.<sup>4</sup>

"Unfair commercial activity" is defined, and that I will take the liberty of reading to you:

"Any act or practice or the use of any statement likely to cause confusion as to the affiliation, connection, or association of the person charged therewith, to cause confusion as to origin, source or sponsorship of the goods or services of such person or to dilute the distinctive quality of a trademark or trade name of another; the use, for the purposes of profit, of any statement of fact as to the goods or services of either party which is false or misleading by reason either of the statement or omission of a material fact; the commission, for purposes of profit, of any other act or practice which is likely to deceive or which violates reasonable standards of commercial ethics—."

And I particularly invite your attention to that phrase. It perhaps is the most highly controversial language in this statute and in its predecessor statute, the one that died.

Continuing: "—the institution of an action under this Act in bad faith." <sup>5</sup>

The absence of competition between the parties is specifically enumerated as constituting no defense to an action under this bill.<sup>6</sup> The absence of knowledge or intent is a defense for a publisher or a broadcaster respecting the use, in his medium.<sup>7</sup>

It is specified that the Act shall not be construed to extend or enlarge the rights and remedies of the United States patent laws.<sup>8</sup>

Relief is provided—the relief provided, I should say, is in addition to and not in exclusion of that which is otherwise available under the common law or the state or Federal statutes and it shall not preempt the jurisdiction of any state to grant relief in cases of unfair competition.<sup>9</sup>

Now to the question of the need or lack of need for such a bill. As I mentioned, the original Lindsay Bill was introduced some time

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<sup>3</sup> H.R. 5514 § 2 (1), 89th Cong., 1st Sess. (1965).

<sup>4</sup> H.R. 5514 § 2 (2), 89th Cong., 1st Sess. (1965).

<sup>5</sup> H.R. 5514 § 2 (3), 89th Cong., 1st Sess. (1965).

<sup>6</sup> H.R. 5514 § 3, 89th Cong., 1st Sess. (1965).

<sup>7</sup> H.R. 5514 § 4, 89th Cong., 1st Sess. (1965).

<sup>8</sup> H.R. 5514 § 6, 89th Cong., 1st Sess. (1965).

<sup>9</sup> H.R. 5514 § 7, 89th Cong., 1st Sess. (1965).

back, prior to the *Sears*<sup>10</sup> and *Compco*<sup>11</sup> decisions which all of us have heard about so much in the last year or so, so we can't say that they stemmed from that action of the Supreme Court. Actually, they stem from the fact—the bills stem from the fact that ever since 1938, with the decision in *Erie* against *Tompkins*,<sup>12</sup> which eliminated the Federal common law, we have had a state of chaos in unfair competition law throughout the country, and I don't think I am stretching it by using that word.

The commercial jurisdictions, the heavily commercial states, have had a fairly well-developed body of state law, but in contrast, the less commercial states, the less commercially active states, have had almost a total absence of any law. And there has been a tremendous variety of approach by the various state courts, so that you had quite frequently the situation arising of a plaintiff suing a defendant respecting an unfair competition practice, for instance, the use of a label which imitates the plaintiff's label, in a great many states, perhaps 20 or 30 states or maybe all states, and you have, therefore, a multi-state tort but you have a vast variety of law applying to this multi-state tort.<sup>13</sup>

In New York, you might be entitled to relief; in Texas, no relief, and so on throughout the country, different standards and different requirements of proof.<sup>14</sup>

And it has been felt for some time that there should be some statutory effort to correct this situation and achieve some uniformity. In some states, the antiquated requirement of necessity that the parties be in direct competition still persists. In other states, that has long since been held not to be necessary in granting relief in unfair competition cases.

The result of the *Erie* against *Tompkins* decision in this area of the law has been a sort of "mishmash" from state to state and case to case. Now the *Sears* and *Compco* decisions came along here recently, and they added to the difficulties, if anything. I think that there is some disagreement on the interpretation of the *Sears* and *Compco* rule, but I believe that at least we have a majority of us that feel that they completely eliminated an area of unfair-competition law, namely, the area where configuration of goods is involved and where secondary

<sup>10</sup> *Sears, Roebuck & Co. v. Stiffel Co.*, 376 U.S. 225 (1964).

<sup>11</sup> *Compco Corp. v. Day-Brite Lighting, Inc.*, 376 U.S. 234 (1964).

<sup>12</sup> *Erie R.R. v. Tompkins*, 304 U.S. 64 (1938).

<sup>13</sup> See Diamond, "The Proposed Federal Unfair Commercial Activities Act," 23 *Ohio St. L.J.* 110 (1962).

<sup>14</sup> See Lunsford, "Unfair Competition: Uniform State Act Needed," 44 *Va. L. Rev.* 583 (1958).

meaning has been acquired respecting certain configurations of goods and where confusion as to source results from an imitation of that configuration of goods.

It would seem that this whole section of unfair-competition law has now been eliminated by the *Sears* and *Compco* decisions, so we have that further need for some statutory effort in this area.

This Lindsay bill, the Unfair Competitive Practices Bill, is not the only statutory effort that has appeared on the scene. For some years, the National Conference of Commissioners of Uniform State Laws has been working on a Uniform State Act. They have now completed their work and have disseminated to the states for consideration and passage in several instances, a Uniform State Unfair Competition Bill. That bill takes a different approach from the Lindsay bill.

You can see from what I have just read to you that the Lindsay bill paints with a very broad brush. It speaks on unfair competitive activities. It doesn't do much by way of defining all kinds of particular acts of unfair competition.

The Uniform State Bill, on the contrary, lists in great detail the various kinds of unfair-competition acts that will be prohibited and attempts to be all-inclusive. There are some of us who think that that is a better approach and some of us who think that the painting-with-a-broad-brush approach of the Lindsay bill is much to be preferred.

There are, of course, a number of people who are active in this field who believe that we should leave the common law alone, even though it does have the difficulty of being undeveloped in a good many jurisdictions.

I should mention to you for background on this subject that a coordinating committee in this area of the law has also been formed and activated by the United States Trademark Association. Just recently it has commenced meetings and it is working diligently on this subject. In fact, I think that it has already worked out a good many proposed amendments for this Lindsay bill.

Now, let me give you some further background on the Lindsay bill. It originated in the New York Patent Law Association's Unfair Competition Committee, I believe, either that or the Bar Association of the City of New York—was that it, Tom?

The Bar Association of the City of New York's Unfair Competition Committee, and it went through several years of drafting in that Committee and then was circulated around to a few other associations and was turned over to John Lindsay for introduction. He had become interested in this subject before he went to Congress. In fact, I think he had been a member of this particular Committee when he was

practicing law in New York, and so he took it over with some background of knowledge.

And as I think I mentioned, it was in Committee but never got out of Committee in its original form. The American Bar Association studied it. It went to the floor of the Patent, Trademark and Copyright Section. The principle of the Lindsay bill was approved by the Section and then approved by the American Bar Association and some of us testified at Committee hearings on the bill, but as I say, it died.<sup>15</sup>

Now not only do we have this Uniform State Bill, but also we have another bill which has been drafted right here in Washington by—I believe it is the Section on Patent, Trademark and Copyright Law of the District of Columbia Bar Association. Its particular author is a lawyer named Henry Leeds, and he has drafted a proposed Federal bill which follows the Uniform State Bill in its general format in that it incorporates the detailed, enumerating approach of listing the various forms of unfair competition and prohibiting them rather than following the “broad-brush” approach.

There is even another draft of a bill which has been very recently prepared by Mrs. Daphne Leeds in her efforts as a member of the American Patent Law Association Committee’s study of this matter, and that is a bill which would amend the Lanham Trademark Act<sup>16</sup> and provide a remedy against unfair competition. It’s very short. It contains language which pretty much corresponds to this language which I have just read you, that is, prohibiting acts which violate reasonable standards of commercial ethics. That is its main “punch-line,” and it also employs the “broad-brush” approach. It does not include any prohibition against dilution. It avoids that highly controversial issue.

Another suggestion that has been made is that the Lindsay bill itself simply be amended to turn it into an amendment to the Lanham Act. I believe the principal suggestion of the Coordinating Committee that I mentioned has been that it would eliminate the anti-dilution provisions from the Lindsay bill.

Now let me summarize the principal considerations that are involved in these bills and leave them with you without really attempting to take up more of your time on arguing their pros and cons.

First, is there a real need for statutory law in this area?

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<sup>15</sup> *Hearings on H.R. 4651 Before the Subcommittee on Commerce and Finance of the House Committee on Interstate and Foreign Commerce*, 88th Cong., 2d. Sess. (1964).

<sup>16</sup> 15 U.S.C. §§ 1051-1127 (1958).

Second, shall we adopt the "broad-brush," broad-language approach to a statute directed against unfair competition, or shall we undertake to enumerate all of the principal known forms of unfair competition?

Third, shall we or shall we not have a dilution provision?

Fourth, shall we have state legislation in the form of the Uniform State Act or Federal legislation, or both, or neither?

Fifth, the question of providing for damages, relief, has been a highly controversial one in these various proposed bills. Shall we have provision for damages to the plaintiff, shall we have a treble-damages provision, or shall we have no provision for damages at all? Shall we have any provision for the award of attorneys' fees?

Next, shall we amend the existing law? Shall we pursue that avenue, or shall we start out afresh?

And finally, shall we strike directly at the doctrine of the *Sears* and *Compco* cases, or shall we attack those decisions in a flanking effort?

I have given you merely a sort of news report on the bill itself and the other bills that provide the current environment on this subject. Perhaps we will have enough time when we get to the discussion phase of this program to go into the pros and cons on these particular issues that I have enumerated for you.

Thank you very much for your attention. (Applause)

MR. WATSON: Thank you very much.

I trust that you all remember questions 1, 2, 3, 4, 5, 6, and 7, and that you will be able to give him the answers to the questions which he has asked very shortly.

Our final speaker on that part of the program in which the speakers are definitely listed is Mr. Tom Arnold of Arnold and Roylance of Houston, Texas who has had a distinguished career in the American Bar Association, having risen to the highest position in the Section of Patent, Trademark and Copyright Law and who is a very active practitioner in the field upon which he is to address us.

Tom, would you come forward, please? (Applause)

## Trade Secrets

TOM ARNOLD

Thank you, Bob.

I have been assigned a topical subject, trade secrets, and I am supposed to touch on all of the different legislative efforts and proposals in statutes and bills that relate to this topic.

Accordingly, I commence by reference to the Uniform Deceptive Trade Practices Act promulgated by the National Conference of Commissioners on State Laws last October. I mention it primarily to tell you that the National Conference in drafting the bill considered whether or not to take up the trade secrets subject and decided that the trade secrets subject was too hot a potato for them. They had better stay away from that. This is one reason that the bill is drafted in the detailed rather than the broad-brush approach. It is so drafted in order that they can make it clear that it is their intention not to be tampering with trade-secret and breach-of-confidence type of unfair competition.

One pending bill that is known to me that does treat trade secrets legislatively is the Lindsay bill (H.R. 5514 in the 89th Congress), about which Bev Pattishall has just spoken. The bill is inclusive of all areas of unfair competition by that clause which he read you and focused upon, which condemns violations of reasonable standards of commercial ethics. Clearly that would include any breach-of-confidence or trade-secret situation.

I would point out that this proposal makes of the courts a hindsight censor and while I have accepted quite reluctantly this principle that the courts should be a hindsight censor of our ethics, there being no room in between ethics and law, I still have accepted it with a great deal of worry and concern. To me, there are all kinds of reasons for feeling that there should be some area between ethics on the one hand and law on the other, but this bill does not leave any room there.

Having noted the sweeping nature of that bill, I want to direct attention to a couple of its provisions that have to do with remedies.

First, damages. The bill does not afford recovery of damages. It does afford recovery of attorneys' fees. For various reasons, I believe that is good law in most areas of unfair competition; however, there are at least some areas of unfair-competition work, particularly focused in the trade-secrets area which this bill is broad enough to include, where damages should be recovered, many millions of dollars worth of damages. And if you don't believe me, talk to anybody in the pharmaceutical industry, this industry having been recently plagued by international conspiracy to steal—and by "steal" I mean physical-robbery type approaches—millions of dollars worth of trade secrets, so that there is no question but that damages should be recoverable in at least some areas, and this bill does not afford them.

As a practical matter, is it not compelling as a matter of judicial expediency that the law permit the plaintiffs in unfair-competition cases to plead the Federal cause of action under the Lindsay bill for



an injunction, and in the same cause to plead their state common-law cause of action which the Lindsay bill preserves for them, for their damages under the state common law. Thereby, we still have the damages remedy preserved. All we have done is complicate the mechanics of pleading. Whereas I am a great champion of the idea of eliminating damages in some areas of unfair-competition law—it seems to me that the Lindsay bill perhaps fails to accomplish its purpose. And insofar as it includes the trade-secret area where damages should be recovered but precludes damages under the Federal right which it seems to expound, the bill actually adds complication to pleading practice, without purpose.

Second: The Lindsay bill also suggests that an injunction be granted against any violation of reasonable standards of business ethics. It does not suggest that the injunction be limited in point of term to the life of the confidence or the secrecy involved. It does not suggest that the injunction be vacated upon the curing of the wrong or upon the dissipation of the secrecy as, for example, by the plaintiff's own publication.

The courts under the common law quite commonly enjoin a guilty trade-secret defendant from using any of the plaintiff's trade secrets without making any effort to define what those trade secrets are. The injunction quite normally is perpetual, extending beyond the issuance and expiration of patents that may disclose that trade secret, extending beyond the common use of the subject matter by everybody else in the industry, extending even beyond the plaintiff's own getting out of the business.

The injunction is thus often in our common-law practice seen to be (1) broader than the true-secret subject matter, (2) vague in scope thus making legal uncertainty a tool of extortion, and (3) of a term long outliving the true confidence or secrecy involved. Technically, of course, the Courts of Equity also have retained jurisdiction to correct the overreaching injunction, to terminate its force, but in my experience this technical power of the Courts of Equity has never been exercised to limit the scope of an overreaching injunction. In fact, many a grossly overreaching injunction has been left standing to work what to me has been a very gross injustice.

The Lindsay bill directs courts to grant injunctions without limit against violations of ethical standards of ethics without definition. In the context of our present judicial experience, we can certainly be sure that this bill will be cited and argued in support of extending the punitive use of long-term and a defectively broad injunction

beyond what is really necessary to render the plaintiff whole in many trade-secret situations.

Interestingly, however, California already has a statute on the books which is in general to the same effect as Lindsay H.R. 5514. The Federal Trade Commission has a statute on the books which is in general to this same effect. It is insofar as "reasonable standards of business ethics" are concerned that I am referring to now. There are a lot—or there is a lot of statutory and treaty experience on this broad, sweeping phraseology with respect to reasonable standards of business ethics; and whereas I continue to be alarmed about it, I guess I have to say we are living with it pretty satisfactorily in those areas where it does already exist.

Out of the debate on the Uniform Deceptive Trade Practices Act and out of the debate on the Lindsay bill I believe, more so than anything else, has come this new proposal that Bev Pattishall mentioned that was drafted by Daphne Leeds, who needs no introduction to any of you. The proposal is to enact a substitute Section 43 for the Lanham Act, to afford relief from non-trade secret types of unfair competition. Section 43 has to do with remedies and it specifically sets up a course of action for all interstate violations of the Act.

The language of this proposal which gets inadvertently into the trade-secrets subject, is this phrase:

"Any act which is contrary to commercial good faith or to the normal and honest development of the industry."

Mrs. Leeds and I have discussed this at some considerable length and she is satisfied that the legislative history of this proposal, and the language being placed in the Lanham Act which has to do primarily with trademark, trade-indicator types of unfair competition and which by this proposal will be broadened clearly to include misleading advertising types of competition—she is satisfied that these circumstances can be relied upon to exclude the trade-secret and breach-of-confidence area from the operation of this bill, and this is her intent.

The language is in print in front of me; it is "contrary to commercial good faith." It looks to me like that does include the breach-of-confidence and trade-secret area, unless some very clear legislative history is written to have it not included.

I predict that this proposal is going to receive the support of most of the people that heretofore have been backing the Lindsay bill. I believe it is going to receive the support of the American Bar Association and the American Patent Law Association fairly soon. I think that it will find its way into a bill and it will find its way into law.

I predict this because I have been in consultation the last six or seven years with a lot of people of the Unfair Competition Bar that have been studying it and I believe we are about to see something crystallized and will draw support and get enacted.

Still, I point out to you that there is a variance between the construction of that bill by its authors and the construction of that proposal by me as one who is sensitive to trade-secret areas and unless there is a clear legislative history, we are going to find a difficulty in that area.

Most of you are aware of the formally organized grand theft of trade secrets that has plagued principally the pharmaceutical industry but also the electronic and other industries of late. Efforts at criminal prosecution of the defendants in these cases has been hampered by the circumstance that the criminal statutes both state and national were by and large drafted without anybody thinking in terms of trade secrets and the result is that the statutes speak in terms of the theft of property. So, you must take first to the district attorney and then to the grand jury and then to the petit jury and then to the judge, the issue of: Is an idea property? Has property been stolen by somebody who takes a photograph of a device which embodies a trade secret and, taking that photograph with his own camera and his own film, he steals silently away, perhaps leaving the window jimmied but otherwise doing no damage to the party in whose premises he has been. And perhaps he didn't have to even jimmy the window; he found some other subterfuge by which to get at the information.

Because of this among other issues, that the efforts of criminal prosecution of this type of endeavor which has become very large in point of dollar value within the last several years, have been somewhat hampered. As a result of that, New York, at least to my knowledge, was the first state that passed an amendment to its criminal code and it did so in 1964.

The New York statute says a person is guilty of grand larceny—and incidentally, you won't find it indexed anywhere under trade secrets. You'll have to look under "Grand Larceny—Trade Secrets, Breach of Confidence, Felony, Crime." You won't find it anywhere you'd think you'd find it unless you look first under "Grand Larceny."

But "Grand Larceny" is defined. A person is guilty of grand larceny in the second degree who, under the circumstances not amounting to grand larceny in the first degree, in any manner specified in this article steals or unlawfully obtains or appropriates—well, I focus on "steals or unlawfully appropriates" because this is protection to

the mobile employee who lawfully comes into mental possession of the trade-secret knowledge that he takes with him to a new job.

Then the law goes on to recite that a process, invention, or formula is "secret" when it is not and is not intended to be available to anyone other than the owner thereof or selected persons having access thereto for limited purposes with his consent.

This is in one sense a paraphrase or the Restatement of Tort, the definition of trade secrets which in civil cases have been given broad and indefinite construction. However, this paraphrase is a narrowed paraphrase putting, I think, a heavier burden in this criminal statute upon the proof of unavailability to the public than is common in the civil cases. Accordingly, this statute I think is fair and reasonable in that it does not bring into the criminal law the extreme uncertainties in the definition of the trade secrets and the nature of a man getting title to it that some other statutes do that I am about to refer to.

The New York law suffers the defect that it lets half of the guilty get away with the innocent. I submit to you, having made some efforts at trying to draft this kind of legislation, that that is necessary in criminal legislation in this area, that if we are going to let all of the innocent get away, unfortunately we must let some of the guilty get away with them. The New York statute suffers this defect.

Seventy days ago, Georgia enacted a law similar to the New York law. Nebraska, Wisconsin, and Minnesota all have this same statutory provision pending in their legislatures as of today. Nebraska, as it happens, also has pending as a substitute for this one a bill similar to the New Jersey law that I am about to discuss. It was exactly 31 days ago today, I believe, that New Jersey enacted its criminal statute. First, let me go back and mention what I know about the civil statutes of the states because I meant to cover that a minute ago.

I mentioned the California law. I have personally searched, night before last, 13 states to see if they had civil statutes relating to trade secrets and, finding none and it being midnight, I gave up the task and have tried to milk everybody I've seen here for any knowledge that they might have about state statutes of a civil nature that related to trade secrets. Unfortunately, I didn't get to check all 50 states. So far as I now know, the only state that has a statute that clearly covers the subject matter is California. I am sure there must be some others and I would invite all of you who know about your own state to let me know so I can forward it on during the question-and-answer period because unfortunately I came unprepared in that I didn't get all 50 states checked. But at least California has a state civil statute on the subject.

Then back to the criminal statutes that I am now talking about. New Jersey passed its statute 30 days ago; 31 days ago it became law. There are several provisions which should interest you, including provisions quite comparable to the New York statutes that I just read you.

But the thing that I would like to focus attention on appears in Section 3-B:

"Any person who, with an intent to appropriate a trade secret to his own use without authority, makes or causes to be made a copy of an article representing a trade secret is guilty of a misdemeanor if the value of the article copied, including the value of the trade secret represented thereby is less than \$200, and of a high misdemeanor if it is worth more than \$200."

In the same vein as this statute is the McDowell bill pending in the Congress, HR-5578, in the 89th Congress. Most of you knew it by another number in the last Congress. The moving spirit of both of these bills—and incidentally, that New Jersey bill is pending in about three states right now, too. The moving spirit was quite meritorious. The moving spirit was to fight the kind of thing that I have referred to in the *Erie* case and in the *American Cyanamid* versus *Fox* case and the like, the organized theft of literally millions of dollars worth of trade secrets.

I find that these New Jersey and McDowell-type laws and bills are likely to create more mischief than they cure. The definition of the wrong in both of these two criminal law efforts (the McDowell bill at the Federal legislation level and the New Jersey statute which became law 31 days ago) on its face reads clear, plain, clean-cut. You think you can have no problem until a client walks into your office. But the actual facts of the situation that have come into my office, and there have been quite a number, are such that I find the uncertainties of definition which reside in these bills a horrible thing to use as a basis for advising a client as to whether or not he is going to be guilty of a crime by participating in some design effort.

Consider, for example, the technically experienced employee who knows all of his employer's know-how on how to anneal glass, how to tint glass, how to make it brittle, how to make it tough, et cetera, and his mother-in-law gets sick and he has got to move to a new city and he has got to take a new job. And of course he tries to get a job in a new glass factory because that's where he has experience and knows most. By the definition of these bills, he will forever, 30 years later, still be subject to criminal prosecution if his new employer duplicates a mechanism or a technique that he carried away with him

in his brain, and which he himself cannot separate out in his own mind, as being either a secret item or an item that all the competitors use, or an item that is covered by patent. There are a lot of situations where he will not know whether he is using a secret. If he errs in honest judgment, let there be a civil remedy; but let him be a felon, I would suggest not.

By the law of many judicial decisions applying essentially the same definition of trade secret as appears in different language in these two legislative efforts subject matter may be a trade secret as applied to a given disclosure even though it is available to the public. Many courts speak in such terms as—and I am quoting from an opinion in a case that I was involved in:

"It doesn't matter whether the defendant could have gotten the information from the public source; the fact is that he did not. Rather, he got it from a confidential source and hence he is perpetually enjoined from the use thereof."

And in this case, there were 19 competitors by the plaintiff's own complaint and a companion patent-infringement suit. They were using his alleged secret, but the alleged secret was still held to be a secret because this particular defendant got knowledge of it through a confidential source rather than through a public source.

If a trade-secret definition of these criminal statutes is applied in the same manner as has been the trade-secrets definitions on the Restatement of Torts which these bills paraphrase, then the technical employee who learns by experience in Company X and goes to work for Company Y is going to have trouble avoiding being criminal.

I do not predict that these criminal-legislative efforts will be often applied in this way for the reasons that (1) the district attorney will exercise some judgment and taste; (2) the grand jury will exercise some judgment and taste, (3) the burden of proof is beyond a reasonable doubt instead of by preponderance of evidence. By the nature of these things only the most flagrant cases will often be taken through criminal procedures.

At the same time, I point out that as phrased, these bills do invite this construction by which the mobile employee is rendered liable to be criminal when he merely uses what is to him his experience.

Let me give you two more examples from my own practice that will illustrate the point.

The first example: The design of a special high-performance amplifier was held to be a trade secret even though literally hundreds of those amplifiers had been sold to literally hundreds of customers and each customer had gotten an instruction and service manual which

included a circuit diagram of the amplifier and a designation of all of the component parts that went into it.

Under all of the circumstances of that case which I can't here take time to relate, I was very proud of the intelligence and the wisdom and the astuteness of the court because I felt that the former-employee defendant in this instance had done gross wrong. But a felon? I don't think so. I think that his error in judgment of ethics perhaps justified a civil remedy against him, but I would hate to see him sent up to the pen for using what to him was published information.

A second example: A certain manufacturing technique was long used in many industries but new techniques came along of the same nature and this one that I am referring to became abandoned and discarded because it was thought to be out of date. But our client discovered that this old, abandoned technique as applied to one specific type of product they were manufacturing, had a very unique and peculiar value. Well, this was a technique that was known to everybody in the industry but the court sustained the argument that it was a trade secret, and I think properly so. And still, when the mobile employee left and went to work for somebody else knowing that everybody knew about this manufacturing technique, I would hate to see him held to be a felon because he applied it to a product everybody also knew about.

For these reasons, I don't like the McDowell and the New Jersey bills because I think they bring into the criminal law all of the vaguenesses, the indefinitenesses of which there are so many in the civil law of confidential relationships.

I should add by way of completing the tabulation of legislation in the trade-secret area, that there is on the books 18 USC 1905, applying only to Federal Government employees who learn trade secrets or other confidential data or information in the course of their official duties. By that law such a Federal Government employee who discloses or uses such confidential information is liable for a fine of \$1,000 and imprisonment up to a year and removal from Government employment.

Interestingly, while this statute and its similar predecessor have been on the books for 25 years, I have been unable to find that any information or indictment has ever been founded upon that law.

Some of you must ask then, before I sit down, whether *Sears* and *Compco* have eliminated trade-secret, unfair competition law and to that I must answer:

Mr. Justice Black said that there is no state unfair-competition law. But that would include breach-of-confidence and trade-secret law but

the facts of those cases were so far removed from trade secrets and breach of confidence that I predict to you—I am not predicting, I report to you—the courts for the most part are not construing *Sears* and *Compco* to have totally eliminated breach-of-confidence and trade-secret types of unfair-competition law. So I do not believe that those two decisions compel us to rush into the legislative arena with trade-secret legislation.

I do suggest to you that it perhaps is impossible to draw all-encompassing trade-secret legislation that will do any better job in the area than the courts are doing, even though I feel like the courts are doing a pretty sorry job of it. (Applause)

MR. WATSON: I want to ask you whether anything you have told us was told to us in confidence?

MR. ARNOLD: No. (Laughter)

MR. WATSON: Thank you very, very much.

Gentlemen, we have with us some distinguished members of the Congress and, from what the preceding speakers have said, you can imagine that we will have to present various proposals to Capitol Hill which not only controls our money supply but establishes the laws under which we work.

We are honored by the presence of The Honorable Quentin N. Burdick, the Senator from North Carolina—(Laughter)

MR. WATSON: North Dakota, please pardon me, Senator. Tomorrow morning and very early too, I take off for North Carolina; that's why it's on my mind.

And I will not read, in the interests of time-saving, all of his achievements, but he is a member of the Interior and Insular Affairs Committee, the Committee on the Judiciary which is so very important to us, and the Post Office and Civil Service Committee, and is a member of the Lewis and Clark Trail Commission, and I guess that is right important, too. (Laughter)

MR. WATSON: I had the privilege of sitting next to him last night at the dinner and I bent his ear good and proper on this subject of Patent Office relocation. (Laughter)

MR. WATSON: He sort of melted a little bit and thought it was not a good idea to put the Patent Office 30 or 40 miles out in the country. I hope he hasn't changed his mind overnight.

DR. SIEGEL: Maybe he ought to put it in North Carolina. (Laughter)

MR. WATSON: Well, as a matter of fact, I'm going to leave at six o'clock in the morning for South Carolina—that's my wife's home.

And then we have, substituting for Mr. Willis before whom I have appeared many times and who has always been a friend of our Patent



Office and system, The Honorable Robert W. Kastenmaier, a member of the same Committee. He is on the House Committee on the Judiciary and has membership on Subcommittee 3 which I believe is our Committee, No. 5, as well as on the Special Subcommittee on Taxation of Interstate Commerce.

Representing Congressman Karth, who could not be here, is his Legislative Assistant, Mr. William G. Wells, Jr., who has a most distinguished record of achievement for a young man.

And representing Representative King is his Legislative Assistant, Mr. Lyman Smart, and he has so many past accomplishments that I will not take time to read them, but he is obviously eminently qualified to be a Legislative Assistant.

Now at this juncture, when we have about half an hour before lunch—We can probably stretch that, can't we, Lou, a little bit?

No, I guess the hotel won't permit us to stretch it.

The Senator, the Representative, and the Legislative Assistants are invited to make orations. They have been listening patiently for a long time and if they have any objections to anything which was said, now is the time to say it.

It must be done here at the podium because of the fact that this is being recorded.

Is there any one of you gentlemen who would like to say a few words to us? (Applause)

#### *PART IX—Invited Congressional Contributors*

SENATOR BURDICK: Mr. Chairman, Panel Members, Delegates, Gentlemen:

I suppose I should start these few remarks with the preface "you-all." Having been transplanted geographically—(Laughter)—we Northerners have to stick together.

I should say that I have been a member of Congress now for about seven years and I come here as a plain country lawyer with a general law background. Whenever I had a patent application, I sent it to someone who knows something about it in Washington, D. C.

I have been on the Subcommittee on Patents for about one year. I am truly a neophyte in this business and I am learning every day.

I want to simply say that I want to commend the University for bringing together the various segments of the industry, the university, and Government to bring forth ideas that might lead to a better patent system. I have been very interested in what has been said today and I might say that the tables have been a little bit turned. Generally you

come up to the Hill to talk to us, and we are glad now to come back down here to listen to you, and so I wish you the best of luck and I want to commend again the University for setting up an Institute of this kind.

Thank you. (Applause)

MR. WATSON: Would you like to comment at all, Mr. Kastenmaier? It is not compulsory at all.

(Congressman Kastenmaier declines to comment.)

MR. WATSON: In that event, would you gentlemen, either of you at the far end of the table, like to add a comment?

MR. WELLS: First, I will just take a couple of minutes to make sure that I am distinguishing between comments for Congressman Karth and for myself. I have listened very intently here for the past day and a half.

Let me start off by saying that I concur with the opinion that the legislative environment is promising for the enactment of legislation in the patent policy area. Congressman Karth's general views are that he agrees with the principles embodied in the McClellan legislation and feels that it provides the basis for an equitable national patent policy.

One possible qualification might be that with the establishment of the Patent Commission there may be some possibility of thought being given to holding up a final determination in this area. Of course this depends upon the area of scope that the Patent Commission cuts out for its area of study.

William G.  
Wells

Now speaking for myself—while I have heard and absorbed quite a bit here in the past day and a half, as a neophyte in the area I must say that there has been a considerable amount that I did not understand clearly. This brought to mind the story about an elderly lady in a small New England town, who had a \$1000 bond. One day she called her bank to say that she would like to dispose of it.

The bank official asked her, "Is it for redemption or conversion"?

There was a long pause at the other end of the telephone. Finally, she said, "Is this the First National Bank or the First Parish Church?" (Laughter)

So at times I have felt a little bewilderment about some of the subtleties and niceties which, of course, you professionals in the field understand clearly. This seems to be the case, for example, in referring to Section 103 with the assumption that this is obvious to everyone else.

But I would like to point out one problem that members of all professions face, be they scientists, politicians, lawyers or doctors. We

all seem to suffer from a common failing: that is, talking among ourselves we understand our jargon; when we talk to others, we often tend to continue talking in our jargon and therefore lose a great deal of what we want to communicate. I think that this is an important consideration in this area particularly because the problems we face in formulating fair and equitable policies and fair legislation obviously affect more people than just yourselves. Therefore, it is important that you be able to talk about these problems in language which is understandable to those like the Senator, Congressman Karth, and myself who are not experts in the area of patent law and patent policy.

In my many years of experience in the military, especially in the areas of technology, I have found this to be a continuing problem—with scientists being either unwilling or unable to say in English what they are doing.

Now transferring this, we must be able to say in English what the patent problems are, what the issues are and what ought to be done about the problems which have been discussed here for the past day and a half.

Now, I have several small points that I would like to get off my chest. The first is on Mr. Forman's comments about the NASA Technology Utilization Program. It is, I think, probably slightly inaccurate, to equate the NASA effort at several millions of dollars a year with patents *per se*. Technology utilization is a far broader problem area than patents. This is a matter of national public policy on how best to effectively utilize, to transfer, to—in effect—to insure that the efforts resulting from the expenditures on Government-sponsored R&D move into the economy.

I would also like to agree firmly with Dr. Mosel's comment yesterday: you must look at patent problems in the larger sense. To re-enforce his comments along this line, I would say that the solution of patent problems themselves is not enough.

More specifically, I would like to refer to an important proposal that was made by Vice President Humphrey when he was still in the Senate: It is the establishment of a Commission on Science and Technology. This proposal has been reintroduced this year by Senator McClellan and by Congressman Teague of Texas. The idea behind this proposal is to take cognizance that the times now aren't like they used to be; that we are at a rather critical juncture in our national history and world history; that the changing technological scene is not the same kind of changing technology that we have encountered in past decades. There are many important decisions which need to be made, not just in the patent area but in all areas of science and

technology and most particularly, where science and politics meet, to use the title of Jerome Wiesner's recent book. There are many important issues which need to be thrashed out.

I would also like to take exception to some of the specific terms used in several of the discussions here during the past day and a half, such as "political football" and "demagogic Congressmen." These terms are no better than many which have been tossed about in recent Congressional debates such as "thieving corporations" and "giant give-aways" regarding thieving corporations. Terms of this kind I believe, add nothing to the discussion of these issues. While any important issue is bound to be surrounded by controversy, we ought to try to eliminate the emotional words and keep the discussion to the issues without bringing in the personalities, without bringing in the personal idiosyncracies of others and last of all, not to oversimplify them inaccurately. Even in the process of trying to state them as simply as possible we must not oversimplify them by distortion.

Turning to another point: The concept of technological forecasting was mentioned yesterday. I think this is an important aspect of tying in the evolution of present policy and other related areas to the future. If we have reasonably good ideas about where technology is going, and how our society is evolving, we are in a good position to shape policies now which will help us to cope better with changes in the future.

We must, for example, look to the experience of certain departments of the Government in trying to forecast and to peer into the future, dim as our perception may be. For example, two years ago the Air Force undertook a major look to the future called Project Forecast. Many of you undoubtedly have heard about this. One of its major objectives was to identify major areas of fruitful technological potential. This approach, of course, is no new idea. The late Theodore von Karman headed a group immediately following World War II which undertook a similar task for the military services. It looked into the general area of technology and charted directions in which to advance.

Now tying "looking to the future" specifically to some of the things I heard yesterday about the Patent Office operations, I was somewhat disappointed to hear only about means of adding Examiners, and shifting Examiners between the various groups. On the other hand, I was heartened to hear Dr. Hershey discuss the progress being made by Du Pont in the matter of information retrieval and trying to simplify the horrible problems of information flow that all of us face.

Returning to the Patent Office, I was disappointed not to hear about more in this area applied specifically to the Patent Office. Especially

I would hope that the offer Dr. Hershey made in terms of the Du Pont area not being peculiar or secretive is representative of growing government industry cooperation.

This leads me to my final point: I would hope that we will see increasing cooperation between Government, industry and the universities in organizing for the opportunities presented to us by our swiftly advancing technology. We must search out new ways of working together—perhaps ways that depart radically from our current patterns. Let's face it, we live in a time of ferment and dramatic change—sometimes it's disturbing, but it's always exciting.

In closing, let me thank Dr. Harris and The George Washington University for arranging a highly significant program. It has been stimulating for me—and I am sure for you also.

Thank you very much. (Applause)

MR. WATSON: Two of our distinguished guests are forced to leave. Give them a round of applause.

(Senator Burdick and Representative Kastenmaier leave the room.)  
(Applause)

MR. WATSON: Mr. Smart, would you like to address us?

MR. SMART: As an English teacher, a college English professor for a dozen years, I would merely like to stand up and say to Mr. Wells I don't think it is really possible we will teach anybody to speak in English, scientists particularly.

May I simply bring Congressman King's greetings and his regrets that he couldn't be here, and thank you for helping to educate Congressmen about a very controversial and difficult area.

I should report, I think, that Mr. King was formerly a member of the Science and Astronautics Committee and he became interested in patent problems while serving in that capacity. His main concern is that good ideas that have potential benefits for the public be developed. His philosophy has been that ordinarily something that is everybody's responsibility is no one's. Something that is owned by everybody is probably owned by no one, and that if patents always reside in the public sector that there will probably never be incentive for their being developed.

Lyman  
Smart

This is why he has opposed, on numerous occasions, the Long amendment as it has appeared at various times and why I think he will continue to do so, why I think he is hopeful that there can be a clear national patent policy that will help to develop very good ideas. It is not that he hopes to enrich the companies who have a very fine investment in ideas but he feels that the public interest is best

served and the people will benefit most when ideas are developed and that they will be developed best under these circumstances.

Again, may I leave you his greetings and best wishes and congratulations for this very fine meeting. (Applause)

MR. WATSON: Thank you very much, Mr. Smart.

Now, gentlemen, Lou Harris tells me that there is no extension of time permissible and that when the hour of 12:30 arrives, that that is it.

So we have a few minutes now during which time questions can be asked of any member of the Panel, and the various experts who are associated with the Institute are with us, and we would be very happy if we had time to hear each of them.

Mr. Frost, will you kindly speak to us, and George, will you come to the microphone immediately if not sooner. (Applause)

#### PARTS X AND XI—*Research Institute Staff Contributors*

MR. FROST: I just have one thought to pass on. Here we have spent the whole morning talking about legislation. We have heard about unfair competition bills; we have heard about design; we have heard about copyright. I think before we close it might pay to put things in a little perspective and think what a wonderful thing that the administration can do in connection with many of these problems, and that legislation is not the only way to handle things.

Now for whatever it is worth I would only pass on the subject of Patent Office interference as one good case example of that kind of thing. Now I doubt that anyone who has had experience with interferences has a very high opinion of them but I can only pass on that the legislative solutions might be more difficult than any other kind. In any event, we have in the Patent Office interference practice, a practice that has evolved over years and years and just within the last few months we had changes in the Patent Office rules which were calculated to reduce greatly the number of interferences and may well turn out to be a step that perhaps would be more useful than legislation. I doubt it, but at least it's in that direction.

George E.  
Frost

And it seemed to me that we might always think and pinch ourselves just a little bit when we talk about legislation as to whether there is any alternative and just with those general comments, I will stop. (Applause)

MR. WATSON: Thanks, George.

Now, are we ready for questions?

There is still opportunity for some of our experts to make further comments.

Dr. Sanders, do you have some remark you wish to make?

DR. SANDERS: Mr. Chairman, in view of the shortness of time I would like maybe to call attention to some data that I have been working with which confirms an earlier conclusion that I arrived at with even less data, showing that the vast expenditures of Government in R&D, as far as their measurable yield in commercially utilizable patents are concerned are almost nil.

I realize that our data are very limited but judging from those limited data, it would appear that every thousand dollars spent from Federal R&D in terms of utilizable, commercially valuable patentable ideas is equalled by one dollar of R&D spent by commercial companies of their own money. The limited data that supports this preliminary conclusion was elaborated in an article in our journal, *IDEA*, in 1964, I believe, Volume 8, Number 2, the spring issue.

Barkev S.  
Sanders

In the newer issue, that is the journal that is to be issued soon, there is an analysis on some additional data that the Senate Subcommittee of the Judiciary obtained. The data represents the information reported by 78 companies which accounted for 55 percent of all the Federal R&D granted between 1949 and 1959. These 78 companies were a portion of 120 companies that were asked to report the number of patented inventions that resulted from the Federal R&D grants in the 11-year period (1949-59).

Assuming that the 78 companies which reported gave correctly the amounts they received in Federal R&D and the patents resulting, then these patents on the average cost about \$3.8 million each. The companies were asked also to report their own R&D expenditures. These 78 companies, while they accounted for 55 percent of all the Federal R&D, accounted for only 28 percent of the company-supplied R&D, and the average company expenditure per patent was \$280,000. That is a 13-to-1 ratio in terms of patents granted.

When we consider the utilization rate of patents, my larger study—that is the Research Institute's larger study—indicates that some 50 to 60 percent of the private assigned patents are utilized commercially. The commercial utilization rate of patented inventions resulting from Government-supplied R&D is much smaller.

The 120 companies circularized by the Subcommittee were also asked to report the proportion of Governmentally financed patented

inventions that had been put to commercial use. The proportion of such patented inventions reported by the 78 companies which returned completed questionnaires was about 5 percent—a ratio of more than 10 to one compared with the utilization ratio obtained for patented inventions resulting from company-financed R&D funds.

Furthermore, such limited information as we have regarding the comparative monetary returns from Government R&D-generated patented inventions that are put to commercial use with such returns from company-generated patents would suggest most conservatively another 10 to one ratio. Thus, combining these three differentials indicates that our former ratio of \$1000 Government-supplied R&D dollars being equivalent to private company R&D dollar, as far as commercially productive patented inventions are concerned, seems, if anything, quite conservative. In the face of such findings, I feel it is high time that funds be made available to examine more thoroughly to see whether these figures which we have obtained are all significant and if they are, they indicate some drastic legislative change should be made in the Government's disposal of the commercially useful patents that originate through these R&D expenditures.

Thank you. (Applause)

MR. WATSON: Thank you very much, Dr. Sanders.

On many occasions in the past, I have had opportunity to quote from his previous work resulting from the investigation of facts which are perfectly obscure unless research is conducted.

Dr. Siegel?

DR. SIEGEL: In view of the time of day, I shall not say anything substantive but simply inform you that, if Dr. Harris allows, I shall ask him to insert into the proceedings two little poems I have just written.\* I was inspired as I saw time running out, as I realized that I have to sit handcuffed—no, mouthcuffed—or, in the language of my poem, “sandwiched in silence like a local ham among distinguished guests who have the right to speak.” In my second poem, I observe that language is linear while the mind is like a cake. One cannot present a cake,

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\* Instead of setting down my two poems for posterity, I use this space for listing a few ideas that my comments of June 17 suggest as appropriate for the present session on “Legislative Objectives and Proposals”:

1. New legislation should be kept to a minimum as efforts are made to improve enforcement of existing laws, to improve Patent Office administration, and to improve the adequacy of Federal courts.

2. A “larger-systems view” should inform new legislation and the administration of existing laws—to encourage “positive competition” and the achievement of maximum “spillover” benefits for the public. (In particular, “liberal” attitudes toward ownership and use of patterns generated under Federal contract, toward



even a half-baked product, by peeling it word for word. Alas, a new mind-camera not yet invented by Dr. Land is needed. With these happy remarks, I take my leave. (Applause)

MR. WATSON: It is to be greatly regretted that the experts who have so ably served the Institute in past years and up until this time have not more opportunity to tell you of their activities and findings. I can only summarize by saying that they have been extremely careful in conducting their research and have produced facts which have been helpful to everyone who is interested in promoting the progress of science and the useful arts.

Gentlemen, according to my watch, our time is up and I want to thank you gentlemen, all of you, for having so ably presented your several papers, and for having taken the time and trouble to so carefully prepare for this meeting.

Thank you very much. The meeting is adjourned. (Applause)

(Whereupon, at 12:30 p.m., the meeting was recessed to the luncheon session.)

### LUNCHEON SESSION

MR. STEVENSON: May I have your attention?

I apologize for intruding on your luncheon hour, but I am forced to hold to a time schedule. So won't you please go ahead with your luncheon while I dispose first of some of the preliminaries. And then if you will bear with us our speakers will talk to you, and with you, as you finish your luncheon.

Our luncheon meeting today is concerned with the very comprehensive and broad subject of the role of industrial property in the dissemination of technical information in the world context. This we will try to dispose of in 30 minutes. (Laughter)

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other proprietary information rights, and toward joint ventures and conglomerate mergers would seem advantageous to all concerned.

3. Strong defense is desirable in antitrust cases; and another social obligation of private firms is to encourage sustained creativity of maturer personnel.

4. Major deficiencies in state and Federal legislation applicable to trade secrets should be remedied.

Systematic diffusion of Federally developed and other technical information, including the establishment of regional depositories, is preferable to additional special-interest legislation (e.g., in behalf of small business) intended to facilitate innovation.

Fortunately we have with us today those who can undertake such an assignment.

Our first speaker will be Dr. Karl Lachmann of the United Nations. He is now an Assistant Director in the Department of Economic and Social Affairs of the United Nations Secretariat and Chief of its Fiscal and Financial Branch. He is a graduate of the University of Chicago Law School. He also has a French doctorate. Possibly he will stand for some questions later on Mr. de Gaulle. (Laughter)

Before going to the United Nations in 1947 he served for 10 years in the Federal Government, first as Assistant Solicitor for the Interior Department and, subsequently, as Special Attorney for the OPA. He is now with the United Nations. And he will open our luncheon session speaking on the general subject from his present vantage point in the United Nations.

It is my pleasure to introduce Dr. Lachmann. (Applause)

### **The Role of Industrial Property in the Dissemination of Technical Information in the World Context**

## **A United Nations' View**

**KARL LACHMANN**

Thank you, Mr. Chairman.

I have been asked to present a United Nations view—and I may say that this will, of course, be a personal and not an official presentation—on “The Role of Industrial Property in the Dissemination of Technical Information in the World Context.” Some of you may wonder whether there is a United Nations view on this subject, and—if so—why there should be one.

The fact is that the United Nations General Assembly, its Economic and Social Council, and its Trade and Development Conference are all actively concerned with this question.<sup>1</sup> In the various resolutions adopted by these bodies in recent years, they have acknowledged the

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<sup>1</sup> See General Assembly resolutions 1713 (XVI) of 19 December 1961 and 1935 (XVIII) of 16 December 1963 on “The Role of Patents in the Transfer of Technology to Developing Countries”; and Economic and Social resolution 1013 (XXXVII) of 27 July 1964; and Trade Development Conference Recommendation A.IV.26 of 15 June 1964 on the same subject.

contribution of industrial property "to technical research and, therefore, to international and national industrial progress" and the importance of safeguarding the legitimate claims of industrial property owners, but they have also stressed the special needs and aspirations of the less-developed countries. The General Assembly in particular has asked the Secretary General to study the effects of patents on the economy of developing countries and to consider the advisability of an international conference which would examine the patent system and treaties in this context. In addition, the United Nations Advisory Committee on the Application of Science and Technology to Economic Development has listed the problem of the transfer of technology (including that from industrial enterprises in developed to those in developing countries) among the areas to which it expects to devote primary attention.<sup>2</sup>

The Secretary General's study, published last fall, bears a title very similar to that of this session, namely "The Role of Patents in the Transfer of Technology to Developing Countries."<sup>3</sup>

Before turning to the findings and conclusions of this study, which will indicate the United Nations view on the problem, I should provide an answer to my second question, namely the reasons for this concern with the problems of industrial property. Under its Charter, one of the aims of the United Nations is "to promote social progress and better standards of life in larger freedom."<sup>4</sup> Clearly, in this industrial age, the creation and dissemination of advanced technology constitute a prime motor of economic and social development. The concept of industrial property, I take it, refers in this connection to the recognition of property rights in elements of technical and managerial know-how (commonly included under the collective designation of "technology") which are the result of invention or development.

To those who own such industrial property rights, their protection—under patent laws, rules against industrial theft or unfair competition, etc.—is literally its own reward. But what is its role in promoting economic development through the production and dissemination of protected technology? The conventional answer to this question is that unless an inventor or developer of technology is assured of the protection of his rights in it, he will not undertake the research which leads to the invention, or, having invented, he will not publish his invention, so that its benefits are either lost altogether or at least are

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<sup>2</sup> See the Committee's Second Report to the Economic and Social Council (Document E/4026) p. 71 (May 1965).

<sup>3</sup> United Nations Publication No. 65.II.B.1 (New York, 1964).

<sup>4</sup> Preamble, first part, fourth paragraph.

lost to those countries whose laws fail to provide such protection. This, of course, was the rationale underlying the provision in Article I, Section 8 of the Constitution on which the American patent system is based, and even its strongest critics today will hardly deny its historic achievements.

Yet the situation looks somewhat different from the viewpoint of the less-developed countries. They can as yet entertain scant expectation of being able to promote domestic research and invention. Their immediate concern is rather with the acquisition (and adaptation) of modern technology evolved in the advanced countries. Here the question is, whether the recognition of industrial property rights, and that means in the first place the adoption of a patent system, will help or hinder these countries' access to foreign technology on acceptable terms. Their apprehensions in this respect relate partly to the heavy burden which patent royalties may impose, especially on their balance of payments, and partly to the anti-developmental effects of foreign patents which may be used by the patentee, not to create new local industries, but solely to protect his exclusive access to the domestic export market.

These in fact are the major questions dealt with in the before-mentioned United Nations study. Its over-all conclusion was that a system of granting patents for national and foreign inventions is on balance likely to be beneficial to the advancement of industry in developing countries, provided the laws and treaties on the subject include necessary safeguards against abuses of the monopolistic position created by the patent. Indeed, the dependence of less-developed countries on foreign technology can be neither ascribed to the existence of the patent system nor overcome by its rejection. To the extent to which this dependence exists, the granting of full patent protection is likely to be one of the legal assurances which both the foreign patentee and his local licensee will look to, before they will embark on the industrial application of the new technology in the country.

It should be pointed out, however, that where the applicable technology is relatively simple and fairly stabilized, a local company could acquire it so-to-speak on the open market by contracting for assistance either from one of many competing foreign companies operating in the field, or from an engineering or management consulting firm, or simply by hiring foreign specialists for its staff. Yet even in this situation, the local industrialist would have to muster not only the capability to evaluate and select the foreign firms or specialists he needs, but also the investment capital, the entrepreneurial spirit

and the managerial know-how without which he could not effectively translate the foreign technology into an operating industry. And, as the Mexican economist Victor Urquidi has pointed out, it is doubtful that, in the less-developed countries, these conditions are met to any significant extent.<sup>5</sup>

As countries, and their entrepreneurs, advance on the road of industrial development, their ability to help themselves in this way will no doubt increase and will extend to more complex fields of technology. Yet it may not be an over-simplification to expect that, in a rapidly advancing country, where the need to attract foreign patentees thus recedes, the patent system will assume new importance in promoting domestic research and invention.

As noted, the conclusion of the United Nations study that the system is on balance likely to be beneficial, is coupled with a proviso regarding safeguards against monopolistic abuses. Here, the study suggests a number of possible approaches, which have since found their way into the Model Law for Developing Countries on Inventions prepared under the auspices of the International Bureau for the Protection of Industrial Property (commonly referred to as BIRPI), the Secretariat of the Paris Union.<sup>6</sup> These approaches relate chiefly to the following:

The need for compulsory licensing and working provisions which will assure that foreign inventions protected by patents are actually worked in the country itself, whenever it would be economically sound to do so, with the possibility, in countries which so desire, of opening to general licensing inventions affecting major public interests, e.g., those relating to public health or to vital sectors of the economy;

The governmental review of international license agreements, so as to determine whether the expected contribution to economic development is not outweighed by its cost—in terms of royalties, higher prices and restrictive covenants;

The strengthening of patent administrations in less-developed countries, through international technical assistance—such as that provided by the United Nations and by BIRPI—in the establishment of patent offices and the training of their staffs; and through regional pooling arrangements for the establishment of joint examination facilities

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<sup>5</sup> Victor L. Urquidi: "Some Implications of Foreign Investment for Latin America," paper presented at the Seminar on Obstacles to Change in Latin America, Royal Institute of International Affairs, Chatham House, London, February 15-21, 1965, page 15.

<sup>6</sup> *Model Law for Development Countries on Inventions*, BIRPI Publication 801 (E), (Geneva, 1965).

or the utilization of existing international search services, such as those of the International Patent Institute in The Hague.

Having arrived at these findings, however, the study concluded that, in the context of promoting industrial development, it would not be realistic to think in terms of patented technology, as a thing apart. The non-patented know-how, though in a license agreement it may appear as an implementing appendage of the patent, is often the more important and the more valuable component of the industrial property package covered. As a result, an inquiry into the appropriate terms and forms of the transfer of technology between enterprises, and between countries, must go beyond the context of the national and international patent system and analyze the legal and economic aspects of transfers involving the entire range of patented and non-patented technology at different levels of economic development and technical complexity.

As a first stage in this broader inquiry, the United Nations has just issued a preliminary study on the operations of the wide variety of institutional, legal and financial relationships—including joint ventures, mixed private-public companies, turnkey, engineering and management contracts, license agreements, technical services contracts, etc.—through which technology is transferred from these enterprises in the industrialized countries which have evolved them to the undertakings in the developing countries which are to adopt and use them.<sup>7</sup>

From this start, and on the basis of an empirical inquiry into the actual experience of technological growth in selected industries in developing countries, we would attempt to devise—not actual models—but principles and criteria for new forms of enterprise-to-enterprise arrangements and relationships. These should be designed more effectively to reconcile the legitimate requirements of the know-how supplying firms with the determination of the less-developed countries and their enterprises to satisfy their need for foreign technology—and capital—without abandoning their efforts to develop technological and financial capabilities of their own.

But in dealing with the transfer of industrial technology from one country to another, one would again take too narrow a view, if one were to see this unequal relationship as existing only between the developed and the under-developed countries. It also exists, and in a potentially much more explosive form, between what one may call the industrial superpowers and all the other advanced countries. Let

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<sup>7</sup> "The Promotion of the International Flow of Private Capital: The Role of Enterprise-to-Enterprise Arrangements in Supplying Financial Managerial and Technological Needs of Industrial Enterprises in Developing Countries" (U.N. document E/4038, June 1965).

me quote here a passage from the opening speech to the Economic Commission for Europe, delivered earlier this year by Mr. Philippe de Seynes, United Nations Under Secretary for Economic and Social Affairs:

“Technology is a source of prestige even more than of power, and inequalities resulting from technological backwardness—even more than those based on financial power—might have the effect of greatly evenoming (*sic*) relations between countries which are within the same economic sphere and at the same level of civilization. If technology is the most important phenomenon of this second half of the 20th century, it must be presumed that it is one which is capable of profoundly affecting relations between peoples. To ensure that the international organization of industry—which is probably unavoidable—develops in accordance with a rational scheme and in such a way as to lessen the sense of inequality is surely an urgent collective task . . . .”<sup>8</sup>

The developments which have brought about this situation are well known. The need of a dynamic industry for continuous technological advance requires ever more complex and costly research facilities. This has made it necessary to organize industrial research on a systematic basis which can assure a predictable rate of success, given a sufficient scale of time and investment and the backing of “basic” research, the most expensive (and often government supported) area in most fields of inquiry. Only enterprises in the largest industrial countries dispose of the capital required for such large-scale research facilities and for the ever more costly installations needed to apply the resulting technological innovations, as well as of a market whose capacity justifies such expenditures. As a result, these super-powers may be expected continuously to increase their technological and thus competitive advantages over other countries which—regardless of their technical sophistication and inventive genius—cannot afford to make a research effort on a comparable scale, nor benefit in the research they do undertake, from the economy of size available to the larger companies and countries.

Even regional integration efforts (such as the current attempts of automobile manufacturers in the European Common Market countries to join forces in order to compete with local American subsidiaries) may not suffice to assure to the resulting combines positions of equality with the major American industries, though it may substantially strengthen their bargaining power for the international arrangements

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<sup>8</sup> U.N. document E/ECE/577, p. 6, 27 April 1965.

which will have to be devised as long-run solutions to the problem.

The effect of this spreading technological gap between developed countries of different size and resources is already making itself felt in rather strong reactions by some countries which fear that foreign companies are using their advantages to pre-empt the domestic market and to discourage domestic research. Yet, if they were to adopt discriminatory restrictions against foreign companies, they would inevitably retard industrial progress at home by encouraging technological back-sliding on the part of established domestic enterprises as well as by depriving the country of the expanding benefits of the latest available foreign innovations.

Yet whatever exaggerations there may be in current assertions about the threat of political and cultural domination following—or even, in the view of some, consciously pursued through—such foreign domination of domestic industry, the emotional forces of the new nationalism can no more be ignored than can be the potential of a real conflict of interest in a situation where such foreign control covers not just one or the other industry but extends inexorably over the entire range of technology-based industries including, it must be noted, those engaged in the production of major military equipment. And one may recall here the recent decision of the British Government to discontinue development of a bomber plane in favour of purchases from the United States.

If it is understood that the forces impelling this development cannot—and in the interest of progress should not—be reversed, relief from the apprehended dangers must be found in new policies and forms of international coordination and cooperation. Perhaps the most promising development may be seen in the gradual emergence of what has been called the International Corporation. These companies, while taking their origin mostly, though not exclusively, in the industrial “superpowers,” would spread their operations over so many countries that their economic interests could no longer be identified with their country of origin, especially where by combining with foreign enterprises, they also internationalized their management and ownership.

An essential element of a balanced international corporation would be a judicious specialization and division of functions among its national components, extending not only to products and markets, but also to research, thus assuring the maintenance of effective national research teams and facilities whose results will then go into the international pool for general use and dissemination.

If such international corporations are to realize their full potential,



there must be a major effort to evolve new legal forms and concepts which would give effect and protection to these new and flexible arrangements for international industrial cooperation. There will also be a need for re-examining government policies and regulations in such fields as the recognition of various forms of corporate organization, the issuance and holding of different types of foreign securities, the taxation of international companies and transactions, the international operation of antitrust laws and—as indicated in Executive Order 11215—the national and international patent system.<sup>9</sup>

You may feel that I have proceeded somewhat beyond the immediate context of industrial property with which we are concerned. But I believe that the problems created by the enormous speed and cost of technological change are at once so menacing and so promising for the future of industrial progress, and indeed for the relations among nations, that it may be altogether fitting to place before this audience the resulting challenge to the creative imagination of lawyers, industrialists and policymakers to devise, and gain acceptance for, the new concepts, policies and institutions needed for their solution.

(Applause)

MR. STEVENSON: As the second phase of our luncheon program today we are going to hear from two representatives of the Pan American Union. The official title is "A Pan American Union View."

Yesterday Judge Smith, facing the dilemma that I now face, took, I believe, judicial recognition of the qualifications, and went on from there. Being denied this prerogative by title, I have found another device. So I have simplified my assignment very much by asking our first speaker, Mr. Paul A. Colborn, Chief, General Legal Division, Department of Legal Affairs, Pan American Union, to tell us first something about the Pan American Union so that we can view that in the context of our interest, and then to introduce his associate, Mr. Francis C. Browne.

And so I will now turn my assignment over to you, Mr. Colborn.

PAUL A. COLBORN: The Pan American Union, as you may know, is not precisely equivalent to the Organization of American States. The Pan American Union is merely the general secretariat of the Organization of American States. We are not fortunate enough to have on our staff an expert in the subject of industrial property as the United Nations is; but we are fortunate to have Mr. Francis Browne,

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<sup>9</sup> Executive Order 11215 of April 8, 1965 Establishing the President's Commission on the Patent System. See also the earlier reference (paragraph 2 above) to the question of an international conference on the patent system and treaties, raised by General Assembly resolution 1713 (XVXI).

a practicing attorney of Browne, Schuyler and Beveridge, of Washington, D. C., who has always been willing to cooperate with the Pan American Union over the years in whatever we have progressing in this field. And he has been very active, not only in industrial property but in other legal fields, in the Inter-American Bar and other forums of Pan American cooperation.

So when Dr. Harris asked the Pan American Union to present some remarks today on the Pan American view of the subject, who better to ask to make those remarks than Mr. Browne?

Mr. Francis Browne. (Applause)

## A Pan American Union View

FRANCIS C. BROWNE

Mr. Chairman, Mr. Colborn, Dr. Lachmann and friends:

It is quite obvious, I think, that a Pan American view as expressed by me will have to be considered largely my own views of what the Pan American Union's view is.

Let me elaborate just a moment on Mr. Colborn's statement as to the organization of the Pan American Union and the Organization of American States.

Actually the OAS is the larger body, which is made up of a number of units, one of which is the Secretariat which goes under the title of the Pan American Union. Another of the major units of the OAS is the so-called Council of the OAS, and that is made up of one ambassador from each of the American republics.

There is another major portion which is called the Special Organizations Section. That organization cooperates very closely with the United Nations in matters such as the World Health Organization and the like. The Pan American Union is the coordinating agency through which these operations take place.

In the field of industrial property I think we can say, first of all, that our host today, The Patent, Trademark and Copyright Research Institute, has cooperated wonderfully with the Pan American Union, and vice-versa, in an effort to try to collect the laws of the American republics relating to industrial property, and to exchange such translations as may be available.

If any of you have ever tried to get hold of a copy of any one of the Latin American countries' laws, I think you will understand the problem with which both the Institute and the Pan American Union have

been confronted. The project has been going on over a period of about five years, and it still isn't completed.

I just wanted to mention that, not only from the standpoint of showing the cooperation between the Institute and the Pan American Union but also to show that the Pan American union has not been entirely without activity in this field.

As a matter of fact, the Pan American Union this year celebrates its 75th anniversary of its founding. And if you want, you may make something of the coincidence that we are celebrating our 175th Anniversary of the United States Patent System whereas the Pan American Union has been in existence for 75 of those 175 years. It was very early in the history of the Pan American Union that it undertook to coordinate the matter of industrial property. And we have some very early efforts to harmonize the field of industrial property through the inter-American treaties.

Unfortunately those treaties have not proved to be as beneficial and satisfactory as we would like to have seen them. And there again, if we may indulge in some self-criticism, I think we have no one but ourselves to blame because there weren't enough of the American republics to ratify those treaties and to implement them to make them effective.

Not being discouraged entirely by the failure to succeed as well as they would like to have succeeded in the field of patents and trademarks, in 1946 I think the Pan American Union showed that it can accomplish something in the field of intellectual and industrial property by having coordinated the Inter-American Conference on Copyrights. And I notice Mr. Cary here, who is one who participated in that Conference, along with many others who are in the audience.

So with that type of activity the Pan American Union, as I say, has not been at a standstill.

To show you how the Secretariat has been trying to urge the member countries to take a greater interest in industrial property, let me say that the subject was included in the agenda of the Eleventh Inter-American Conference which was first scheduled to be held in Quito, Ecuador, about six or seven years ago. The Conference has been postponed from time to time, for certain diplomatic reasons, primarily. But the fact of the matter is that there is still on the agenda of the Quito Conference the subject of industrial property.

Had the Quito Conference been held by this time, the chances are very good that a special conference on industrial property would have been authorized by the Organization of American States.

Again to show that the Secretariat is not satisfied just to sit by and wait for things to happen, but takes the initiative, I might point out that the Council of Jurists, which is another one of the major arms of the Organization of American States, had a meeting in San Salvador this spring. At that meeting they passed a resolution authorizing a study to be made of industrial property in the Americas.<sup>1</sup> I am pleased to say that that resolution is bearing fruit to the point where Mr. Colborn tells me just today there is being completed a draft of a proposed budget request to be submitted to the Council of the OAS for an appropriation to carry forward the study of industrial property which is contemplated by the Council of Jurists of the Organization of American States.

Let me give you a concrete example where the Pan American Union

<sup>1</sup> The text of the resolution is as follows:

#### PROTECTION OF INDUSTRIAL PROPERTY

##### WHEREAS:

The subject of protection of patents has not been reconsidered since 1910, the year in which the Convention on Inventions, Patents, Designs and Industrial Models was approved; and the subject of trademarks has not been reconsidered since 1929, when the General Inter-American Convention for Trademark and Commercial Protection was approved;

A topic on the subject of "Protection of Industrial Property" was included on the Agenda of the Eleventh Inter-American Conference, but the postponement of that Conference has prevented consideration of that topic; and

It is urgent to examine and discuss the existing situation in the Americas, in the fields of industrial property, in order to determine the most suitable means of improving its protection,

The Inter-American Council of Jurists

##### RESOLVES:

1. To request the Department of Legal Affairs of the Pan American Union to undertake a comparative study of the laws and administrative practices of the member states of the Organization, on the subject of industrial property.

2. To recommend to the Council of the Organization of American States:

- a. That it assist the Department of Legal Affairs to prepare the study provided for in the preceding paragraph, by including the corresponding item in the budget of the Pan American Union;
- b. That it prepare a questionnaire and submit it to the governments in order to ascertain from them the means that they consider most suitable to improve the present inter-American system for the protection of industrial property, including the holding of an inter-American specialized conference, composed of experts, at which a new inter-American convention might be adopted, or the American countries that have not already done so might adhere to the Convention of the Paris Union;
- c. That it convoke an inter-American specialized conference, composed of experts, in the event that the majority of the governments announce that they are in favor of this; and
- d. That, prior to the holding of that specialized conference, it ask the Inter-American Juridical Committee for preparatory studies or drafts.

(Approved at the second plenary session, February 4, 1965)

utilized the industrial property system not only in the Americas but throughout the world.

Another of the major arms, the Inter-American Housing Center, which was operating in Colombia, had a problem of trying to utilize local materials, unskilled labor, and trying to concoct some kind of machinery to build low-cost housing. A Chilean by the name of Ramirez seeing the problem, and having envisioned a solution to it, developed a machine for making building blocks out of clay; a brick-making machine, if you please, but it made them in the size of cement blocks.<sup>2</sup> And the machine was so ingeniously devised and yet so simple to operate that United States patents, and patents in the various countries throughout the world were obtained on behalf of Ramirez by the Pan American Union.

The Pan American Union and Ramirez sold all of their rights to the International Business Economy Corporation for exploitation throughout the world, and they received advance royalties enough to cover the patent cost, and some besides.

So the Pan American Union, again I say, is not just preaching but is trying its best to practice what it is preaching by way of promoting the industrial property system in the Americas.

It would seem to me that the time is now ripe for the countries that belong to the Organization of American States to take the initiative within the Organization of American States (since it is controlled by the member countries) to move forward in view of the developments that are taking place in other parts of the world with respect to industrial property.

Even within the Americas, the Latin America Free Trade Area, the Central American Common Market Development, each has contemplated an industrial property system in their overall charter. We can draw upon the experience of the Common Market Union in Europe. We can also look to things such as the Malagasy Union in Africa and to other ways of approaching the problem. There will be developments undoubtedly in Asia on a regional basis; and further developments in Africa. So if the industrial property system is going to develop on a regional basis, the Pan American Union is in the best position to be the agency through which that can be brought about in the Western Hemisphere.

Except for the United States and Canada I think there is probably greater homogeneity in the patent systems in the remaining countries

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<sup>2</sup> The machine has been widely publicized in Readers' Digest and elsewhere as the "CINVA-RAM" block-making machine.

of the Americas than you will find in any other area of the world. You are all familiar with the confirmation patent concept, for example, which seems to be very effective in most of the Latin American countries. This concept deserves consideration by the newly developing countries, particularly those which cannot afford a novelty examining system.

All of these things I am mentioning now to give you some idea as to what the Organization of American States will have to consider when it implements the resolution which was passed at San Salvador.

We will have to proceed, first of all, with a study of what the respective national systems are in the American republics today. Secondly, we will have to study those systems in the light of the national systems of other countries throughout the world. Third, we will have to study the regional arrangements with respect to industrial property as they exist in this and other parts of the world. We will have to re-evaluate all of the existing Latin American treaties, as well as other treaties such as the Paris Union, pertaining to industrial property, and ultimately come up with recommendations as to the best approach to improve the industrial property system, and to make it more effective in its role in disseminating technical information to other nations.

In conclusion I would say that one of the most helpful signs in recent times to spur the development of interest in industrial property has been what you might call the competitive spirit, even among organizations. The BIRPI, to which Mr. Lachmann made reference, has been in business a long time. They have come up with some new concepts. I think they have been spurred a lot by the United Nation's study and the interest of the United Nations in industrial property. Those two efforts I think, in turn, have spurred the Pan American Union into further activity.

In the private-organization field we have, for the first time in the history of the Western Hemisphere, an organization called the Inter-American Association for Industrial Property, or sometimes referred to as ASIPI which is made up of individual members from the Latin-American countries, as well as the United States and Canada. That private organization is lending its support to the efforts of the Pan American Union in making the studies to which I referred.

All in all, with the Common Market and other regional economic developments taking place, competition between international organizations to carry forward studies and to do something affirmative for the industrial property system I think are all for the good. And as

I view it, the Pan American view is that we have not been as effective as we should have been in recent years, but we are going to prove to be more effective and more aggressive in the years to come; and that, in turn, can be accomplished if the people from the various countries which are members of the Organization of American States will have their national governments take the initiative within the OAS to bring about the desired result.

Thank you. (Applause)

MR. STEVENSON: Dr. Lachmann, Mr. Colborn, and Mr. Browne, on behalf of this audience I want to express our appreciation for your participation in this session of our conference. We are indebted to you for your remarks and for your being with us today.

We will now adjourn to the afternoon and concluding session of this conference, as we were this morning.

(Whereupon, at 2:05 p.m. the luncheon session was adjourned.)

## AFTERNOON SESSION

### *International Challenges and Opportunities*

DR. BEHRMAN: Ladies and gentlemen, on the off-chance that we will offend someone who hasn't yet made it back from lunch I think that we ought to proceed so that we don't cut into the speaking time of all of our speakers, and I will ask the electricians again, is there a light up here or do we talk in the dark?

VOICE FROM THE AUDIENCE: Jack, throw light.

DR. BEHRMAN: All right. We'll let the speakers throw light.

The subject of the afternoon, as you know, is "International Challenges and Opportunities," of which there are many and from which we can expect a substantial number of changes, and I hope this afternoon a substantial number of proposals and suggestions not only to stimulate those of us who are dedicated researchers but also those of you who are interested in the long-run development of patent, trademark, and copyright systems.

The first part of the program is devoted to the relations with the less industrialized nations. Mr. Leonard J. Robbins will speak first. He was educated at Cambridge University in England as a physicist. After some experience in teaching in the Far East, he entered the patent profession in England. He came to the United States in 1930 and is now senior partner in Langner, Parry, Card and Langner. He maintains very close contact with the European patent profession and

is a member of the Executive Committee of the International Federation of Patent Attorneys.

Mr. Robbins has been a speaker at a number of Research Institute meetings in the past and we welcome him today on the subject that I have just mentioned. (Applause)

PART XII—*Invited Contributors*

## Industrial Property Relations with the Less Industrialized Nations: An Attorney's View

LEONARD J. ROBBINS

Thank you, Dr. Behrman.

Ladies and gentlemen: I propose this afternoon to submit to you that the less industrialized countries have developed an unfortunate double standard with respect to industrial property. Trademarks are usually considered necessary or even desirable for the functioning of domestic commerce. Patents, on the other hand, are often regarded as symbols of foreign exploitation. I believe that an important even though modest step forward can be made in the general future relationships between the highly and the less industrialized countries, if this unjustified fear can be dispelled.

It is only in fairly recent years that accurate and detailed statistics have become available on a world-wide basis in the field of industrial property, and that attempts have been made to draw reasonable conclusions from these statistics.

Off-hand, it would seem that the total number of applications for patents and trademarks, filed in a given year in a given country, should provide significant indices of the industrial activity of that country. Of course, the total number of patents actually granted is a different matter which depends upon examination procedures.

The following data has been extracted from several recent sources.<sup>1</sup> These sources are Western. No adequate basis of comparison is possible at present with respect to industrial property behind the Iron Curtain and the Bamboo Curtain, although it is possible to suggest that many

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<sup>1</sup> *The Role of Patents in the Transfer of Technology to Developing Countries* (Annex E): United Nations Publication 65 II B.I. (1964). "Industrial Property" pp. 276-278, December 1964.



of these European satellite countries do show definite parallels to what we identify as less industrialized countries in the Western world.

In seven countries—the United States, West Germany, Great Britain, Japan, France, Italy, and Canada—more than 25,000 patent applications are filed each year and in several of them, of course, many more. In the same countries—except that Spain rather surprisingly replaces Canada—there are more than 15,000 trademark applications yearly.

In a fairly sharply defined secondary group—comprising Australia, Austria, Belgium, Denmark, Holland, Mexico, Sweden, Switzerland, and South Africa—from about 5,000 to 15,000 patent applications are filed a year. In this same group, plus Canada and Italy, there are about 3,000 to 7,000 trademark applications.

In all other nations and remaining colonial possessions (excluding, of course, the Russian and Chinese groups) geographically scattered throughout the world, the numbers of patent and trademark applications rapidly fall off from a few thousand to a few hundred yearly. These are the less industrialized countries in the technological sense, even though some of them are large and some are reasonably prosperous.

I think most people would say that this is a fairly true picture of the hierarchy of the highly and less industrialized countries. Actually, these figures show how deceptive and inadequate raw statistics can be. By breaking them down as regards filings by nationals and by foreigners, the fact emerges that the creative activity of inventing on a world-wide basis is principally confined to the nationals of four countries—the United States, West Germany, Japan, and Great Britain. It is only in these countries that more patent applications are filed by nationals than by foreigners—and Great Britain, incidentally, only just makes the grade.

In *all* other countries—the secondary group as well as the positively less industrialized countries—foreigners file the majority of patent applications by rather astonishing percentages. For example, to take a few figures at random—Belgium 85 percent, Canada 94 percent, Italy 64 percent, Pakistan 96 percent. These foreigners mostly come from the four major inventing countries. Furthermore, in recent years these foreign filings seem to be even slightly increasing and national filings decreasing.

On the other hand, throughout the major group and the secondary group, and also in most of the less industrialized countries except for a few small states, the majority of trademarks are taken out by nationals.

Trademarks are essentially symbolic of long-established and well-known consumer goods circulating in the normal channels of com-

merce—to some extent status quo symbols. Patents, on the other hand, represent new developments of a technical nature which may raise living standards but without which the world has previously managed to survive. Patents are, of course, often associated with trademarks and successful patented products in time will become ordinary consumers' goods. However, when first placed on the market, they are radical innovations and may be high-priced. In the less industrialized countries, possibly only the wealthy few can afford them, and in the public mind, the term "patent" is consciously or subconsciously associated with ideas of exploitation.

It would be rash to make sweeping deductions from these rather elementary statistics concerning industrial property. However, it does seem fair to conclude that all nations of any size and substance control their own basic trade and are not dominated by outsiders.

If it is proper to equate patent filings with inventive activity, then it also seems fair to conclude that these technological developments—which are the hallmark of the future and vital to an expanding economy—are at present produced by very few nations. This elite group naturally first looks after its own domestic requirements before embarking on the waters of international trade. As a result, their industrial growth may be actually accelerating faster than that of all other countries. Thus, the less industrialized countries may indeed be advancing in comparison with their past situation, but in fact, are relatively slipping backward with respect to the leaders.

But here it is necessary to examine this industrialization gap more closely.

The leadership of the big four in inventiveness is numerical only. Many important and successful inventions originate in the secondary group. Considering, for example, the Scandinavian countries as typical, it is obvious that their economies are sophisticated and industrialization is proceeding rapidly, even though foreigners do file more patent applications than nationals. This is a matter of degree only.

The difference with respect to the less industrialized countries is fundamental. In fact, it can almost be stated as a definition—a less industrialized country is one that has practically no significant national inventive activity. At the present advanced stage of our technological civilization, the less developed countries cannot create inventions by wishful thinking. The first step must be outside help and guidance to provide the necessary and essential facilities. Patent laws per se are clearly not responsible for the situation, but even so, they are a convenient whipping boy and are often blamed.

Let us consider recent developments in two countries—Thailand and India. Now Thailand, formerly known as Siam, is a very pleasant Garden of Eden. Why should it be developed further? It is already at the point where Bangkok has a traffic jam in the morning and in the evening. (Laughter)

However, stationary periods in the world's history have been left behind and it does appear that economic pressures and the coming availability of cheap power will inevitably lead to growing industrialization in this land of rice fields and teak forests.

Some 35 years ago, a patent law was drafted, but it has never been enacted. The project was recently revived in connection with an International Aid program but without success. The explanation is given in the following extract from a circular letter sent out by a Bangkok firm:

"It now appears there will be no Patent Act in Thailand in the near future. On February 25, '65, the legislature continued its debate on the draft Patent Act and, in the face of sustained objection, the Prime Minister announced that the Bill would be withdrawn and reconsidered by the Government.

"The objections raised at that session were all of the same tenor; that as the Thai people do little inventing, to prevent them from copying foreign inventions would be detrimental to economic development and would permit foreigners to register their inventions, preventing the Thai people from using them.

"The Prime Minister declared that while most members of the legislature agree with the proposed Act in principle, but have doubts as to its timeliness, he would withdraw the Bill, whereupon the legislature applauded."

There is another small facet to this Oriental story. During the very early years of this century, the absolute monarch of Siam, King Chulalongkorn—the son of King Monkut, famous in song and story in "The King and I"—vigorously encouraged introduction of European ideas. In 1903, it is alleged that an Order in Council was issued, providing for the protection of British patents by registering them at the British Consulate. Subsequently, a few United States and other foreign patents were registered. The legal situation was tested only a few years ago by a British patentee who started an infringement suit. The Thai courts dismissed the case on the grounds that it had no knowledge of such an Order in Council issued in the distant days of the absolute monarchy. Thus, modern Thailand, which for long has been strongly pro-Western, fears exploitation by foreign patent owners.

In India, the economic picture is, of course, very different but the

same fear of exploitation is present. India inherited its patent law from British Colonial days. However, following independence, even though it had considerable industry, and the Tata Steel Works is one of the largest in the world, about 90 percent of patent applications each year are filed by foreigners and the total is only around 4,000—one-quarter of the number filed, for example, in Belgium or Holland.

Some years ago, a well-known Indian judge was appointed to investigate the patent system. His report was most unfavorable.<sup>2</sup> It is true that he was much concerned with pharmaceutical patents, but in general he concluded that India had very little to gain from granting patents to foreigners. Recently, the Indian government has declared its intention to introduce a bill in the Indian Parliament, the purpose of which would be to curtail the rights of patentees quite drastically.

Within another generation or two, it is probable that the patent laws of all major countries will need complete overhaul and modernization to cope with novelty in examination problems. The differences between countries will undoubtedly remain so great that a single world-wide patent system does not appear workable, and the practical approach is likely to be through simplification, harmonization, regional arrangements such as that mentioned by Mr. Francis C. Browne, and possibly extension of rights granted in one country to others at the option of patentees. This, of course, is an entirely different matter and a larger matter.

In the meantime, a solution for the less industrialized countries is set out in Paragraph 311 of the United Nations report previously referred to which reads as follows:

“In the final analysis, the question of patents must be seen and dealt with in the broader context of facilitating the transfer of patented and unpatented technology to developing countries, and enhancing the ability of the latter to adopt and use such foreign technology in the implementation of their development programs.”

This may need a new type of Marshall Plan in which the major countries massively aid the less industrialized countries. But in the purely technological sector, private capital and investment from outside will be necessary. Somehow ways will have to be found to allay the suspicions of less industrialized countries and to persuade them that the inventive capacity of their own nationals cannot be developed until foreign interests establish modern industries; that foreign capital needs the protection of patents if the best and most modern techniques are to be introduced; and that such foreign-owned patents do not lead to exploitation.

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<sup>2</sup> Report by Shri Justice Rajagopala Ayyangar.

A useful forward step has been taken by the Geneva Bureau of the International Convention (BIRPI) which has prepared a draft for a model patent law for the less industrialized countries.<sup>3</sup> Taken as a whole, this may appear somewhat complex, but it has many flexible provisions and is intended to be source material from which the less industrialized countries can draw when enacting new patent laws or revising their existing laws.

It includes sections for granting confirmation patents corresponding to existing foreign patents and for the protection of technical know-how, both of which seem essential for attracting foreign enterprise. It is to be hoped that this draft will soon be placed in final form and that it will receive the backing of the United Nations.

Thank you. (Applause)

DR. BEHRMAN: Thanks very much for getting us off to a timely start.

If each of our speakers will restrict themselves to about 15 minutes, we will stay right on time.

Dr. Arthur Niehoff of the Office of Human Resources Research, The George Washington University, received his Ph.D. degree from Columbia University and has worked as a researcher in India, Trinidad, Peru, and Costa Rica, studying those communities. He has also worked with AID as a community-development advisor and is presently working on the cultural problems in technical aid and he will speak to us on that facet of relations with the less developed countries. (Applause)

## Industrial Property Relations with the Less Industrialized Nations: An Anthropologist's View

ARTHUR H. NIEHOFF

I feel like a member of an underdeveloped profession to speak to all of you because I know practically nothing about patent or copyright procedures, so I will necessarily have to give you a general approach to the problems of innovation in which I specialize.

I assume that the group is interested in the transfer of the idea of

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<sup>3</sup> United International Bureau for the Protection of Intellectual Property (Geneva). Document PJ/34/2.

patents and copyrights to the less developed nations. The process of Westernization has gone on considerably in the developing nations because of the basic fact which we in anthropology believe to be in force at all times, which is cultural competition. In other words, every culture in the world, and in this discussion it would be a nation, is basically in competition with the others and where one nation obtains an advantage in any particular sphere, it is necessary for the other nations to obtain a comparable advantage or else suffer competitively; and it is for this reason that the industry and the technological superiority of the Western nations has been carried forth and is desired by practically all of the underdeveloped nations that I know of. They want the riches and the power that have been a product of the industrialization process that has taken place in the West.

On our side of the picture, we need to help them, quite apart from humanitarian motivations, from the point of view of our own survival in a competitive world of opposing ideologies. Due to this attraction of the developed nations to the underdeveloped nations, there has been a tendency to carry forth *en toto* the cultural patterns that have emerged in the West.

But when I say that they are interested in the technological, productive superiority of the West, this does not mean that they will absorb all the ideas and techniques that we have available. The main reason for this, and I think there is a tie-in here with what the previous speaker said, is that all of the developing nations have cultural patterns of their own, which in the long run they intend to perpetuate.

In fact, from their point of view, the transfer of ideas from us to them is mainly a means of their maintaining their own viability. In other words, they have understood through the process of trial and error that if they do not get the industrial superiority that has emerged from the West that they will eventually suffer, and in the long run they might actually be eliminated. From an anthropological point of view, you can view this process all the way back to the very primitive peoples of the world.

One of the prime examples would be the American Indians who, when they were besieged with the cultural and institutional power of the West, attempted to obtain as much of it as they could in order to maintain their own survival, including guns and even organizational changes such as the Iroquois Federation that occurred in New York.

The ultimate purpose of taking over these innovations was so that they could remain Indians. Unfortunately, they started too late and the juggernaut of Western industrial power went over them despite their efforts.

However, I think it is absolutely essential to remember that countries who want motor vehicles, airplanes, transistor radios, videos, fertilizer, and all the rest of the obvious characteristics of industrialization, will not and do not intend to abandon their religious beliefs or their social practices as well as many other aspects of their own culture.

It may seem very simple to bring something which is absolutely new into their culture as if this would have no relationship to the other patterns of their behavior. Unfortunately, this point of view does not work too well because of a fact which has emerged through anthropological studies, which is that a culture is an integrated whole. One part of it, whether it is a patent or copyright procedure, or whether it is a particular religious belief, cannot be divorced from the other parts of the culture.

Any innovation, whether it is an idea or an object, ultimately affects more than the specific goal which it seems to be aimed at. This is true, of course, in our own society as well as in those which we are attempting to influence and assist.

For instance, one of the most obvious examples of this would be the case of a cultural innovation which is still in progress in our own country after a hundred years, which is the establishment of political equality for minority groups, and particularly for Negroes. Although in the inception, it may have seemed that there was nothing more to this than giving them their freedom, it has turned out to be that there is a lot more involved than simply political equality or the right to vote.

There are economic relationships. If you have field workers that you can get for 75 to 80 cents an hour and you realign the power relationships by giving them the vote, this situation will not exist very long and the kind of economic relations for getting your crop out will have to change. There are considerable social effects from this.

One of the most vivid examples that was brought to my attention very recently was that integration does not simply mean that people are sitting in the same classroom and studying together. It means such things as the spring prom. If the school is integrated, everyone can go to the prom. If everybody can go to the prom, everyone who is aware of the situation realizes that there is a possibility of two people getting more interested in each other than merely being students together and, ultimately, of course, the possibility of marriage becomes a potential reality. (Laughter)

It affects the eating relationships, as we have well seen. It affects the religious practices, whether or not they go to your church or you go

to theirs. It really means a total change of life, what once seemed a simple innovation.

Now what does this mean in terms of transferring ideas to non-Western nations? It means that because of the material success of the West, there is a tendency for us to transfer our ideas without selection as to whether they are critical in the industrialization process or not, and there is a tendency for the developing nations to accept all kinds of things which really don't have anything to do with the industrialization process. For instance, as all of you know, all men who are educated in the world today wear trousers or suits, and this is merely because people who came from rich, industrial countries wore trousers and suits and these have been carried to all parts of the world where they are often unfunctional. If you ever spent much time in the monsoon tropics, you realize that trousers are a pretty uncomfortable garment compared to the ones that have been used there. However, trousers were taken along with the total Western complex, as well as women's dresses, although the latter has had considerably less influence than men's suits.

However, although the developing nations may take the ideas that we advance in the inception—and I think this was pointed up by the previous speaker pretty clearly—when they conflict strongly enough with the traditional cultural pattern they may very well reject them.

I have been impressed by the transmission of the idea of democracy all over the world, which we associate with industrialization and with our way of life. Democracy, of course, has a whole group of procedures—voting, constitutions, legal systems, etc., and these in the inception have been adopted all over the world. There is hardly a country you can name that doesn't have a constitution.

However, the number of countries in the developing nations who operate on the basis of constitutions are relatively few. Most of the developing nations have emerged from governments which were basically authoritarian. They thought that constitutions and voting procedures were closely associated with industrialization, with riches and with power. However, they themselves did not realize until they became deeply involved in it, that they conflict strongly with the authoritarian, paternalistic patterns of government that they had used before.

I want to mention the transfer of legal ideas to a country in East Africa as the best example that I have of what you are interested in. In this instance, an American legal advisor followed a group of United Nations legal advisors to help draft laws which would assist in the development process and to make this country more modern. They



took ideas with them which basically were not workable and basically conflicted strongly with the traditional patterns.

One problem that they wanted to rectify was the fact that the people had no surnames in this country. This was not a part of their identification system. The United Nations legal advisors and following them, the American legal advisors, felt that you could not identify people if they did not have a surname that was passed from father to son. In most of the non-Western world the pattern of surnames was not common traditionally. This is a Western practice. In this country, however, you were given a name which you used as your identification name along with the given name of your father, so that if your father's name was John and you were given the name George, you would go through life as George John, but there was no surname attached.

The legal advisors drafted laws with the agreement of the local government, establishing a bureau for registering everyone within six months. After two years, not only was no one given a surname in this country; they had not even established a bureau where anyone could register. (Laughter)

Obviously, the local people never really wanted a surname in the first place and another thing that is obvious to a student of comparative cultural behavior is that basically, there is really nothing essential about having a surname. There are other means of identification possible. Perhaps merely two given names wouldn't be enough but a third given name might be applicable and it would fit into the native pattern of behavior and be more acceptable to them.

Even more than this, the legal advisers established a civil law on the basis of the French civil law, which was based on the idea that a citizen is a citizen and all citizens have equal rights and are controlled by the same kinds of laws. When this civil law was put into practice, the authorities immediately started getting complaints from all of the Muslim districts of the country. The ruling group of this country was not Muslim. The Muslims had a whole body of religious law which governed the relationship of men to women, of inheritance, and of many other aspects of their lives. They did not have the same pattern of social and religious relationships as the Christian majority in the country did.

The government officers took care of the situation very simply. They drew up a memo and sent it out to all of the Muslim provinces. On this memo, the Chief Judicial Officer wrote: "The civil law is only a technicality. If it violates Muslim law, ignore it." Obviously, this was completely against the intentions of the innovators in this situa-

tion, but this was largely because they had never bothered to find out what the local situation was.

I asked the man who had spent two years drafting laws if any had been passed and he said they had all been put into a drawer. The theory was that ultimately the people responsible would pull them out, put them in the legislature, and act on them as their own laws. This is very hopeful and possible, but my guess is that a large part of them will never see light again.

Then I asked him, "Did you make any effort to find out what the local legal system was"?

He said, "No, we were in the process of chucking it out."

I didn't say so to him, but he should have been able to realize that he was not in the process of chucking it out because his own laws were being chucked out when they came in conflict with the local tradition.

So finally, all I will say is that as a strategy, whether it is for copyright, patent laws, or any other kind of innovation, it is indispensable to learn what the local pattern of behavior in respect to your innovation is and attempt to adapt to it rather than bring in an absolutely new idea unless the benefit is very clear-cut, which usually is not the case.

Thank you. (Applause)

DR. BEHRMAN: Thank you, Dr. Niehoff, for that cross-cultural note.

The final presentation in this section will be from Lawrence Krause who is with the Brookings Institution here in Washington. He received his Ph.D. in 1958 from Harvard University. He served on the faculty of Yale. Those of us from the Princeton area feel slighted. (Laughter)

In 1963, he joined the senior staff of Brookings Institution after having served in the White House as a consultant on tariff negotiations. He has also been a special lecturer at Johns Hopkins University. His special area of interest are those of the economic aspects of international taxation, international trade, and investment.

Larry. (Applause)

## Industrial Property Relations with the Less Industrialized Nations: An Economist's View

LAWRENCE B. KRAUSE

In listening to Dr. Niehoff, I was struck by how the cultural attributes of Americans reflect other cultures.

There is a proposal by tax administrators to assign numbers at time of birth to Americans as part of one's birth certificate, and this number would stay with you throughout life and would be a form of tax identification. So far, the Congress has refused even to consider such a suggestion. This reflects either our East African heritage of refusing to be identified or the French tradition of wanting to avoid income tax. I'm not sure which. (Laughter)

We really have ranged quite far over different fields in this conference. Last night, we heard a plea for the leisure of the theory classes;—(Laughter)—today we are hearing a plea for an international war on poverty.

In trying to indicate why I think such a war is worthwhile, I can do it from a number of points of view. As a pure theoretician, I would like to say that making underdeveloped countries better off also aids those countries that are providing the resources. But it is also obvious that the problems of the developing countries are becoming of much more political concern to us. And in our rather unsettled world, we can overlook their difficulties only at our peril.

Well, what are the problems of these countries? Once we called them "underdeveloped countries," then "less developed countries," and now "developing countries," which indicates progress in semantics, if nothing else. (Laughter)

There are, of course, a number of problems. Some of them are very well known: shortage of capital, often called "infra-structure." Countries lack roads, lack harbors, lack power plants, and of course, plant and equipment factories to produce modern goods. Secondly, there is a shortage of foreign exchange which is in the addition to the shortage of capital. The needed ingredients for the development process require a growing flow of imports and unfortunately, exports from these countries which could pay for needed imports have been stagnating.

And thirdly, and possibly more basically, these countries lack an ability to respond to the market forces prevalent in their own countries. This can be considered in part a lack of entrepreneurship in these countries, but also a lack of access to advanced technology. Both of these shortages are a legacy of the past. However, it is probably this last shortage, the lack of access to advanced technology, which may be the most impressive shortage of all because, as we know, the state of industrial arts is constantly changing. All countries are engaged in a sort of a race. The ones that are behind now may well never catch up.

We have seen that progress can be made on the problems of these countries. First, there are sources of savings available to overcome capital shortages. Even within rather poor societies, if properly harnessed, private savings are available. Of course, these can be supplemented by government savings where private sources are lacking and, indeed, even some places where they are not lacking.

Foreign sources of savings through government-to-government aid are available and of great benefit. Foreign government aid also helps to solve the second problem, the shortage of foreign currency. We have seen some other areas where the foreign-currency problem is being helped. Traditional exports of commodities of many developing countries have been doing rather better in recent years than had once been thought likely. In fact, if the developed countries of the world attain prosperity, then there will be a growing market for some of the traditional products of the less developed countries. Finally, some of the underdeveloped countries have been able to diversify their exports, but clearly substantially less progress has been made in this area.

This conference, however, is clearly more concerned with the third basic problem—how can the knowledge and experience of advanced societies be transferred to the less developed countries? Of course this is not a unique problem, and one might say that a major attribute of the patent system is to encourage such transfers.

Ideally we might think that such transfers could be made through licensing agreements between private firms. Firms in advanced societies could, through licensing agreements with firms in lesser developed societies, pass along industrial knowledge. However, there are at least two major barriers to such licensing agreements. One is the lack of legal protection in many less developed countries, which I believe Mr. Robbins talked about earlier. I must say these countries must be excused in part because their historical backgrounds force them to think of a patent system somewhat differently than we do. Monopolies in these societies have been identified with imperialism. This, of

course, is what they have, or think they have revolted against. Legal protection for invention may also be absent because the advantages of encouraging research which a patent system provides through legal monopolies may not be so attractive when there is no existing trained personnel to do the research.

The second major barrier to setting up licensing agreements is that the business entity in the less developed country may not be able to make proper use of patent rights. Industrial skills may be lacking. If this is so, the only other alternative is for foreign firms to provide both the technical skill—the patent rights—and the entrepreneurship through direct investment.

In some underdeveloped countries foreign investment may not be encouraged or even desired. And one might think that this is the situation today, for instance, in Indonesia. In this case nothing can be done for the country. No amount of encouragement through taxation or other means will lead to a successful setting up of a direct investment. There are many other countries, however, where foreign investments are encouraged; but even here, foreign investments do not go forward without difficulties.

One problem that I want to deal with today concerns the business decision of which form of business organization to set up; should a subsidiary (or branch) be a wholly owned foreign corporation; a controlling but not exclusively owned enterprise; or should only a minority ownership be contemplated. Many business considerations point to full ownership as the best form and full ownership is greatly preferred by American companies. In the first place, a company can avoid many difficult business-decision problems that would arise if one was in partnership with a local company. For instance, Americans and foreigners generally disagree as to dividend policy. The American firms traditionally like to reinvest a major share of their earnings in the early stages of the development of a firm, where, more likely, the foreign partners would prefer a quicker pay-out. And this can become a basic disagreement within partnership arrangements.

In addition, ideas about pricing a product—obviously a basic business decision—frequently come into conflict, as do questions of labor relations. American firms frequently would prefer to pay somewhat above the local wage rate in order to attract better workers and maintain their loyalties. Foreign partners frequently think that this is very bad form leading to a basic disagreement.

A second reason why American firms tend to want full ownership is that United States companies feel that they are providing the essential ingredients for a successful business, and therefore see no reason why

they should share the profits with co-owners who, they think, are not making equal contributions.

The problems attending full ownership, however, are also great, because wholly owned foreign firms are becoming socially unacceptable in the less developed countries. In the first place there is the political sensitivity to foreign control. Secondly, local businessmen and politicians envy the high profits of foreign owned firms and they would like more of these profits to stay in the local economy.

It may well be that partnership arrangements will become "a political necessity in the near future." Indeed this situation already exists in countries like Mexico where laws demand local participation.

If I have a message today, it is that I think American companies should make a virtue out of this necessity; because existing foreign firms may be able to provide a rather substantial contribution to the business success of a venture even though they may not appear to at first. For instance, local participants may be able to provide distribution channels and these are more valuable in less developed countries than in advanced countries.

In addition, the whole range of knowledge of local people and their customs can be provided by local partners, and as Dr. Niehoff suggested in his speech, this knowledge is very valuable for a business firm although in the abstract, it may be hard for businessmen to appreciate.

And finally being socially acceptable in the long run is the profit-maximizing position. Companies will be able to operate with less government interference, with less labor difficulties, and probably with less frequent attacks by political extremists.

So in conclusion I would like to say that I think joint investment ventures can lead to a better life for peoples in less developed countries, can lead to high profits for American companies, and, indeed, may improve diplomatic relations between countries.

Thank you. (Applause)

DR. BEHRMAN: Thank you, Larry.

We turn now to relations with other countries, including the Soviet bloc.

About eight years ago, at the inception of a course in the American Management Association, I had the privilege of introducing Mr. Ira Wender to talk about international tax problems. Since then, on various podiums in New York and Washington I think I have introduced a slew of Baker, McKenzie & Hightower speakers; and I wish only that I had the monetary equivalent of all the free advice I heard at that time, and I wouldn't worry about the drop in the stock market.

Ira is a partner of Baker, McKenzie & Hightower in the New York office. He started most of his research on foreign investment and taxation as co-author of a book by himself and Mr. Barlow. Since then, about 1954, he has written numerous articles dealing with the problems of taxation of income from foreign operations.

He received his LL.D. from Chicago and his Masters in law from New York University. And he was, during the period in which he wrote the book I have just mentioned on foreign investment and taxation, Assistant Director of the Harvard Law School. He will speak to us on that part of the problem dealing with the industrialized nations.

Ira. (Applause)

PART XIII—*Invited Contributors*

## Industrial Property Relations with Industrialized Nations: Tax Aspects

IRA WENDER

One nice thing about following another tax man as a speaker is because that story about numbers at birth made me think of a tale that I had heard about the trend of our tax administration to play the numbers game.

The story goes that a boy meets a girl in 1990 when we all get numbers instead of names: it's much easier to keep track of us that way. And he is quite taken by her. He asks, "What is your name?" And she replies, "8116390." He says, "My, that's pretty." She looks at him and says, "What's your name?" And he says, "7184269." Then she looks at him and says, "Why, you don't even look Jewish." (Laughter)

But seriously before I get into this talk, following an economist, I wish to make my usual apology: it is, I suppose, a lawyer's viewpoint which, I guess, impolitely you could call the worm's-eye viewpoint. I think we as lawyers tend to know a fair amount about a relatively limited area that comes within our experience. The economists have a nice way of phrasing this: They talk about the fact that lawyers have the microscopic view and the economists have the macro-

scopic view, the big picture. And I think there is a good deal of truth in this.

But it seems to me, with that apology, that there is a growing trend in the developed countries as well as the underdeveloped countries toward joint ventures between United States corporations and national corporations of the developed countries, particularly involving the exploitation of advanced technology.

The reasons for this I think are derived really from several sources. On the United States side years ago there was a tendency to merely license, to enter into license agreements under which the United States company derived what appeared to be a fairly substantial income from the use of its patents and its unpatented technology. I think this has seemed to many companies illusory because the grant of a license carries with it generally the responsibility to also provide continuing technology. And the cost of developing new technology has risen so startlingly in the United States that many companies have felt that royalties were not an adequate form of compensation for this provision of continuing of more and more sophisticated technological assistance.

This trend has been unquestionably furthered by developments which have occurred abroad. Here I think the remarks that Dr. Lachmann made at lunch are most appropriate. Throughout Europe you have a feeling that if they are not careful they are going to be inundated by American technology. Generally the economic units are much smaller than our own. They have less capital available to them. Moreover, I think it is a sociological phenomenon as well as a legal phenomenon in that they are much less willing to expend money for research and development. In part that is a turn of mind, or a way of thinking; and in part it is also because they are used to having much smaller markets from which to recoup these heavy costs.

So out of this combination there is governmental pressure and a tendency on the part of the European firm not to want to sell out, to want to develop means of acquiring this advanced technology. So you see in countries like Japan a government agency which essentially restricts the percentage of American ownership, and you have a very clear tendency in Japan for American countries to contribute technology for stock of a joint venture set-up with a Japanese firm in a similar field.

This has begun to happen in Europe, I think for other reasons. Forgetting the governmental pressure, there are shortages of labor, of facilities and what-not, which makes it difficult for the American com-



pany to come in at this stage into Europe and set up a wholly owned enterprise. Hence a tendency to form amalgamations.

Undoubtedly this trend will be substantially furthered by our domestic tax legislation. We have in enacting the interest-stabilization tax in effect cut off to a considerable extent the United States capital market for most of the companies and governments of what we now refer to as the developed countries of the world. And while that may be good short-term policy for the United States, it is something of a disaster for countries like Australia, Canada and, in fact, most of the countries of Western Europe. Their capital markets are small, not particularly efficient, and the total amount of capital available is relatively minute.

In fact I have heard that the new capital formation in the six countries of the EEC is on the order of half a million a year. That hardly represents the amount that United States companies have expended in new ventures in the EEC countries during the past three years. I mean United States companies have annually expended more than that in new investments. So that all of these pressures tend to push toward joint ventures, it seems to me, in which the United States company is most frequently the contributor of technology and, to some extent, it may also be a contributor of capital.

This development raises a series of tax problems which are not present in the more traditional forms of the exploitation of industrial property, such as licensing. In general a transfer of technology to a foreign corporation in exchange for stock of that corporation is not a tax-free transaction; unless, first of all, the technology is property and, second, unless prior to the transfer the taxpayer has gotten an advance ruling from the Internal Revenue Service that a principal purpose of the exchange was not the avoidance of United States tax. The IRS, in endeavoring to administer these provisions, has developed a somewhat more clear-cut attitude than they have had in the past. And it is also a somewhat more restrictive attitude. It is an attitude that reflects the general outlook I believe of the Treasury towards foreign investment today, which is hardly one of great favor.

If the transfer of technology is to be to control a foreign corporation, as a matter of policy the Internal Revenue Service will not permit, will not grant such rulings, and will not permit the transfer to be tax-free. If the transfer is to a corporation which is a joint venture between a United States interest and a foreign interest, these rulings will be given providing certain conditions are met.

And the first of these is that the technology transferred must be characterized as property. Now this is a concept with which the lawyers

of the Internal Revenue Service are having considerable difficulty. They recognize that Congress has said that patents are property, and so has the Supreme Court. And therefore a transfer of patents does not cause great difficulty.

Similarly the transfer of trademarks is not a difficult thing to see because, again, Congress has said this is property. But when you get into the more important areas of technology today it frequently involves secret processes, secret formulas, special technology, which is the property of the transferror. This may be patentable, or it may not be patentable. But it is clearly valuable or the other party would not agree to such a venture. Nevertheless the Revenue Service feels it is their duty to determine whether this is something which is property from a United States tax standpoint.

The IRS has a number of areas in this question of whether or not intangible technological property—or what we would probably call in this conference “property”—is in fact property for tax purposes.

First, they are bothered by a question which perhaps should be bothersome. They say that, for example, there are perhaps 12 or 15 United States companies that produce stainless steel. Each has a “secret” process for its various grades of stainless steel. Each of these processes are presumably different since they apparently do not exchange information about them. Does each have a secret process, and is this secret process in fact property?—since presumably any one of the 12 or 15 formulae for any particular grade is basically interchangeable.

Second, the Revenue Service is concerned as to whether such intangible, say, non-patentable technology, even if it would be property in the United States, is in fact property under foreign law.

For example, there have been rulings pending for as long as three years with respect to the transfer of certain types of technological know-how to Japanese joint-venture companies. The reason these rulings have been held up is that the IRS is unable to decide whether as a matter of Japanese law these intangible rights are entitled to legal protection. They have received a series of opinions which would indicate that they are. On the other hand, they read in *Time* Magazine that the Japanese specialize in schools for industrial spies, and they say if such industrial spying goes on we conclude that perhaps there is no protection granted to this type of property, and perhaps it is not property under Japanese law.

And so on the authority of *Time* Magazine the taxpayer waits.  
(Laughter)

Third, the Service is bothered by the question of the inter-relation-

ship of services and property. Whatever is received for services for tax purposes is treated as ordinary income upon which ordinary income tax is due. Moreover, services cannot form the basis of an exchange which is tax free: that is, if you receive stock for services you remain taxable on the value of the stock. Clearly most technology arises from the rendering of services. At what point in time, or at what place do the services in a sense merge into the technology, and does the technology become a kind of property which they must recognize for tax purposes? This is a question which they have so far had great difficulty in dealing with.

Well, now, turning to a few other of the opportunities and challenges we have one trend that I think is worth mentioning that has been developing in countries outside the United States. Because of the concern that Dr. Lachmann mentioned of the fact that technologically the two non-superpower-developed countries are falling behind—and that is the non-superpower countries are falling behind the superpower countries—as a matter of domestic legislation and tax legislation, a number of the industrialized countries have begun to give special tax benefits for expenditures for research and development. The devices so far have involved such things as granting 140 or 150 percent of the amount spent on research and development as a tax deduction. I suspect that we shall see further development in this field because, as has been indicated, the gap is growing rather than narrowing.

Finally, on the challenge side, I think that as you are involved in the industrial property sphere it is perhaps worth noting what has been happening in terms of United States domestic-tax handling of technology. The recent policies of the IRS have had, I believe, and will increasingly have, a considerable effect on the international exploitation of industrial property.

Two attitudes particularly that the Revenue Service expresses are causing companies difficulties today. The first of these is that the Revenue Service insists that a United States company must charge royalties or technical service fees to its affiliates or subsidiaries abroad for the industrial property rights transferred or licensed or allowed to be used by them. And in the absence of such charges the Treasury has served notice that it will impute royalty income to the United States patent and impose United States tax upon that imputed income.

Second, the IRS is leaning toward the view that United States corporations must charge their various subsidiaries and affiliates a portion of the cost of their research and development activities in the United States.

And I think these two trends will probably go further before they terminate.

Thank you. (Applause)

DR. BEHRMAN: Thank you, Ira.

To present the problems in the copyright area we have Mr. Dubin, who is Chief Studio Counsel of Universal City Studios, and a member of the California Bar. He is Co-Chairman of the ABA committee on program for the revision of the copyright law, and chairman of the Copyright Committee of the APLA. He is past Chairman of the Copyright Section of the ABA, and past Chairman of the International Copyright Committee of the AIPPI. He was a member of the Council of the PTC Section of the ABA and has been a member of most of the copyright committees of the ABA.

He is now on the Panel of Consultants to the Copyright Office on the Revision of Copyright Law, and as I say will speak to us on that phase of the problem. (Applause)

## Intellectual Property Relations with Industrialized Nations: Copyright Aspects

JOSEPH S. DUBIN

Dr. Behrman, and ladies and gentlemen:

I understand that part of my talk is going to be the relations of the United States with other nations and the Soviet bloc, and I assume not as highly developed nations as some of the great nations of the world.

That also reminds me of a story. It is a story of two citizens of one of our newly emergent nations who were sitting in the capital of their country bemoaning their fate and the poverty of their country, and where were they going to get resources to set up some form of government.

And one of them said, "I have a great idea. Let's declare war on the United States." The other man said, "What do you mean, declare war on the United States? First of all, we only have five bows, ten arrows, and they are all retreads. We have one gun and one shell, and that gun doesn't even have a breechblock. We couldn't even get a

corporal's guard out when Sukarno came to visit us. How could we declare war on the United States?"

The other man said, "It's very simple. We declare war. We will be invaded. And we will lose the war. And then the United States will treat us as it has treated its former enemies—Germany, Italy, Japan. It will pour millions of dollars into our country and we will become a very, very powerful and wealthy country."

The other man thought about it a little bit, and he said, "Well, you know it sounds good. But with our luck we might win." (Laughter)

I use that as a preface because I want to take a little bit of time to develop the attitude of the United States with other nations, and, in turn, the attitude of the other nations as far as we are concerned in this field of protection of intellectual property.

First of all, works of alien authors not resident in the United States were not protected in our country until the adoption of the Chase Act of 1891. As a matter of fact the first copyright act enacted by the first Congress sanctioned expressly the piracy of works of alien authors. And it wasn't until 1891 that the Chase Act gave protection based upon compliance with the manufacturing provision of the law, and based upon the essential element of reciprocity.

Before the Universal Copyright Convention came into effect in this country in 1954—and a gentleman whom you may know, by the name of Jo. Bailly Brown, has always accused me of being responsible for the international copyright convention being called the Universal Copyright Convention, because of the company I am affiliated with. And I have always answered him by saying "It sounds better than 'Warner Brothers Copyright Convention'." (Laughter)

But before this convention came into effect in this country our laws protected works of aliens domiciled in this country at time of first publication. Those not domiciled were protected only if the foreign state of which the alien author was a citizen or subject granted to United States citizens the benefit of copyright on substantially the same basis as its own citizens. In other words, the element of reciprocity was established. And the existence of this determination was made by presidential proclamation and could not be attacked by the courts.

At the present time we have copyright treaties with Hungary, Thailand and China—that is Nationalist China, and we are granted national treatment by all countries to whom the presidential proclamation is extended. Now the United States has never adhered or become a member of the Berne International Convention primarily due to the

fact that that convention contains concepts which are foreign to our concepts of copyrights, such as copyrights without formalities, protection of the moral right, retroactivity; and also because of the requirements of our manufacturing laws—and I am talking about our laws that exist now or are in the proposed revision.

We signed the Washington Convention, which was signed here but never ratified by us. We are parties to the Mexico City Convention—and, by the way, Mexico is not: that convention just applies to the relationships between ourselves and El Salvador. (Laughter)

And we are parties to the Buenos Aires Convention.

Generally, therefore, with the exception of the Buenos Aires Convention, we must comply with formalities in the countries where such formality is made necessary.

In the past we sought to obtain protection through the so-called simultaneous publication, through the back door, by publishing in a Berne country. That, of course, for your private information, is subject to a great deal of doubt. And I imagine if it were ever attacked in the courts that form of protection would be held to be completely valueless; so much so that the proposal for the next revision of Berne, in Stockholm in 1967, has suggested that that be resolved so as to take care of the protection of non-unionist authors as well as authors of the union countries.

It might be interesting for you to know—and I mentioned it to Dr. de Haan before the session opened—that even though the State Department has repeatedly announced the Netherlands as a nation with whom we enjoy reciprocal relations, for your information United States works are not protected in The Netherlands.

The Universal Copyright Convention which came into effect, signed in Geneva in 1952, has now grown to 49 members. It has certain drawbacks, but it is a landmark in the field of copyright law. It creates no new law of copyright, but in harmonizing existing national systems on a simplified national-treatment basis it represents the culmination of many years of preparatory work.

The Convention adopts the fact that divergent concepts exist and provides for a pragmatic accommodation for them. It is in most respects a realistic and workable treaty. The Convention rests on the principle of national treatment. The protection afforded to literary, artistic and scientific works of nationals of an adhering state must be no less effective than that granted to works of nations of the adhering state in which protection is sought. Certain minima as to duration and formalities are set up.

It is anticipated at the present time, with the present growth of

the two conventions, namely Berne and the UCC, that the UCC should overtake Berne in about two years.

Now this protection of the works of nationals of any other contracting state and works first published in the other contracting state is a fusion, a merger of the two concepts of copyright, namely the idea of national treatment, which is the United States concept, and nationality of the work, which is the Berne concept. And it is this last provision that raises serious problems.

Russian works, for example, may obtain protection in the United States by first publication in Czechoslovakia which is a member of the UCC, or in France which is a member of the UCC; but Russia affords no protection to works of United States citizens nor to the works of any other country. We will treat that a little bit more at length in this discussion.

I sincerely believe the UCC should be amended to provide that only published works of UCC nationals should be protected in each contracting state.

The medium of expression of literary and artistic works clearly demonstrates the two divergent philosophies of copyright: namely, the Anglo-American concept that statutes, instead of granting additional sanctions to rights already held, substituted a new and lesser right to the exclusion of an old and greater one; that literary and artistic property lost the character of copyright and became the subject of copyright privilege, depending upon legal enactment for the security of the private ownership. And the second concept which is the ever-spreading ideology of European civil law, namely that copyright is but the extension of the author's own personality.

To show you how far this concept has gone, there is a doctrine in Europe called *Domaine Public Payant* which provides that after expiration of the normal period of protection a work may not be freely used without payment of royalties, which generally goes to authors' societies. This doctrine which advocates virtual perpetual protection would appear to be an obstacle to the free access of the cultural life of the community and clearly is a tax on the public and culture itself.

The doctrine is in direct conflict with the Anglo-American concept that copyright in any form is a monopoly consisting only in the power to prevent others from reproducing the copyrighted work. And there must come a time when learning and knowledge become the free property of all.

The protection of artistic and literary property cannot by logic or good morals be recognized or endured in perpetuity. Any other

conclusion would not only be contrary to the whole philosophy and policy of our copyright law or the constitution, but would be directly opposed to the basic policy of free competition which is the heart of our social and economic system.

Many of us in this field have run across the problem in certain countries regarding wartime extensions. For example, our term of protection is 28 with a possibility of another 28 years. Most countries of the world have a term of protection of 50 years after death. By reason of World War I and World War II certain countries have taken care of protecting the works of their nationals by providing for an extension due to the intervention of various world wars.

Query: Is a non-national, for example of France, entitled to the benefits of World Wars I and II extensions, which amounts to approximately 15 years?

The answer is, of course, no, in the absence of a specific provision. Because it would be extremely unfair, for example, for a German national whose country was responsible for the two world wars to gain the benefit of the World War I and II extensions which were granted to the people who suffered by reason of those two world wars.

This is one of the problems that you face in attempting to determine what your rights are in various countries.

Let's take another provision in France—and I mention France because it comes up in still a third way—and that is the question of doing away with lump-sum payments for authors. You no longer can buy outright, but the author must share in a proportionate participation in the revenue derived from the utilization of the work.

Would that apply, for example, to a motion picture utilizing a French work? Well there are legal reasons why it wouldn't, but there is a more practical reason why it shouldn't. And the French are very practical and determined that it wouldn't. After all, if a foreign company, such as a United States motion-picture producer, had to pay a French author a percentage of the box-office revenue derived from the showing of that picture in a particular country that might mean that foreign producer might not be willing to bring American dollars to France. I leave it up to you what the answer would be if it were presented to the French courts.

Let's come to the proposed United States revision. And that's where George Cary and I have quite a bit of difference. And that's the question of the protection of unpublished works of non-nationals. I take



the position that there should be reciprocity. Mr. Cary says no, because it is merely an extension of the so-called common-law right.

Let's find out.

In the supplementary report of the Register the retention of the provision is advocated by Mr. Cary, and is sought to be justified on the grounds that if unpublished works were subjected to the same conditions imposed upon published works, it would be necessary to adopt some sort of a procedure that might involve us as far as the UCC is concerned. But there appears to be no justification for this solicitude in connection with works of foreign authors, particularly authors of countries who haven't seen fit to protect United States works either on the basis of treaty or proclamation.

I say that the resolution adopted by the APLA in Houston gives the best expression, namely that foreign works published or unpublished should be protected only on the basis of treaty or proclamation.

In the preliminary report of the Register of Copyrights a great hullabaloo was made about the French system, namely that France protects works without the necessity of reciprocity. Well first there is a serious legal question as to whether that ever was in effect. But in 1964 France decided that this system should be abolished because, as it stated, generosity is not appreciated but is too often abused. It arose by reason of a certain gentleman whose memoirs were published, and he discovered to his great surprise that they were published in a country that didn't protect the works. As a result of that France decided that the protection of foreign authors implies the existence of reciprocity, since such protection is based upon the universalism of copyright. Copyright is acknowledged almost everywhere in the world, and it must be regulated on the basis of mutual respect.

The French law of 1964 does not discriminate against the nationality of authors nor against the place of origin, but takes into consideration the lack of mutuality between the law of the country of origin and that of the country in which protection is sought. If the country of origin does not assure to foreigners the protection which is equivalent to French law, then the works of non-nationals of France will not be protected.

There is no reprisal and there is no retaliation: France merely refuses to grant to foreign works any greater protection than that foreign country grants to French works. There is nothing unusual in that.

But France, even in applying this formal French system, never went as far as the proposal of the Register; because the Register's proposal is advocating the protection here of works of a country when that

particular country may not protect the works of its own nationals. So we, in effect, will be giving greater protection than is afforded in the country of origin.

Now let's go specifically to our relations with the Soviet bloc. And I think I will answer Mr. Federico's statement about "So what?"—which was meant as an aside. (Laughter)

First of all, we have no relations with Albania, Bulgaria or the U.S.S.R. or Yugoslavia. I am talking about copyright relations. I won't go into China, because we theoretically have a copyright treaty with Nationalist China. And we have "reciprocal" relations by virtue of presidential proclamation with Czechoslovakia, Poland and Rumania. I have mentioned Hungary previously. There is a serious question whether, in the absence of the UCC, we would have protection in those countries; because those countries granted us protection referring specifically to a law of a certain date. That law was in existence before the take-over by the Communist regime. Those laws have been specifically repealed and new laws have been enacted.

Query: Do we get protection in those countries?

I must point out that in all of the Soviet countries, where theoretically we have protection, if there is any protection of United States works, we get only the protection that that country affords its own nationals. And let's see what that protection is.

First of all, imperialist Russia always kept itself out of any international copyright systems. There were no treaties on international copyright regulations. I think it was due to the fact that copyright legislation in imperial Russia was not in harmony with that in existence in more highly developed countries.

In 1917 at the time of the revolution the formal copyright law of 1911 was abolished, and under a decree of 1918 all works were nationalized by decision of the state. The new regime, even though it didn't like—and I think properly so—the old imperialist regime, took over some of the shortcomings. Under the recent copyright legislation of 1961, which is merely a reaffirmation of the 1928 legislation, a translation is not an infringement, and there is no protection for foreign works.

Today the Soviet Union is the world's most active literary pirate. Between 1917 and 1950 over one billion works, foreign works protected by copyright, were published in the U.S.S.R. without the consent of the copyright proprietor. I am advised that CBS is still awaiting an answer to its protest lodged with the cultural attache of the Soviet Embassy in Washington by reason of the deliberate appropriation of *My Fair Lady* which was performed in Moscow in 1964. George Cary

mentioned to me a long hard summer as far as the copyright law revision: I imagine we will have a long, hard, cold wait before we get any reply from the Soviet attaché.

But how are native authors treated in the Soviet bloc? It must be remembered that in the Soviet system the individual disappears before the collectivity. The Soviet principle is that the author works for the good of the community and should be remunerated in accordance with "social significance and usefulness" of his work. Once he has offered his work for exploitation in any medium the fees he is to receive are set out in a series of schedules laid down in the copyright law. The rates vary both as to literary merit and the contribution the work makes to the cultural growth of the nation and its communist education.

Socially useless writings, whatever their literary merit, earn nothing at all. Ownership of exclusive rights has been eliminated, for with complete socialization the term has lost its meaning. The author only has the right to secure the services of a socialistic organization to publish, reproduce, circulate and publicly perform his works. And his exclusive right to derive material benefits from the publication or public performance of his work is only the right to receive compensation in accordance with governmental schedules; for exclusive rights are deemed unsocialistic.

I believe that rather than attempting to effectuate full reciprocal copyright protection with the U.S.S.R. that efforts should be made to secure in the U.S.S.R.-bloc countries treaty rights providing for remuneration for foreign authors on terms similar to those enjoyed by Soviet nationals.

Now what about the lesser developed countries?

I call your attention that when the UCC was adopted, in order to satisfy special needs in certain countries to make foreign writings available to their peoples in their native languages, the UCC permitted limitations on the exclusive right of an author to translate his works if safeguards, such as correct translation of the work and a just and effective compensation of the owner of the rights, were assured by the domestic law of such countries. This provision was enacted for the benefit of the states whose cultures were not advanced, and was a compromise between a group desiring full protection for the author for the full term and a group for certain protection for a limited period. That attempt would seem to be minimized, because now the proposal is that regardless of our efforts in the field of international copyright relations, as announced at Geneva in 1952, we should break

that down by allowing nationals of other countries who do not give us protection to still have protection for their unpublished works.

The attitude of the United States has been made clear by its legislation in connection with foreign works as well as by the standards at Geneva of 1952. New nations should be encouraged to adhere to the UCC as independent states. Any other method to protect unpublished works, for example, would give protection to the unpublished works of other countries, and this despite the fact that the United States works do not receive protection in those countries.

The Register's proposal would give protection to the unpublished works of any new nation. And this despite the fact, for example, that United States works not only do not enjoy protection in those nations but works of the particular nations don't even receive protection in their own country.

While this country is willing to help new and underdeveloped nations, and may not expect thanks in return, it certainly should not give protection to the authors of a particular country who not only fail to protect works of United States authors but who, in return for billions of dollars of assistance, tell us gleefully to go to the devil. There is nothing chauvinistic nor immoral in looking out for the interests of our own nationals. Our experience in being generous to other countries has not been too happy a one. The element of reciprocity, namely "you scratch my back and I'll scratch yours" should be applied in the field of international copyright regulations.

Thank you. (Applause)

**DR. BEHRMAN:** Thank you, Mr. Dubin.

Victor Kramer will discuss the antitrust aspects of our dealings with more advanced countries. He graduated from Yale Law School in 1938. From '38 to '57 he was associated with the Department of Justice in its Antitrust Division. From '57 to '58 he was engaged in private practice in Washington. And in 1959 joined the law firm of Arnold, Fortas and Porter.

He has represented both the Government and business in antitrust suits; and we will hear from him now. (Applause)

## Industrial Property Relations with Industrialized Nations: Antitrust Aspects

VICTOR H. KRAMER

Mr. Moderator, fellow panelists, and suffering audience:

I have been requested to discuss the adjustments that I think may be appropriately made in this Administration's antitrust policy as it applies overseas. This is not only difficult for me, at least, it is impossible.

In the first place, I don't know what the antitrust posture of this Administration is as it applies overseas. Secondly, it is not clear to me who makes antitrust policy as it applies overseas in this Administration—or, I might add, in any other Administration of which I have any information. In a government as complex as ours different agencies are bound to emphasize different and, indeed, conflicting objectives.

Since the Department of Justice enforces law, and a criminal law at that, an antitrust prosecutor who wants to file a case involving foreign commerce starts with a great advantage. After all, he is asking no more than to prosecute an alleged law violation. On the other hand, heads of the Antitrust Division have uniformly insisted that they have insufficient funds to prosecute all violations and, hence, they must make a selection of cases. This, it seems to me, offers a justification for selection of antitrust cases involving foreign commerce with an eye to the other policies of the Government affecting foreign commerce and foreign relations.

In this connection I would like to mention one antitrust case filed by—well it was filed in April of 1964, about 14 months ago. And it is called the *Mobay* case. Mobay is a joint venture formed by Monsanto Chemical Company and Bayer of Germany. The joint venture was formed nine years before the suit was filed. The Antitrust Division seeks to dissolve the joint venture. It operates in the United States.

I do not propose to argue the legal validity or invalidity of the complaint, nor the evidence. I do wish to suggest that that case may be inconsistent with the current Administration's foreign political and economic policy.

On one hand, we lament our unfavorable balance of payments while, on the other hand, we seek to foreclose the most logical method

for attracting foreign investment, namely a joint venture with an American partner.

Foreign companies lacking their own distribution system in the United States are largely unfamiliar with the American marketing processes and can barely be expected to enter this market on their own. Indeed I would not be surprised if the *Mobay* case, as well as certain other antitrust activities which have blocked the inflow of foreign capital have contributed to resentment of the more advanced industrialized nations of the world over the degree to which their local industries are controlled by private American capital. One cannot read the statements of General de Gaulle, as well as other leaders of Western Europe, without concluding that this important problem may well haunt American corporations doing business abroad for the next 20 years, or even longer.

Perhaps it might stimulate thought or discussion if I were to spend a few minutes examining some of the basic premises of antitrust as it applies to foreign commerce.

The Sherman Act, as you all know, makes illegal all contracts, combinations and conspiracies restraining both outbound and inbound commerce. It has been on the books for 75 years. Let us think for a moment of what the reasons are for considering it desirable to impose restrictions on consensual action affecting exports. If we think of antitrust primarily as consumer-oriented, I take it that the interests of American consumers are at best only indirectly affected by restraints on the outbound trade. If, on the other hand, we think of the basic objectives of the Sherman Act as designed to prevent private groups from combining to limit commercial opportunities to persons not members of the combination, then I suppose a combination to capture the export business in, let us say, pharmaceuticals, which excludes some manufacturers from the combination, would run contrary to the basic objectives of the antitrust law.

But what about combinations to restrain commerce in, say, exports of drugs to South America, in which all United States manufacturers are invited to join?

In 1918 Congress recognized, when it passed the Webb-Pomerene Act, that there were legitimate policy considerations permitting a different rule of law to apply to such combinations. Today some would repeal Webb-Pomerene; others would interpret it more liberally so as to favor the formation of combinations in restraint of United States export business.

My own view is that if the Sherman Act were amended so as not to apply at all to restraints on outbound foreign commerce, the Act

would survive the amendment and competition could still be effective in interstate commerce. I hasten to add that I personally would oppose any such amendments, because despite the considerations I have already touched on I do not think any substantial case has been made in favor of such an amendment.

When we come to inbound commerce, imports, different considerations present themselves. In the first place, the American consumer is directly affected by a conspiracy abroad to fix prices of goods moving to the United States. The prices that United States importers pay for goods made abroad have an immediate and clear effect upon the prices at which they may resell those goods to you and me.

Despite the fact that our antitrust objectives would clearly seem therefore, to encompass prohibitions upon restraints of trade in inbound commerce, basic questions of national sovereignty have made it unwise and, indeed, juridically impossible in many cases, to enforce a prohibition against combinations in restraint of inbound commerce to the same extent as has been possible in prosecuting restraints on outbound commerce. In plain English, you cannot use our courts to prevent a foreigner from doing something if our courts can't get their hands on the foreigner.

The opinion of Learned Hand in the *Alcoa* case establishes these rules applicable to combinations in restraint of our import trade:

(1) Congress intended, said Judge Hand, to reach some types of conduct outside the borders of the United States that have consequences within the United States.

(2) Congress did not prohibit agreements made outside the United States not intended to affect imports, even though they do affect them.

(3) The Sherman Act covers agreements made in a foreign nation intended by the parties to have an effect on United States imports which actually do have an effect upon them.

There is a good reason, it seems to me, why Judge Hand ruled intent relevant in cases involving acts done abroad by foreign nationals. In attacking arrangements restrictive of our commerce abroad made by persons owing us no allegiance, we must observe a decent respect for the contrary or divergent policies of other nations. This suggests that our own economic system should not be enforced against foreigners operating abroad unless their acts can be shown to have been adopted with an intent to affect our commerce in a manner proscribed by our laws.

On the other hand, we may rightfully expect our own citizens to so conduct their affairs here, as well as abroad, that their acts will not

restrain trade unreasonably of the nation to whom they owe allegiance, irrespective of their intent.

The area in which I personally would hope to see this Administration exercise caution is in the area of the relief which it demands in those cases in which the courts have held that foreign commerce has been unlawfully restrained.

It seems to me that a missionary zeal for antitrust—which I share domestically, I might add—must co-exist with a decent respect for contrary opinions of friendly foreign nations. We should avoid, at least until we have the sanction of a treaty, transforming the Sherman Act from a charter of liberty for American businessmen into an international economic crusade for free competitive enterprise.

Finally, I was asked to squeeze in some comments on how far I think the Common Market will be moving in our direction.

In brief, I think one, if not the most important American export in the 20th century has been the ideology of antitrust. We have spread the gospel. It seems to be taking hold in Western Europe. The *Grundig* opinion, which apparently holds that it is unlawful in Common Market countries to impose restrictions on re-exports, suggests that in some areas antitrust abroad is going at least as far, if not farther, than it is in America. It is interesting to compare the Supreme Court's opinion in *White Motor*, holding that territorial restrictions preventing dealers from selling outside specified territories were not necessarily unlawful, with the opinion in *Grundig*.

Although the Common Market is still obviously in an unsettled state, and has yet to make numerous decisions concerning its antitrust administration and enforcement policies, the comparison between the *White Motor* case and the *Grundig* case suggests that someday the shoe may be on the other foot. European subsidiaries of American corporations may find themselves sued for violation of European antitrust laws.

I seem to have reversed the normal oratorical process. I began on a note of hope and I ended with a word of warning. (Applause)

DR. BEHRMAN: Thank you, Mr. Kramer.

Our final speaker for the afternoon will be Mr. C. J. de Haan, who is also a doctor, a doctor of laws, and has had education in electrical engineering. He was a lawyer in The Hague prior to World War II, and since 1947 has been President of The Netherlands Patent Office. He will speak to us on the deferred-examination system, which my own students would like to know more about. (Applause)



## Industrial Property Relations with Industrialized Nations: The Deferred Examination System

C. J. DE HAAN

Thank you very much, Mr. Moderator.

It is an honor indeed for me to be asked to speak here in this meeting, sponsored by The George Washington University, about the deferred-examination system.

I should like to consider with you, first of all, what exactly the deferred patent examination is; secondly, how did it come about; and, thirdly, how does it work.

What is deferred examination?

Yesterday I heard one of the speakers say that Holland has abandoned the examination system. I was a bit amazed by this statement. I have always considered an examination system, a system under which exclusive rights are only granted after a thorough examination of the application, ending in a granting procedure in which a patent is granted or refused, to be the only suitable one.

This system is still the only system existing in Holland; you cannot get any patent rights, neither under the deferred-examination system, without an examination and a granting procedure, in which the applicant has the right to defend the patentability of his application and in which finally the Patent Office has to say yes or no.

The deferred examination is based on the statistically proved fact that to the applicant after several years, say five, six or seven years, quite a number of patent applications do not seem to be of the same interest as they were at the moment of filing. Nevertheless we spent quite a lot of work on searching, studying and on hearings and making decisions about patent applications, which were filed in our office. As we had tremendous arrears, the final hearings and decisions sometimes took place five or six years after the filing—or priority date. Then we finally came to a decision on whether or not we could grant the patent.

When we informed the applicant that he had to pay the registration fee for the granting of the patent, we often got the answer that he was not interested any more in this patent, and that he would not pay the fee. So this meant that all the work done by us was absolutely unnecessary, apart from the intellectual interest that the patent agents and the patent examiners may have had.

However, as we are not working toward these ends, but in behalf of the applicant, we found that this work was not really necessary. Even in case the registration fee was paid, sometimes one or two years after the granting of the patent, the maintenance fees were not paid. We had statistics, which showed that the average duration of a patent was about six or seven years.

As, like I said before, it is not our task to do work that is neither in the interest of the inventors nor of society as such, we thought we should try to find a way to avoid superfluous work.

You will agree with me that it is impossible for a patent office to avoid superfluous work by discriminating between patent applications. These are regularly received by our office and we have to search, to examine and to hear the cases in regular order without giving preference to one application above the other. It was concluded that we could not decide whether or not an application was of interest, not even if the examiner might say in the final phase of the application that it was not worth the time.

So we decided to look for a way in which the applicant or other interested persons could decide what applications were of immediate interest; on this idea the system of deferred examination is based.

With this system the patent office waits after the filing of the application, whether the applicant or a third party asks for a novelty search. Immediately upon receipt of such a request for a search, we try to do our duty and give him an answer. I may say here that, due to the reduction of work which followed the introduction of our new law, in many cases we are able to give an answer on a request for novelty search within a time, which does not exceed much the time needed for completing the search.

When the novelty search is completed, the applicant has the opportunity to study the state of the art, quoted by the patent office, to compare it with his application, to arrive at the difference between the state of the art and to make his decision: Is it still worthwhile? If not, he does not answer and the patent application goes into the files again, and lies there until it is officially abandoned, or until seven years after the application date have lapsed.

If, on the contrary, the applicant finds it worthwhile to continue the application, we then do, upon his request, the normal examination, as we knew it under our previous law, which ends in a decision by the Board of Patents. I make the observation here that our system is somewhat different from yours. It is not the examiner who decides, but a special board to which the examiner sends the appli-

cation after examination. This board decides either to lay the application open to public inspection or to refuse it. I may point out that the board does not immediately decide to grant the patent, as third parties always have the opportunity to file an opposition, which is also different from your system. However, if no opposition has been filed after the laying open to public inspection, the application then automatically becomes a patent after payment of the registration fee.

So, in principle nothing was changed in our form of procedure as contained in our former law. We have only opened the opportunity for applicants to choose immediately whether or not they want a patent.

Further measures to be taken concerning an application are the following: It may happen that an application does not meet the formalities stipulated by the law. In that case the patent office is obliged to inform the applicant of such mistakes within a month. If the applicant does not correct the mistakes, the application is forfeited.

In case the patent office does not make any observation about mistakes in formalities, the patent application is considered to have been validly filed; during the examination procedure the patent office, in collaboration with the applicant, can correct mistakes in formalities which have been forgotten.

Consequently, one task our administrative officers are to perform, is to check the application for formalities. We are every glad that practically all applications in Holland are filed through patent agents, who generally make no formal mistakes, and who adhere to the stipulations of the law.

I think that this is a good survey about the contents of our new law and the modifications of our previous law, introducing the new system of deferred examination.

Now we come to the second point: How did this new system come about?

We studied it thoroughly.

I believe that approximately in 1956 a commission was installed by our Minister. The results of the work by the commission were presented to the Minister in 1962. The Bill concerned passed Parliament in 1963 and in 1964 we introduced the new Act. Said commission covered many circles of society. It was composed of judges, patent agents, lawyers and representatives of the patent office. I am very glad to be able to say that there was an excellent collaboration between all of us during our many sessions and discussions; the

patent office as well as the patent agents were convinced that under the old law the patent system would go to hell. (Laughter)

I greatly appreciate this attitude of our patent agents, as it is evident that under our new law the work of the patent agents will be, and is, reduced; because, if many applications do not get further than the filing of the applications only, the work that the patent agent has to do for the normal procedure falls off. Thus their work will be reduced.

As a matter of fact, though, under the old law the patent agents were also crowded with work. A friend of mine, a patent agent, said to me not long ago: "You have saved my life, because I had no more free week-ends, I had no more holidays. And now under the new law at least I can go home or abroad on holidays and week-ends."

Our discussions stood at a very high level and we were all very happy when the new law came into being.

I must add that a number of patent agents thought that everybody would ask for immediate treatment of the applications and that the new law would have no effect.

We ourselves, in the patent office, were rather on the conservative side in advising our government. We said: "We think that between 80 and 90 percent of the applicants will ask for a novelty search, and that upon receipt of the results of the novelty search, about 60 percent will ask for continuation of the procedure."

I have now come to the third question, namely: "How does it work"?

So far, although we cannot yet form a definite opinion, we have been rather amazed. To give you an idea about the working of our new law, I should like to begin with saying something about those applications, which, by transitory law, were brought under the new law. These applications were filed before January 1st, 1964 (the date of entry into force of the new law), for which the novelty search had not yet been made. For 33.6 percent of these applications a novelty search was requested up to and including December 1964, which percentage had increased to 36.3 percent by June, 1965. You see that in the beginning an immediate examination is requested for a number of applications—I may guess one-third—but that later on the increase is very minor, namely about an average of half a percent per month.

We can state the same thing for the applications filed during the year 1964 and the beginning of 1965: for 27.7 percent novelty search was requested, and at the present date only 32.9 percent.

So you see, it looks as if the new law will be a success in this

respect that unnecessary work by the patent office will be avoided.

I have told you, I think, that a patent application, for which no request for novelty search has been received, is considered to be abandoned seven years after its filing date. Up till now this fatal date of abandonment has not yet occurred. For the applications, brought under the new law by transitory law, the first seven-year term will come up during next year, 1966. Only then we can judge whether the applicants really do not want to continue these applications. But if you see a decreasing line of the monthly number of requests for examination, it is a rather converging line and probably, at the end of seven years, it will increase a bit. But perhaps it is not unjustified to say that about 50 percent of the applications will be the maximum for which examination and granting procedure will be requested, and that 50 percent will be abandoned automatically. And this corresponds, more or less, with our experience under the previous law, namely that the average duration of a patent was between about five and six years.

We hope that by this procedure we can, with our present staff, master the amount of applications which is coming in.

I have been asked many times: What is the attitude of the various applicants? As to foreign applicants, the attitude is practically the same whether he is a United States applicant, a German applicant or a French applicant. But the percentages of requests for novelty search for foreign applications are lower than the percentages for applications of Netherlands origin. This is quite logical, as the Netherlands applications are mostly first applications, and the applicant wants to know the state of the art in order to decide whether he will file applications abroad. Nevertheless, requests for these Netherlands applications do not exceed 60–70 percent on an average.

This, for the greater part, is what I can say about the system. It is being realized and it has worked.

I should like to add something which is of importance, namely the laying open to public inspection. Under the old law a patent application was secret until the decision of the patent office to publish it in accepted form after examination. This sometimes lasted five or six years. There was a general dissatisfaction in industrial circles with the long delay, because they never knew whether, for certain inventions which they knew were filed abroad, an application was also filed in Holland.

In the new system where examination could be deferred, we had to decide that all applications should be laid open to public inspection earlier: we choose 18 months after the priority date. The gen-

eral opinion was that usually an applicant has no objection to laying open of his application 18 months after that date, as by then, mostly they have also filed in countries which do not apply preliminary examination, and in which by that time generally the patent would have been granted.

It has been, of course, a great lot of work; due to the very intensive and good work done by our administrative services, for which I have the greatest respect, we have succeeded in tackling all the problems caused by our new law, as well as the laying open to public inspection, in the beginning, of about 40,000 applications—our arrears—and now 1500 applications which are on an average filed each month.

I think this system also has the advantage that now the public is better acquainted with the state of the art. It is, for documentation's sake, an advantage that the public can take notice of what is filed in the office, in order to be informed about what it may do or may not do, subject to the probable ultimate decision of the patent office.

I think, Mr. Moderator, I have tried to give you a general idea about what our new system entails and of its results up to now.

Thank you very much. (Applause)

DR. BEHRMAN: In order to keep the schedule as intended so that we can close at five, I am going to exercise the prerogative of the moderator to finesse the next section where the Research Institute staff would make a contribution, and constitute the head table here as a panel, trusting, of course, that the statements made by any of the Research Institute staff will be other than non-contributions.

I know that—

(Discussion off the record)

The Executive Director says there are some short statements in the wings; but we will still let them make them as members of the panel as part of the contributions they may wish to make, any statements on the presentations already made to you. I know that Pat Federico has something he wants to say, so we'll let him get that off his chest first.

But keep it short. We want to get out at five.

#### *PART XIV—Research Institute Staff Contributors*

MR. FEDERICO: I will try to keep it as short as possible.

First I want to comment on Dr. de Haan's statement. You all have heard the famous quotation from Abraham Lincoln that the patent system added the fuel of interest to the fire of genius. This

statement was made in a speech on discoveries and inventions. And he was describing the three greatest inventions of all times. The first was writing, for reasons he gave; the second was printing, for reasons he gave. And the third greatest invention of all times was the patent system, because it added the fuel of interest to the fire of genius in the discovery and creation of new things.

Looking at the patent system as an invention, there was a great improvement made in 1836 when the United States introduced the examination system. The system described by Dr. de Hann is probably the most original change in the patent system that has been made since that time. It ought to be called the optionally deferred-examination system, because the deferring of the examination is purely optional with the applicant. He files an application. Then two things are accomplished immediately: one is, he has preserved the date from which his rights are judged: that is unalterable. Second, he has created a public document which will prevent later inventors from obtaining a patent for the same invention.

P. J.  
Federico

Quite often—and we don't know how often—that is all the inventor or the company applicant in the foreign country wants at the time. And money could be saved by not going further.

There is one thing that is not optional, and that is the publication that occurs regularly at the prescribed period; it is independent of the optional deferment on the examination. It is now part of a general movement in the European countries to do that for all cases in all countries for the reasons that Dr. de Hann gave.

I am here, not only as an officer of the Patent Office, but as a member of a research staff, and I have to state that anything I say is personal and has nothing to do with the Patent Office. Being a member of the research staff I ought to say something about research; and, doing the least research of any member of the research staff, I will say a few words.

I have been doing a little bit of work on statistics, which I hope is now drawing to a close. One thing I have learned from it—and probably the only thing—is that you cannot compare numbers of applications in different countries and get any reasonable results. Mr. Robbins referred to the use of patent applications as an index of industrial activity. He knowingly prefaced his statement with an "if", which was very fortunate.

Some of you may recall the demonstration several years ago that if you follow the usual routine in using domestic-origin applications as an index of inventive activity you come out with a result that the

country with the greatest inventive activity in the world, in proportion to population of course, is Lichtenstein, which leads its nearest competitor by almost 800 percent. (Laughter)

As a further illustration, if you study the application figures of Switzerland you will find that there was a steady small increase for years starting in 1950, say, and then in 1956 there was a precipitous drop of about 25 percent which remained during the rest of the period up to date; this would indicate that there was a sharp curtailment of 25 percent of all inventive activity in Switzerland. Well that is nonsense, of course. The reason for that was that a new law came into effect in January of '56 which permitted greater consolidation of subject matter in one case than was possible before. So the thrifty Swiss consolidated inventions into fewer applications.

Another illustration may be mentioned. Mr. Robbins said that England was one of the countries where more than half of the applications were of domestic origin. That is not the case. It is only one-third of the applications in England that are of domestic origin. The difference is caused by the way the figures are published and the use of figures of incomplete applications which are never completed.

In recent years, of course, data from other countries has become more and more available. The United Nations report, which has been mentioned several times, is a document that ought to be read by everybody for its content. It does include a collection of statistics for five years for more countries than have ever before been collected together. But, even coming from a high source, you have to watch: there are some mistakes in addition and some instances where figures were evidently copied from wrong columns or something of that sort and a few other mistakes.

My main statement concerns what you might call the application explosion that has occurred during the past 15 years. It has been stated several times that the number of applications filed in countries has increased markedly during the recent period. Taking only the last 15 years, or from 1950, the patent applications filed throughout most of the countries of the world rose from approximately 300,000 a year to approximately 530,000 a year, not counting Russia.

I will just mention broadly that during the past 15 years the main increase in the applications filed has been due to the cross-filings of foreign applications; domestic-origin applications have increased only slightly. The great, almost 100 percent, increase has been due primarily to cross-filings among different countries.

Time is getting rather short, so I won't go on, and will end by



just making a remark about Mr. Dubin. When he was referring to the complications with foreign countries I inadvertently said "So what?" in connection with the fact that a number of foreign countries did not give copyright protection. Now the spirit is different in patent cases, in patent laws. Ever since 1861 our law has prescribed that whoever makes an invention can get a patent. There has never since been any bother in our statute about what the other country did. The Commissioner of Patents, prior to the enactment of this law, and in asking for changes in the law to this effect, made the remark about foreigners, that if they are oppressed at home why should we oppress them here. (Applause)

DR. BEHRMAN: Thanks, Pat.

John Creed, do you want to speak to a point? I won't mention his law firm. (Laughter)

MR. CREED: I shan't take more than three minutes. I am sure I will be reminded if I do.

To edify the economists here present and perhaps to mystify my partner, Ira Wender, I shall attempt to express a macroscopic view, although not perhaps a very dispassionate one.

I would like to say a few general words about taxation and about the Treasury Department. Once again I am afraid my role is that of a critic.

It is my observation and experience that the Treasury in the areas of private rulings, audits, litigation, and advocacy of legislation has adopted many policies and attitudes that are inconsistent with the broader policies of the national Administration in relation generally to international commerce and the balance of payments, and in relation particularly to the foreign utilization of industrial properties.

John F.  
Creed

I am not suggesting that the Revenue Service should ignore established law in order to achieve harmony with the broader policy of the Administration; rather I am suggesting that the Treasury might consider that broader policy when the law is somewhat unclear, and that it should—indeed must—avoid practices that are inconsistent both with established law and broader Administration policy.

To date the Revenue Service and the Treasury have not avoided this inconsistency. Time is brief and I will cite but one example. That is the Service's general failure to rule favorably, or at all, on the tax-free aspects of the transfers of unpatented technology by United States corporations to controlled foreign affiliates, the point to which Ira Wender referred earlier.

The Government must learn better the art of internal dialogue and accord; and until it does my blood shall continue to run cold when I hear it said that the Governmental organization of commerce is inevitable.

Thank you very much. (Applause)

DR. BEHRMAN: Thank you, John.

Bob, do you have any statement you want to make?

(No response)

DR. BEHRMAN: Are there any others?

DR. SANDERS: I have two points.

DR. BEHRMAN: Do it over here at the podium.

DR. SANDERS: I would like to make two points, one with respect to this deferred examination: I am not passing any judgment on its merits. Of course, for the Netherlands it must be excellent. But in the United States there was a study that the Research Institute made, and it was published in 1962, Volume 6, Number 2. I think it was entitled "Speedy Entry of Patented Inventions in Commercial Use." That study indicated that nearly 40 percent of the patents that are assigned, that are put to commercial use, such use begins before there is even a patent application, this would indicate that under the present conditions, with our one-year permissibility for patented inventions to be in use before patent application is filed, large numbers of potentially patentable inventions are not filed. With a provision of deferred examination the volume of applications can rise materially above the current levels.

Barkev S.  
Sanders

With respect to the foreign patents I had some data that I think would be of interest to this group. In our three study years we found that of the assigned patents 26 percent of the patented inventions in 1938 that were issued in this country had one or more patents issued in foreign countries on these same inventions. And taking the total number of foreign patents issued, there were about two for every American patent patented abroad; i.e., for this 26 percent, each patent on the average, had two foreign patents. In 1948 of the assigned patents 40 percent more patented abroad. And each such patent had about three other foreign patents. Finally, in 1952 the percentage patented abroad was 44: these 44 percent are American-assigned patents, patented in foreign countries as well. Each such patent on the average was patented in four different countries. One of these American patents patented abroad was patented in 30 or more different countries.

Statistics of this nature, I think, if we could get hold of, year after

year, would really give us an index of highly valuable patents, and their fluctuation can measure the effectiveness and the economic significance of changes in our patent system. We need such indexes for an objective appraisal of our patent system. (Applause)

DR. BEHRMAN: Herschel, do you have something you want to say?

MR. CLESNER: I just would like to project a few thoughts; and basically it comes down to this: We talk about science and technology's role in the patent system; what applies domestically also applies internationally. Someone has to pay for the cost of science and technology. The ultimate means of obtaining the cost of paying is in the marketplace. Each marketplace is its own fishbowl. It is based on local laws and practices. And we have heard here today that the Internal Revenue is even attempting to apply our tax laws in a superimposed relationship to those foreign laws. In the fishbowl the rules of the game for investing and obtaining capital return differ from those of the United States. And they change from time to time. They are changing right now in the Bloc nations. They have changed in Belgium, Holland, France and Mexico.

Herschel F.  
Clesner

Many of our policies, such as licensing, have changed to joint ventures, for example, in Japan, because of the laws or regulations of those particular states where our companies desire to invest.

We have heard from anthropologists as human resource specialists as to how cultural patterns affect innovation within that cultural sphere. But if we go farther we also recognize that it is the market that governs, and these markets have been restricted to the small political and market entities containing that cultural pattern. But these too are changing, because within the changing structure of the world they are now participating in larger political, economic and market groups such as the Common Market Malagasy Union, EFTA, Latin America and others.

But more than that, in many nations increasing education and knowledge create a desire for items of use and production. When countries lack capital to purchase, they desire to produce items to appease domestic consumers. This in turn creates a national drive for the necessary technology. This technology is something they need to increase their standard of living. A recognition of the need or the drive or the desire can be called the ability to respond to market responses. It comes down basically to whether they want to trade, and how much in order to achieve the means to acquire their needs.

And this switch in emphasis is a continuing one. In one direction many of the nations that we consider to be in our camp, for example, Mexico, India, and many of the Afro-Asian States, the trend is going against us to planned and managed economies and yet if we look at the Bloc countries of Eastern Europe, they now preach freer market pricing and the need of a foreign economic trading mechanism that can interreact both with the economies of their neighboring so-called communist states and also with the countries embracing other social systems (the Western trading nations). In doing so they hope to give their local enterprises greater freedom to negotiate and to compete.

We have also heard and noted that of the Western trading nations, Japan, West Germany, the United States and Great Britain, domestic entities constitute the majority of filings of inventions. In response to their own marketing desires and the seeking of cash for trade, the Bloc countries, in turn, hope to be able to capitalize on their inventions. Their inventors and enterprise seek foreign-patent protection. They are also attempting to foster innovation and technology. Some of these Bloc countries are taking a specialized approach, taking specific areas for their production and research. The efforts of some of the Bloc nations in this direction exceed many of the nations of the West.

But presently what they are doing is making a transition from the basic Marxist economic principle of central planning and management, and giving themselves more freedom and more swing so, that in turn, they can trade and adapt to practices and processes that they are willing to acquire from the West.

The trend is such that I think the nations of Western Europe, if not ourselves, may well end up in the next 15 years, aside from conflict of wars, with a much greater amount of trade and interrelation with the Eastern Bloc nations even more than with the particular areas that we have considered to be of self-interest, such as the underdeveloped nations and Latin America. (Applause)

#### *PART XV—Panel Discussion and Question Period*

DR. BEHRMAN: Now we have about five minutes before I have to turn this back to Dr. Harris, if any of the speakers here want to comment on the speaking of any of the others.

Mr. Robbins, you wanted to make one or two comments, I think.

MR. ROBBINS: This is very brief, just a footnote to Pat Federico.

I would like to draw attention to two of my sentences he may have overlooked. One—"These figures show how deceptive and inadequate raw statistics can be." The other—"It would be rash to make sweeping deductions from these rather elementary statistics."

I think the suggestion of Dr. Sanders that some way should be found to coordinate corresponding United States and foreign filings, is most constructive. I think it could be done if foreign patent offices and the United States Patent Office required applicants to furnish the necessary information. We already have a lead from the Netherlands Patent Office which for many years has called for particulars of corresponding applications in other countries. I do not believe this information is published, but is only used for examination purposes. However, if all patent offices would cooperate, world-wide figures could be obtained.

DR. BEHRMAN: Thank you.

MR. WENDER: I just wanted to make one remark about Mr. Kramer's last comment about the EEC.

I think we probably reached a high point, I would guess of anti-trust enforcement within the six countries; because now the trend of the times is that strong governmental pressure forces consolidation of companies and the elimination of what they foresee as some of their problems which we talked about, for example in financing research through the consolidation into larger economic units. And I think that trend is much stronger than a theoretical interest which certainly exists in American antitrust laws.

DR. BEHRMAN: I appreciate the speakers and the panelists permitting us to condense this last phase.

Lou, I turn it back over to you. (Applause)

DR. HARRIS: We have come to the end of what I believe has been a very interesting and informative Conference.

On behalf of The PTC Research Institute of The George Washington University, and on behalf of the members of the Commemorative Committee, I want to thank the participants, particularly Dr. de Haan who came all the way from Holland, and Mr. Robbins who interrupted his vacation in Bermuda to fly here for the Conference. I thank all of our participants for two very stimulating days. I want to thank the members of our audience, especially the hardy ones who lasted through this afternoon session. We ask you and your associates to continue to give the Research Institute your

active professional and financial support so that we can continue the important work we have undertaken.

I also want to remind you that the third key Washington meeting of the 175th Anniversary Commemoration will be held in October 1965. That meeting will focus on future plans for the Industrial Property Systems, for the short and long terms.

We have all enjoyed this Conference very much. We have learned a great deal. The proceedings will be published in *IDEA*, which is the journal of the Research Institute.

On that happy note the Ninth Annual Public Conference stands adjourned.

Thank you. (Applause)

(Whereupon, at 5:00 p.m. the Conference was adjourned)