

DISTRIBUTION OF PATENTS ISSUED TO
CORPORATIONS (1939-55)

STUDY OF

THE SUBCOMMITTEE ON PATENTS, TRADEMARKS,
AND COPYRIGHTS

OF THE

COMMITTEE ON THE JUDICIARY

UNITED STATES SENATE

EIGHTY-FOURTH CONGRESS

SECOND SESSION

PURSUANT TO

S. Res. 167

Study No. 3



Printed for the use of the Committee on the Judiciary

UNITED STATES
GOVERNMENT PRINTING OFFICE

WASHINGTON : 1957

REPORT OF THE SUBCOMMITTEE ON PATENTS, TRADEMARKS, AND COPYRIGHTS
(93-32)

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FOREWORD

In carrying out its responsibility to make a broad survey of the patent statutes, the subcommittee has undertaken to determine the facts as to how the patent system is actually working in practice. The logical starting point for such an inquiry is the compilation of available data showing who obtains and owns the vast number of unexpired patents in existence today. Accordingly, at the subcommittee's request, the Patent Office has compiled the data and information presented herein showing the number and distribution of patents unexpired on December 31, 1955, which were issued to corporations, and other related information. The work of compilation was done under the direction of P. J. Federico, examiner-in-chief in the Patent Office, who also prepared the report.

The sources of the information and the manner in which it was compiled is carefully explained in the report. The report is substantially limited to the presentation of the data.

The subcommittee is indebted to the Patent Office and Mr. Federico for the preparation of this report.

JOSEPH C. O'MAHONEY,

*Chairman, Subcommittee on Patents, Trademarks, and Copyrights,
Committee on the Judiciary, United States Senate.*

DECEMBER 29, 1956.

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DISTRIBUTION OF PATENTS ISSUED TO CORPORATIONS (1939-55)

1. OBJECT OF REPORT

The main object of this report is to present data with respect to the number and distribution of patents, unexpired on December 31, 1955, which were issued to corporations. Discussion is limited to description of the data and the manner in which the figures were obtained. The data presented relate primarily to the two questions which were asked, namely:

- (1) Which companies have taken out the largest numbers of unexpired patents?
- (2) How many unexpired patents have been issued to a selected group of the largest corporations?

These two questions are not identical since some companies to which a large number of patents have been issued might not be in the large corporation group, and some companies in the large corporation group might have very few patents. The phrase "issued to corporations" is synonymous with "taken out by corporations" but, as will appear, is not exactly equivalent to "owned by corporations." In addition to the above, some figures are presented on the total number of patents issued annually to corporations over a period of 20 years.

Reissues, design patents, and plant patents are omitted from this study. Reissues, which averaged 185 a year during the period involved, are revisions of previously issued patents and their inclusion would amount to counting some patents twice. Design patents are omitted because they relate solely to the ornamental appearance of articles; they averaged 3,749 a year during the period involved. Plant patents are issued for new varieties of plants; these averaged 67 a year. The "regular" patents considered averaged 34,494 per year during the years 1939-55.

2. ISSUANCE AND OWNERSHIP OF PATENTS

While the application for a patent must be made and sworn to by the inventor (with some exceptions not important here), the patent itself may be issued to another party. If the applicant has assigned his rights, and the assignment is recorded in the Patent Office in time, the patent will be issued to the assignee. The printed copies of the specification and drawings of the patent carry the name of the assignee as the owner, as do the notices in the weekly Official Gazette of the United States Patent Office. These names also appear in a printed annual Index of Patentees, and a cumulative index of patentees in card form has been maintained in the Patent Office since 1931. The figures presented here with respect to separate companies have been gathered from this cumulative index and are hence in general limited to ownership at the time the patent is issued.

A company can own a patent by assignment from the inventor, or by assignment from someone else whose rights were in turn derived from the inventor. If an invention is made by an employee of a company under conditions which obligate the employee to assign all

rights to the company, the assignment is usually recorded in the Patent Office while the application for patent is pending, and the patent in such cases is issued to the company. Similarly, if a company acquires ownership from someone outside the company before the patent is issued, the assignment is ordinarily recorded in the Patent Office and the patent issued to the company. The patents issued to a company hence are the sum of the patents resulting from the research activities of the company itself and the patents resulting from inventions purchased from others before the patent is issued. The instances in which an assignment is made but is not recorded, and hence the patent is not issued to the company, are not believed to be significant in number.

A company may also acquire a patent after it has been issued to some individual and the assignment in such cases may also be recorded in the Patent Office. The indexes which have been mentioned do not include such transfers and the data presented here do not include patents owned by a company which were acquired after they were issued. A study made in 1938 showed that, of the patents issued from January 1, 1931 to June 30, 1938, the number acquired by corporations from individuals after issuance was 2.84 percent of the total issued (of this amount 0.33 percent was by a selected group of 157 large corporations, 2.22 percent by other United States corporations and 0.29 percent by foreign corporations). This gives some indication of the proportion of such subsequently acquired patents and there is no reason to suppose that the number would be significantly different today.

A company may also acquire patents from another company to which they were issued in the first place. Such acquisitions would not change the total number of patents issued to corporations but might change the distribution as between types or classes of corporations. Such transfers have not been investigated but a good many of them have been taken into account as will appear.

The total number of unexpired patents owned by a particular corporation consists of the number of unexpired patents initially issued to that corporation plus the number of unexpired patents acquired by the corporation after they were issued to someone else, less the number of patents it may have transferred to others. This number can be ascertained from the assignment records of the Patent Office, but the time and personnel which would be required to make title searches for the large numbers of patents involved were not available for the present study, and the cost would be very great.

As has been pointed out, the present study is substantially limited to ownership by corporations at the time the patent is issued, but the degree in which the data approximate total ownership has been indicated to some extent.

3. NUMBER OF PATENTS IN FORCE DECEMBER 31, 1955

Since the term of a patent is 17 years, the number of unexpired patents at a given date would normally be the number of patents issued during the preceding 17 years. The total number of patents

1 Investigation of concentration of economic power: Hearings before the Temporary National Economic Committee, 76th Cong., pt. 3, Patents, (January 1939) exhibit 183, p. 1127. These hearings will be referred to as TNEC hearings, pt. 3, and some description of the study is given in section 6 of this report. In calculations leading to some of the data presented in 1938, it was estimated that the number of patents acquired by corporations from individuals after issuance was 4 percent of the total issued during the preceding 17 years and that of this amount one-half percent was by the selected group of 157 large corporations, 3 percent by other United States corporations and one-half percent by foreign corporations.

issued in the 17 years from January 1, 1939, to December 31, 1955 (excluding reissues and design and plant patents), is 586,391.² A few patents, which were issued prior to January 1, 1939, 59 in number, were extended under the law relating to extensions of patents of World War II veterans (64 Stat. 316; 66 Stat. 321); a few of these are still unexpired, but they are ignored in the total given. Also, a few patents may have been disclaimed or dedicated by their owners and hence technically would not be in force; no allowance has been made for these. The number of patents issued during the preceding 17 years is taken as the number of unexpired patents or patents in force on December 31, 1955. This total number of patents is divided as shown in table 1.

TABLE 1.—Total patents issued, 1939-55

Issued to—	Number of patents	Percent of total
1. United States corporations (estimate)	317,726	54.18
2. Foreign corporations (estimate)	25,399	4.33
3. Total to corporations (estimate)	343,125	58.51
4. Individuals (estimate)	234,749	40.03
5. U. S. Government	5,556	.95
6. Alien Property Custodian	2,961	.51
Total	586,391	100.00

The figures in lines 1 to 4 of this table are estimates but they have been carried to the last digit and the percentages to two decimal places in order to make the totals balance. The manner in which these estimates were obtained is described in section 7, which also gives the same data divided on an annual basis. The patents indicated in line 4 of the table as issued to individuals include a small proportion (about 4.5 percent of the total) in which the applicant had assigned in whole or in part to some other individual.

Line 5 of the table gives the number of patents issued to the United States Government resulting from inventions made by Government employees or from research paid for by the Government. The number given in this line does not include patents resulting from applications seized from the enemy during the war, nor a small number issued to the Reconstruction Finance Corporation which held some patents and patent applications in connection with mortgages.

Line 6 of the table gives the number of patents issued directly to the Alien Property Custodian, or his successor the Attorney General, resulting from seized enemy and other alien-owned applications. During the period of the program of vesting enemy property, over 41,000 patents and 4,700 patent applications were vested. Most of the seized patents have since expired but on December 31, 1955, the Office of Alien Property still held 10,647 unexpired patents. Except when issued directly to the Custodian or his successor, these patents would appear in the tabulations in this report as attributed to the original foreign grantees.

² If the number of the first patent issued in 1939 (2,142,080) is subtracted from the number of the first patent issued in 1956 (2,728,913) the result would be slightly higher than the total given here. This is due to the fact that some patent numbers were not used; an application might be in process of issue with the patent number assigned and then be withdrawn for some reason and the patent not issued (or issued later with another number), in such event the assigned patent number could not be used for some other case. These withdrawals averaged 26 per year during the period involved here.

4. CORPORATIONS WITH THE LARGEST NUMBERS OF PATENTS, 1939-55

Limitations of time and personnel did not permit the counting of the number of patents issued to all corporations having any patents and an attempt was made to obtain only the names of all corporations with over 100 unexpired patents, and the number of patents issued to each of them.

The number of corporations to each of which more than 100 patents (including to a substantial extent the patents issued to wholly owned subsidiaries and merged companies) were issued during the 17 years 1939 to 1955 was found to be 394.³ The names of these companies arranged in the order of the number of patents issued to them, and also indicating the subsidiaries and merged companies which are included, are given in the appendix, list I. The present section will only give some totals and distributions.

Several tables are presented showing the distribution of the number of companies and of patents by ranges of patents. Table 2a is a short table showing the number of companies with more than 1,000 patents, the number of companies with 101 to 1,000 patents, and the total number of patents issued to the companies in these groups.

TABLE 2a

Range	Number of corporations	Number of patents
1. Over 1,000 patents (see table 2b)	33	104,110
2. 101 to 1,000 (see table 2c)	356	93,831
3. 1 to 100		145,184
4. Total to corporations (estimated)		243,125
Total patents		586,391

¹ The names of these companies were not, of course, known in advance. The manner in which they were obtained and how the work was done was as follows: A list (on cards) of companies was made up on which it was fairly certain that all or practically all companies with more than 100 patents would be included. This list was made by taking the name of each company which had 5 or more entries in the printed annual Index of Patentees in either of the years 1953, 1954, or 1955; by taking the name of each company on a discontinued card index of companies with their patents kept from the middle of 1938 to the middle of 1946 (and now otherwise useless) which had more than 36 entries for this 8-year period; and by adding names not already included found on 4 lists of selected corporations which are described in footnote 5. The companies so listed were checked as indicated below for changes in names and mergers and additional names thus obtained. The result was a list of about 2,900 names.

² The number of patents issued in the years 1939 to 1955, inclusive, to each of these companies was counted from the cumulative index of patentees, which has been referred to in section 2. This index was started in 1931 and additions made from week to week as patents are issued. Each patent is indexed by the name of the inventor and also by the name of the patentee, if other than the inventor, on 3 by 5 slips which are arranged in alphabetical order in 15 filing cabinets with a total of over 800 drawers. It is located in the public search room of the Patent Office and is in constant use by the public.

³ After the count was made, different names for the same company joined together, companies which had been merged during the period of the count also joined together, and patents issued to subsidiaries added, there resulted a total of 394 names to each of which more than 100 patents had been issued as assignee during the period 1939-55. It cannot, of course, be asserted categorically that the list is absolutely complete, but it is believed to be practically complete and that the omissions, if any, would occur among the companies with the lower number of patents. One or two of the names may not actually be corporations, but have nevertheless been included.

⁴ Changes in names, mergers, and subsidiaries were ascertained as follows. The Assignment Branch of the Patent Office has kept a separate card index of changes in names and of mergers of companies, which have come to its attention through the recording of assignments of batches of patents and other papers. The name of each company on the first list which was made up was checked in this index. When it was found that there had been a change of name, the patents issued in each name were counted from the cumulative index of patentees and the results added together under the latest name. When it was found that a company on the list had been merged with others, the patents issued to each company so merged, and to the new company, were counted from the cumulative index and the results added together under the latest name. This consolidation of such names in large part would account for transfers of patents from one company to another.

⁵ There resulted from the count not only the names of the companies with over 100 patents, but also a large number of names of companies with fewer patents (there were nearly 400 names with from 50 to 100 patents), since the initial list was made considerably larger than might actually be necessary. The names of practically all of the companies with over 100 patents, of most of the companies with 50 to 100 patents, and of many of the companies with less than 50 patents, were looked up in Moody's Industrial Index, 1955, to determine the assets of the company and also to determine if it was a subsidiary of or had been acquired by some other company. If a company was found to be a wholly owned subsidiary of or acquired by another company, the patents issued to it were added to the patents issued to the parent company. Also, the names of many companies known to be subsidiaries of others had been included in

Line 3 of table 2a represents the group of companies with 1 to 100 patents. These were not counted and hence the number of companies and patents is not known; however, the number of patents issued to this unknown number of companies can be estimated by subtraction from the estimate of the total number of patents issued to all corporations given in line 3 of table 1, and this estimate is given in line 3 of table 2a. No estimate of the number of companies with from 1 to 100 patents can be made from the present data in view of the enormous number of companies with a small number of patents, but it may be stated that the number is believed to be considerably over 20,000.⁴

Table 2b includes in lines 1 to 10 an expansion of line 1 of table 2a, arranged by thousands of patents. Thus, line 7 of this table shows that there were 2 companies with from 4,001 to 5,000 patents each, and that the total number of patents issued to these 2 companies was 8,940, etc.

Table 2c includes in lines 1 to 9 a division of line 2 of table 2a by hundreds of patents, and gives the number of companies, and the patents issued to them, in each hundred group.

TABLE 2b

Range	Number of corporations	Number of patents	Range	Number of corporations	Number of patents
1. 10,001 to 11,000-----	1	10,757	7. 4,001 to 5,000-----	2	8,940
2. 9,001 to 10,000-----			8. 3,001 to 4,000-----	2	6,897
3. 8,001 to 9,000-----	1	8,539	9. 2,001 to 3,000-----	6	14,305
4. 7,001 to 8,000-----	2	15,461	10. 1,001 to 2,000-----	23	32,873
5. 6,001 to 7,000-----	1	6,338	11. 101 to 1,000-----	356	93,831
6. 5,001 to 6,000-----					

TABLE 2c

Range	Number of corporations	Number of patents	Range	Number of corporations	Number of patents
1. 901 to 1,000-----	4	3,761	6. 401 to 500-----	20	8,897
2. 801 to 900-----	5	4,237	7. 301 to 400-----	36	12,539
3. 701 to 800-----	11	8,241	8. 201 to 300-----	71	17,570
4. 601 to 700-----	10	6,328	9. 101 to 200-----	190	27,247
5. 501 to 600-----	9	4,921	10. 1 to 100-----		145,184

The distribution is also shown graphically in figures 1 and 2 which depict the number of companies and the number of patents issued to them for intervals of 100 patents. In figure 2, the percent of total patents is also indicated. Each of these figures is carried only to the group 1,501-1,600, leaving 22 companies off the figures; if these were added on the same scale the figures would need to be extended about 7 times the present width and most of the added intervals would be vacant.

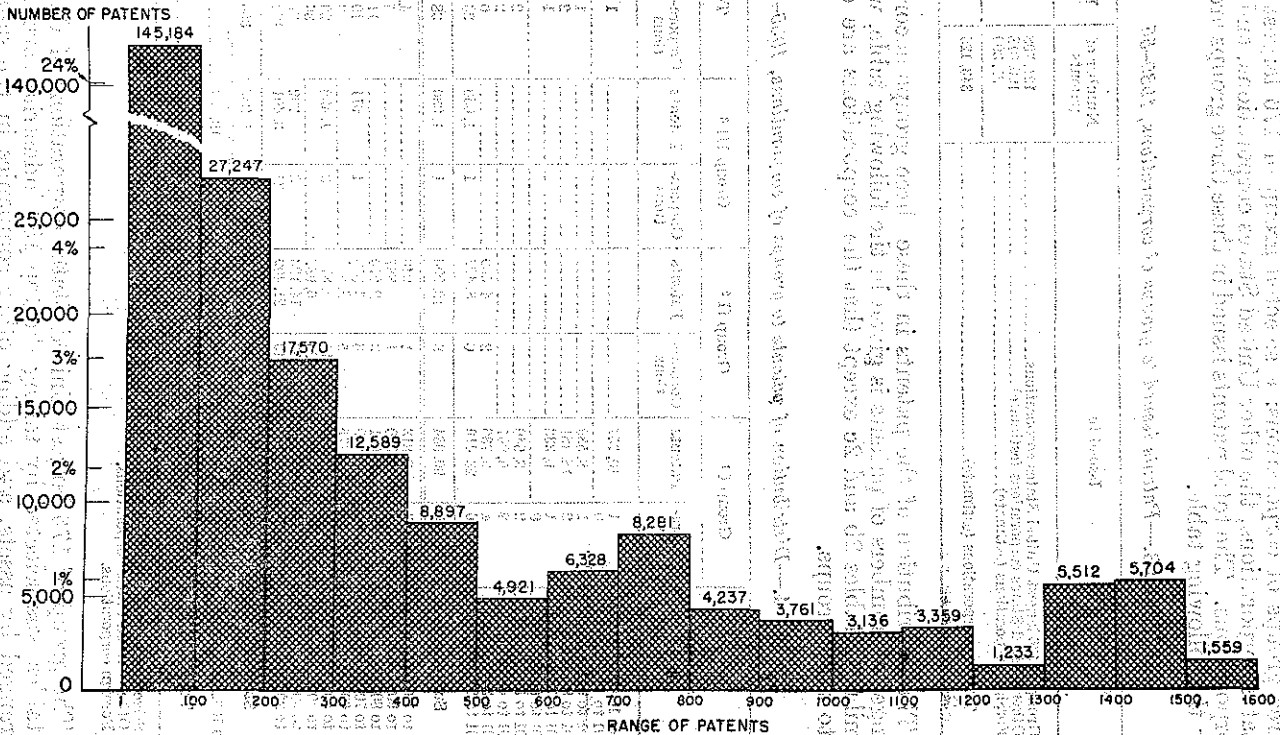
the original list. This association of patents issued to subsidiaries with the parent company was not of course complete, but practically all of the subsidiaries with substantial numbers of patents would have been included.

The 394 companies with more than 100 patents hence include, to the extent indicated, the patents issued to wholly owned subsidiaries and merged companies.

⁴ In the study made in 1938, all the patents issued to corporations during a period of 7½ years were counted and this count showed a total of 21,257 corporations receiving patents, the majority receiving an average of 1 or less patent per year and nearly half receiving only 1 patent during the 7½-year period involved. TNEC hearings, pt. 3, exhibit 191, p. 1129. Since only the patents issued during a 7½-year period were counted, the total number of corporations receiving patents for the full 17-year period would be much greater than 21,257, this number being augmented by the corporations receiving patents during the other 9½ years and none during the years counted.

Fig. 2

DISTRIBUTION OF PATENTS TO CORPORATIONS BY GROUPS OF PATENTS HELD



Source: Bureau of Economic Warfare, 1938-41

The following table shows the distribution of patents to corporations by groups of patents held. The Y-axis represents the number of patents, and the X-axis represents the range of patents held. The data shows a general downward trend in the number of patents as the range increases, with a notable peak in the 1400-1500 range.

8. DISTRIBUTION OF PATENTS ISSUED TO CORPORATIONS:

5. PATENTS ISSUED TO SELECTED GROUPS OF CORPORATIONS, 1939-55

The patents issued to corporations are in this section divided among three groups of corporations: a selected group of 176 largest United States corporations, the other United States corporations, and foreign corporations. The total patents issued in these three groups are shown by the following table.

TABLE 3.—Patents issued to groups of corporations, 1939-55

Issued to	Number of patents	Percent of total
1. Group of 176 largest United States corporations.....	121,708	20.76
2. Other United States corporations (estimate).....	196,018	33.42
3. Foreign corporations (estimate).....	25,399	4.33
Total to corporations (estimate).....	343,125	58.51

The distribution of the patents in these three groups according to ranges of numbers of patents is given in the following table, which is similar to tables 2b and 2c except that the corporations are divided into three groups.

TABLE 4.—Distribution of patents to groups of corporations, 1939-55

Range	Group I ¹		Group II ²		Group III ³		Total	
	Corporations	Patents	Corporations	Patents	Corporations	Patents	Corporations	Patents
Over 10,000.....	1	10,757					1	10,757
9,001 to 10,000.....	0							
8,001 to 9,000.....	1	8,539					1	8,539
7,001 to 8,000.....	2	15,461					2	15,461
6,001 to 7,000.....	1	6,338					1	6,338
5,001 to 6,000.....	0							
4,001 to 5,000.....	2	8,940					2	8,940
3,001 to 4,000.....	2	6,897					2	6,897
2,001 to 3,000.....	4	9,736	2	4,569			6	14,305
1,001 to 2,000.....	16	23,413	6	8,427	1	1,030	23	32,873
Subtotal.....	29	90,084	8	12,996	1	1,030	38	104,110
901 to 1,000.....	3	2,813	1	948			4	3,761
801 to 900.....	4	3,350	1	887			5	4,237
701 to 800.....	8	6,011	3	2,270			11	8,281
601 to 700.....	3	1,899	6	3,818			9	5,717
501 to 600.....	4	2,275	5	2,648	1	611	10	5,534
401 to 500.....	6	2,582	11	4,877	3	1,438	20	8,897
301 to 400.....	16	5,602	20	6,987			36	12,589
201 to 300.....	11	2,665	57	14,123	3	782	71	17,570
101 to 200.....	17	2,437	149	21,409	24	3,401	190	27,247
Subtotal.....	72	29,684	253	57,965	31	6,232	356	93,881
1 to 100.....	75	1,990		125,057		18,137		145,184
Total.....	176	121,708		196,018		25,399		343,125

¹ Selected group of 176 largest United States corporations.

² Other United States corporations.

³ Foreign corporations.

The group of 176 largest United States corporations of the above 2 tables was selected by taking the top 150 industrial corporations, arranged by assets, and adding other companies in the same asset range which had any patents, and includes all the companies with assets of over \$150 million which received any patents, with the possible omission of a few nonindustrial companies having only a very

few patents. The names of these companies are included in the lists of companies in the appendix.⁵

The patents issued to individual corporations were counted for the entire 17 years, and no division by years was made (except for a few companies as indicated in sec. 8). However, in view of the fact that the cumulative index used for the count is in 2 parts, the first part closing with 1951 and the second part beginning with 1952, it was possible to obtain readily a total for the 4 years 1952-55. The patents issued to the group of 176 large corporations were also separately counted for the single year 1955 from the printed annual Index of Patentees for this year. From these figures it was determined that the number of patents issued to the selected group of 176 large corporations during the 13 years 1939-51 was 21.08 percent of the total issued during these years; the number issued to this group during the 3 years 1952-54 was 20.68 percent of the total issued during these years; and the number issued in 1955 was 19.18 percent of the patents issued in this year.

6. DATA COMPILED IN 1938

Several references have been made to data compiled in 1938, and the subcommittee also referred to that study in its report of January 30, 1956 (S. Rept. No. 1464, 84th Cong., 2d sess., p. 2). In 1938 some data relating to patents issued to corporations were compiled for the Temporary National Economic Committee and printed in the

The group of largest corporations was obtained by utilizing several lists. The latest published list of corporations, arranged by size, at the time the work was done, was a list of the 500 largest industrial corporations published as a supplement to Fortune magazine for July 1955. The Fortune Directory of the 500 Largest United States Industrial Corporations, 12 pages. This list excludes utilities and financial, transportation, trade, construction, and service companies. It was selected on the basis of net sales and not on the basis of assets, although the assets for each corporation listed (with a few exceptions) are given. The asset figures were obtained from Moody's Industrial Index (1955) which gives the data as of the end of 1954. The company on this list with the lowest amount of assets has \$12 million. When arranged according to assets, the list would not be complete since the companies included were not selected on this basis. The Fortune list furthermore contains some significant omissions, a few large companies having been omitted because of absence of sales data.

Another recent list of corporations arranged by size is a mimeographed list of the 200 largest corporations in the United States, excluding financial corporations, prepared by the Department of Commerce (U. S. Department of Commerce, 200 Largest Nonfinancial Corporations (1952), Business Structures Division, Office of Business Economics, 5 pages mimeographed). This list supplements the Fortune list by its inclusion of nonindustrial corporations; all the companies included have assets of over \$200 million. A less recent list of corporations is a publication of the Federal Trade Commission, dated June 1951, entitled "A List of 1,000 Large Manufacturing Companies, Their Subsidiaries and Affiliates, 1948." These corporations were selected on the basis of assets, the data being taken from Moody's Industrial Index (1949).

The names of all the corporations included in the above-mentioned three lists, as well as the names on an industrial list published in 1938 (see footnote 6), which were not already on it, were added to the list of companies compiled as mentioned in footnote 3, and the number of patents counted for each of them in the manner which has been described. The assets of the companies on the 1938 list and also of the top group of the companies on the Federal Trade Commission list were also brought up to date from Moody Industrial Index (1955). In addition to this, the names of other companies having substantial numbers of patents which were obtained as described in footnote 3, supra, were checked in Moody's Index for their assets. The result was a collection of the names of all the larger industrial corporations and also additional names of companies in other groups.

The companies used for the selected group of largest companies were selected by taking the top 150 industrial companies, and the companies in other categories, except financial, in the same asset range, which had any patents. The dividing point came at assets of \$150 million and hence the selected group of largest corporations includes all the nonfinancial corporations with assets of over \$150 million, with some possible omissions of nonindustrial companies. The total number of companies in the selected group which received any patents was 176.

The composite list of the largest corporations which was obtained from the sources and in the manner mentioned would possibly be incomplete with respect to transportation, utility, trade, construction and service companies, except in its upper range, but this deficiency would be of little consequence in considering the number of patents issued to the group.

In general, very few financial companies hold any patents; the few that do would hold them as trustee or in connection with a mortgage. Financial companies have hence been excluded from the group of large companies. Transportation companies also held very few patents. The Department of Commerce list of the 200 largest nonfinancial companies includes 34 transportation companies; of this number 29 took out no patents and the remaining 5 received only an average of 11 each. Utility companies, with only a few known exceptions, are not holders of large numbers of patents. The Department of Commerce list of 200 includes 47 electric and gas utility companies; of this number 38 had no patents and the remaining 9 averaged 11 patents each. Trade and service companies also hold very few patents.

hearings of that Committee, in Part 3: Patents, pages 845-848 and exhibits 183-191 on pages 1125-1129. Essentially the figures were obtained by counting all the patents issued to each corporation, on an annual basis, for the years 1931-37, and for the first half of the year 1938. The counting was done from the same cumulative index of patentees used here, as it then existed. The period chosen for the actual count of patents is explained by the fact that this cumulative index was started in 1931. For the years prior to 1931, in order to extend some of the data to include 17 years, samples, interpolations, and other methods of estimating were used.

Table 5 is an arrangement of some of the prior data for the years 1936, 1937, and 1938, (for the latter year the percentages obtained from the count for the first 6 months were applied to the patents issued during the entire year). The percentage of patents issued to the selected group of corporations varies little during these 3 years, and the other data also vary only a little in percentage from the percentages for the entire 3 years.

TABLE 5.—Patents issued to corporations, 1936-38

Issued to—	1936		1937		1938		Percent for 3 years
	Number	Percent	Number	Percent	Number	Percent	
Group of 157 largest United States corporations.....	6,756	16.98	6,415	17.32	6,546	17.20	17.07
Other United States corporations.....	14,451	36.33	13,416	35.61	13,089	34.39	35.45
Foreign corporations.....	1,903	4.78	1,824	4.84	2,063	5.42	5.01
Total to corporations.....	23,110	58.09	21,655	57.47	21,698	57.01	57.53
Individuals.....	16,639	41.83	15,994	42.44	16,303	42.83	42.36
U. S. Government.....	33	.08	33	.09	59	.16	.11
Total.....	39,782		37,682		38,060		

The large corporations in that study were corporations with assets of over \$50 million. The basic list used was a list of industrial corporations with total assets of \$50 million and over, compiled by the Federal Trade Commission in 1938.⁶ This list contained 178 names, but only 151 were "industrial corporations" as the term is used in the recent list published by Fortune magazine, the others being trade and service companies.⁷ Hence the group of large corporations of the 1938 study included the top 151 industrial corporations plus the companies in other categories in the same asset range to which any patents were issued. The total number of corporations in the group considered, to which patents had been issued, was 157.⁸ Patents issued to subsidiaries of these companies were added to the patents

⁶ This list was published in Federal Licensing of Corporations, hearings before a subcommittee of the Committee on the Judiciary of the U. S. Senate, 75th Cong., pt. 4, March 1938, pp. 786-792.

⁷ See footnote 5, supra.

⁸ TNEC hearings, pt. 3, exhibits 183, 184, p. 1125.

issued to the parent companies in obtaining the data repeated in the first line of table 5.⁹

7. ANNUAL NUMBER AND PERCENTAGE OF PATENTS ISSUED TO CORPORATIONS, 1936-55

Some figures which were already on hand, relating to the number of patents issued annually to corporations, have been augmented and arranged for inclusion in this report. The annual tables presented are for the years 1936-55, inclusive, the 3 years 1936-38 having been added to make an even 20-year period; the figures in these tables are partly estimates.

Table 6 lists the total number of patents (excluding reissues and design and plant patents) issued annually in each of the 20 years covered, the number issued to United States corporations, the number issued to foreign corporations, the total issued to corporations, the number issued to individuals, and the number issued to the United States Government (excluding the Alien Property Custodian; patents issued to the Alien Property Custodian are included in the patents issued column but have not been separately listed).

Table 7 lists the annual percentages of the data given in columns 2 to 6 of table 6.

⁹ The data published in the TNEO hearings comprised nine tables and charts, exhibits 183 to 191, pp. 1125 to 1129, with a small amount of discussion during the oral hearing, pp. 845-848.

Exhibits 183 and 184 are charts showing the annual number and percentage of patents issued to the group of 157 large corporations (including subsidiaries) for the years 1921-38.

Exhibit 185 is a chart showing the number of patents issued per each \$1 billion of their total assets, to the group of 157 large corporations, for each of the years 1921-37. It was criticized during the hearings (pp. 845, 846) as having no particular meaning since large companies with only 1 or 2 patents would be included.

Exhibits 186 and 187 are charts showing the annual number and percentage of patents issued to all corporations and to foreign corporations, and also repeating the curves of exhibits 183 and 184; except for the noninclusion of data of this latter type, figures 3 and 4 of the present study are similar to these exhibits.

Exhibit 188 is a diagram showing the number of patents issued from January 1, 1931, to June 30, 1938, which were acquired from individuals after issuance by the three groups of corporations (the 157 large corporations, other United States corporations, and foreign corporations) during this period.

Exhibits 189 and 190 are tables which, taken together, are similar in form to table 4 of the present report. The data are not comparable, however, since in exhibits 189 and 190 the patents of subsidiaries were not combined with the parent corporations and the numbers are not only patents issued to the corporations but an estimate of the total number of patents owned by them, the number of patents issued (which was estimated) having been increased by a factor to obtain an estimate of the number of patents owned by the corporations in the various groups.

Exhibit 191 is a detail table showing the number of corporations receiving only 1 to 8 patents during the 7½ years of the count.

It does not appear that any explanatory written report was prepared in 1938. Some details regarding the study which have been referred to in the present report were obtained from a few internal memorandums which have been found.

TABLE 6.—*Patents issued annually, 1936-55*

Year	Patents issued (1)	Issued to United States corporations (2)	Issued to foreign corporations (3)	Total to corporations (4)	Issued to individuals (5)	Issued to U. S. Government (6)
1936	39,782	21,207	1,903	23,110	16,639	33
1937	37,682	19,831	1,824	21,655	15,994	33
1938	38,060	19,635	2,063	21,698	16,303	59
1939	43,072	21,600	2,460	24,440	18,582	40
1940	42,235	22,155	2,406	24,571	17,624	50
1941	41,109	22,632	2,112	24,744	16,322	43
1942	38,449	22,019	1,286	23,305	14,534	62
1943	31,033	18,022	1,524	19,546	11,654	48
1944	28,051	16,769	645	17,414	9,636	106
1945	28,695	16,665	580	16,245	8,981	87
1946	21,803	13,486	585	14,071	7,444	147
1947	20,139	11,448	669	12,117	7,784	155
1948	23,963	13,124	628	13,752	9,812	352
1949	35,131	18,636	1,127	19,663	14,957	485
1950	43,040	21,782	1,660	23,442	18,060	622
1951	44,326	22,305	2,163	24,468	19,192	659
1952	43,616	22,340	2,035	24,375	18,538	695
1953	40,468	21,230	2,294	23,524	16,284	658
1954	33,809	18,319	2,301	20,620	12,531	658
1955	30,432	16,084	1,744	17,828	11,914	689

TABLE 7.—*Annual percentage of patents issued to corporations*

Year	To United States corporations (2)	To foreign corporations (3)	Total to corporations (4)	To individuals (5)	To U. S. Government (6)
1936	53.31	4.78	58.09	41.83	0.08
1937	52.63	4.84	57.47	42.44	.08
1938	51.59	5.42	57.01	42.83	.16
1939	50.61	6.13	56.74	43.14	.12
1940	52.43	5.70	58.13	41.73	.11
1941	55.05	5.14	60.19	39.70	.10
1942	57.27	3.94	60.61	37.80	.15
1943	58.04	1.69	59.73	37.53	.15
1944	59.78	2.30	62.08	34.85	.38
1945	60.96	2.26	63.22	34.95	.34
1946	61.85	2.68	64.53	34.14	.67
1947	56.84	3.32	60.16	38.65	.77
1948	54.77	2.62	57.39	40.95	1.47
1949	52.76	3.21	55.97	42.57	1.38
1950	50.61	3.85	54.46	44.05	1.45
1951	50.32	4.88	55.20	43.30	1.49
1952	51.22	4.66	55.88	42.50	1.59
1953	52.46	5.67	58.13	40.24	1.63
1954	54.18	6.81	60.99	37.06	1.95
1955	52.85	5.73	58.58	39.15	2.27

The data presented in these tables were obtained in the following manner. The number and percentage of patents issued to corporations in the 3 years 1936, 1937, and 1938 are from the study made in 1938. See table 5. The number and percentage for 1955 were obtained by counting the patents issued to corporations for the entire year, in the Index of Patentees for 1955. For the intervening years, 1939-54, the number and percentage of patents issued to corporations were estimated by counting the patents (from the Official Gazette) issued to corporations for a full month at 6-month intervals. That

is; a sample of 2 months' patents, January and July, was taken each year and the estimates for each year calculated from these samples. The numbers of patents to the United States Government for each year were taken from an index of Government-owned patents (excluding the Alien Property Custodian; an annual tabulation of patents issued to the Alien Property Custodian is not separately listed in these tables).

Some of the data tabulated in tables 6 and 7 are shown graphically in figures 3 and 4. The upper heavy line in figure 3 represents the total number of patents issued annually. The next line represents the number of patents issued annually to all corporations and the line below this one represents the number of patents issued annually to United States corporations; the difference between these two lines represents the number of patents issued annually to foreign corporations. The difference between the upper two lines represents the patents issued to individuals except for those issued to the United States Government and the Alien Property Custodian which are not indicated in the figure. Figure 4 corresponds to figure 3, giving the percentages for each year.

Looking at the percentage curves, it will be noted that while there are some variations in the percentages of patents issued to corporations over the 20-year period, no significant trend for the entire period is indicated. The average percentage of patents to all corporations for the 20-year period is 58.37 percent, and of patents to United States corporations is 53.93 percent. Straight lines fitted to the points of each curve by the method of least squares are nearly horizontal, sloping downward by about 1 percent in the entire 20-year period in each case. The largest deviation above the average line, for either curve, is the rise occurring from 1941 to 1946. This rise in percentage of patents to corporations appears during the period when the number of patents issued to corporations and the total number of patents issued annually was declining due to the decline in the number of applications filed during the war years. The rise in the percentage of patents to corporations during the period of diminishing filing of applications and issuance of patents indicates that the causes of the decrease in filings and issuances affected the individual inventors to a somewhat greater extent than they affected the corporations. The sharp drop in the proportion of patents to corporations occurring after 1946 clearly suggests that the preceding increase was an effect of the war. The decrease, obviously caused by the war, and subsequent increase of both the number and proportion of patents issued to foreign corporations is apparent in both figures.

Fig. 3.

PATENTS ISSUED ANNUALLY TO CORPORATIONS

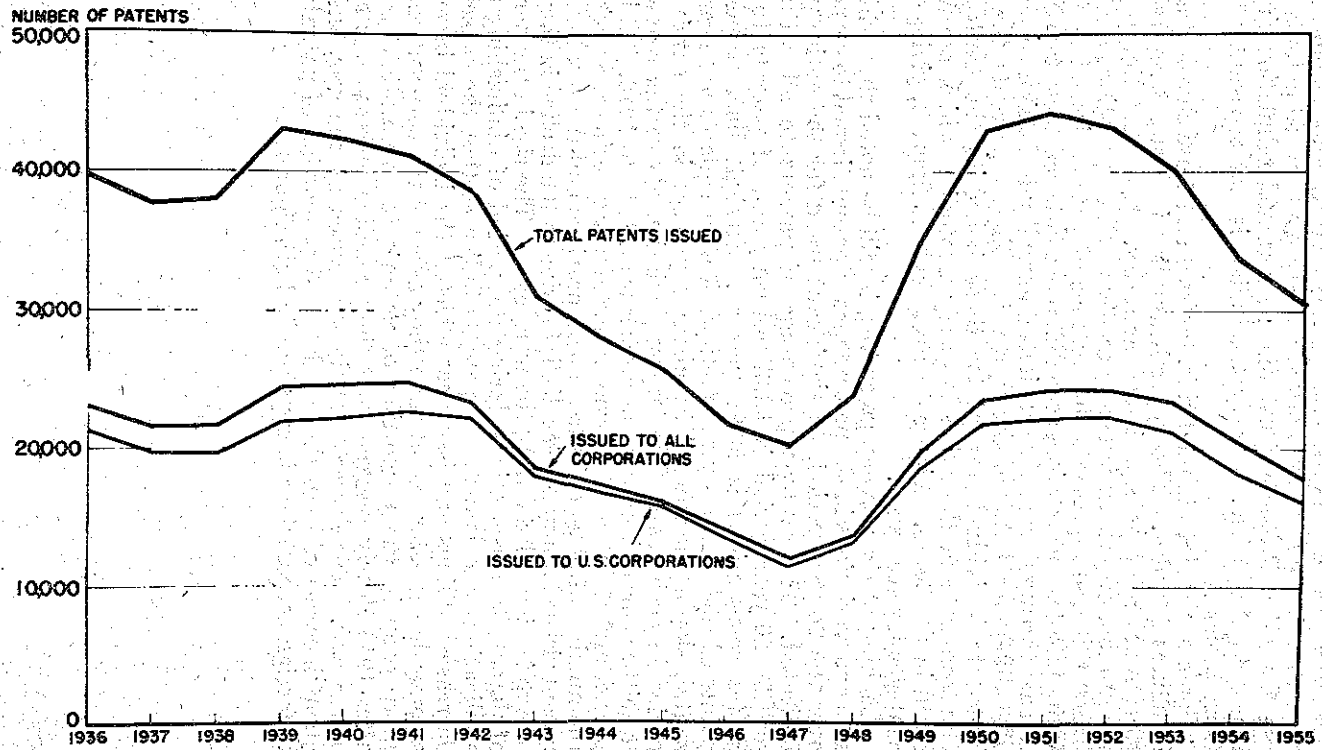
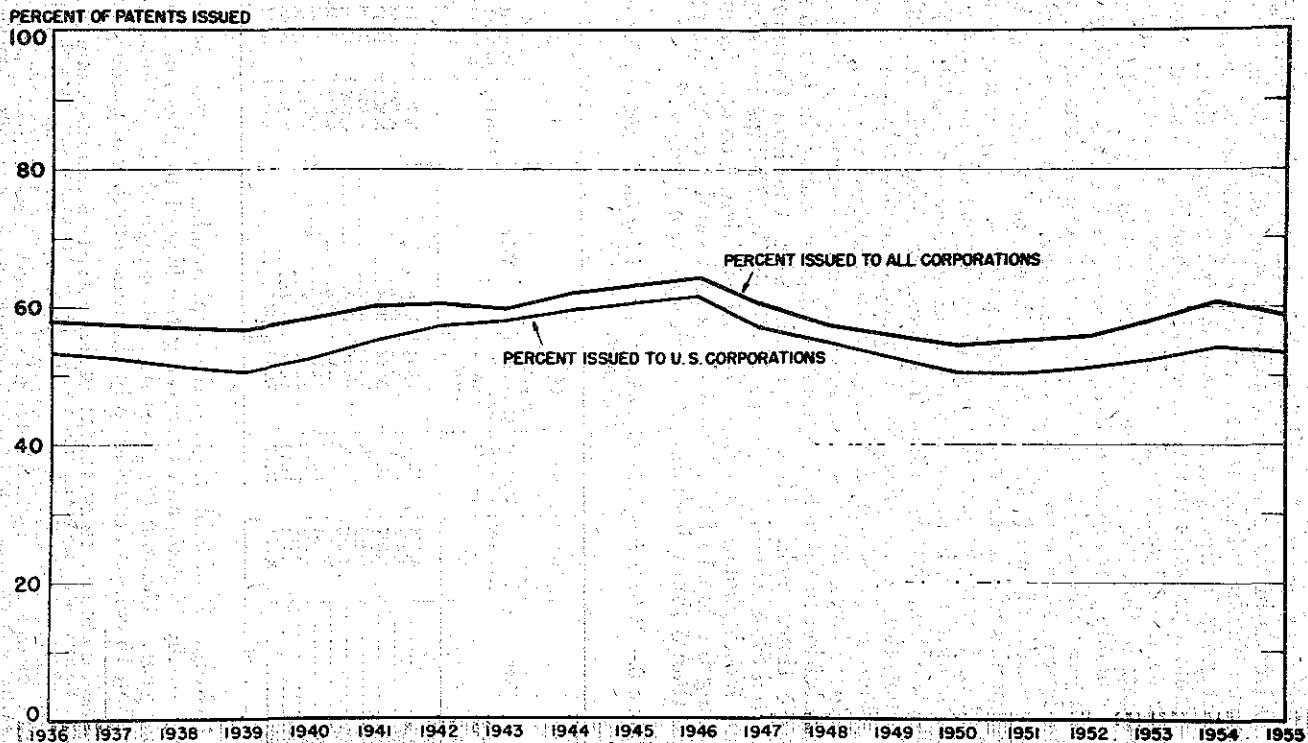


Fig. 4.

PERCENT OF PATENTS ISSUED TO CORPORATIONS



8. PATENTS ISSUED EACH YEAR TO THE 15 CORPORATIONS RECEIVING THE LARGEST NUMBERS OF PATENTS

For the purpose of supplying additional material which might show any trends in the number of patents received by the larger corporations, a further study was made of the patents issued each year to a small group of the largest patent-obtaining corporations.

Table 8 presents the number and proportion of patents issued each year to the 15 corporations which received the largest numbers of patents in that year, for the 20 years 1936 to 1955. The 15 corporations of one year are not entirely the same as the 15 in another year, for each year includes just the particular 15 corporations which received the largest number of patents in that year. From year to year there was a shift of two (8 times), one (8 times), or none (3 times) in the 15 companies which received the most patents. Of the corporations included, 9 were among the top 15 each year of the 20-year period. These nine are, in order of their total number of patents: (1) General Electric Co., (2) American Telephone & Telegraph Co., (3) Radio Corporation of America, (4) Westinghouse Electric Corp., (5) E. I. du Pont de Nemours & Co., (6) Esso Standard Oil Co., (7) General Motors Corp., (8) Eastman Kodak Co., (9) Bendix Aviation Corp. In addition to these 9, 5 companies appear among the top 15 from 11 to 15 times each. These companies are: American Cyanamid Co., United Shoe Machinery Corp., Shell Oil Co., Phillips Petroleum Co., and Westinghouse Air Brake Co. In addition, 6 companies appeared among the top 15 from 5 to 8 times each, and 8 companies appeared less than 5 times, including 3 which appear only once.¹⁰

TABLE 8.—*Patents issued to 15 companies receiving the largest number of patents each year, 1936-55*

Year	(1) Number	(2) Percent of total patents	(3) Percent of patents issued to corporations	Year	(1) Number	(2) Percent of total patents	(3) Percent of patents issued to corporations
1936	4,554	11.45	19.71	1946	3,646	16.72	25.91
1937	4,443	11.79	20.52	1947	3,198	15.88	26.39
1938	4,347	11.42	20.03	1948	3,386	14.13	24.62
1939	5,172	12.01	21.16	1949	4,587	13.06	23.33
1940	5,018	11.88	20.42	1950	4,968	11.04	21.19
1941	5,367	13.06	21.69	1951	4,893	11.04	20.00
1942	5,684	14.52	23.96	1952	4,518	10.36	18.54
1943	4,279	13.78	23.07	1953	4,231	10.46	17.99
1944	4,134	14.74	23.74	1954	3,716	10.99	18.02
1945	3,565	13.87	21.95	1955	3,267	10.74	18.33

Column (1) of table 8 gives the total number of patents issued each year to the 15 companies receiving the largest numbers of patents in that year. Column (2) gives the percentage of the patents issued to the top 15 companies relative to the total number of patents issued in

¹⁰ These companies were identified by taking the names of the top 20 companies listed in list 1 of the appendix, the names of the top 20 companies receiving the largest number of patents in 1955, and the top 20 companies receiving the largest number of patents in 1936-38. The result was a list of 30 companies, and the patents issued to each of these companies were counted for each year, extending the count back to 1936 so as to make a 20-year period. Subsidiaries and merged companies were included in the same manner and to the same extent as shown under the names of these companies listed in the appendix. From the tabulation of the number of patents issued to these 30 companies each year, the top 15 for each year were selected and this total is given in the table. The companies included in this tabulation are those which are numbered 1 to 23, and 26, 28, 29, 31, and 41 in the appendix.

the given year, and the next column gives the percentage of the patents issued to the top 15 companies relative to the number of patents issued to all corporations in the given year.

Referring to column (2), giving the percentage of total patents issued to the top 15 companies, the first 5 years, 1936 to 1940, show an average of 11.72 percent, with very little variation about this average. The last 5 years, 1951 to 1955, show an average of 10.71 percent, a decrease of about one-eleventh from the value of the percentage for the earlier years. However, there is a rise in the percentage to the top 15 corporations from 1940 to 1946 and thereafter a decline to the recent figures. This rise occurs during the same time as the rise in the percentage of patents to all corporations which has been discussed in the preceding section. In the preceding section it was pointed out that during this period the total number of patents issued each year was decreasing and smaller than normal and consequently the increase in the percentage of patents issued to corporations (occurring while the actual number of patents issued to them was decreasing) merely indicated that the causes of the decrease in filings and issuances of patents operated less strongly on corporations than on individuals. The present tabulation of the patents issued to the top 15 corporations indicates that the causes for the decrease in filings and issuances operated still less strongly on the larger corporations. Considering the war period and the years thereafter as abnormal and not included, the trend in the proportion of patents issued each year to the largest patent obtaining companies exhibits a decline, as has been noted. However, considering each year of the 20-year period, a straight line fitted to the data by statistical methods would also show a similar decreasing trend.

Referring to column (3), giving the percentage of patents issued to the top 15 companies relative to the number of patents issued to all companies, the first 5 years, 1936 to 1940, show an average of 20.38 percent. The last 5 years, 1951 to 1955, show an average of 18.61 percent. A similar decline would also be shown if all years were considered and the straight-line trend calculated. The rise in the percentage from 1940 to 1947 and the subsequent decline to the recent figures indicates that the causes of the drop in the number of patents issued during the war operated less strongly on the top corporations than on the others, as has been stated.

9. PATENTS ISSUED TO CORPORATIONS IN 1955

The total number of patents issued to corporations in the year 1955 and the total number of corporations receiving patents in this year were counted from the annual Index of Patentees for 1955, a new arrangement of the entries making it convenient to do this for that year. There were 5,316 corporations receiving a total of 17,947 patents (this number includes 119 reissues) in 1955. The proportion of patents issued to corporations in this year, 58.58 percent, is almost the same as the average for the 17 years 1939-55, although the proportion to United States corporations is a little over 1 percent lower than the average to United States corporations for the 17-year period. The year 1955 shows a drop in the proportion of patents issued to the selected group of 176 large corporations, as pointed out in section 5.

18 DISTRIBUTION OF PATENTS ISSUED TO CORPORATIONS

Table 9 presents a listing of the number of corporations which received only 1 patent in 1955, the number which received 2 patents, and so on, for both United States and foreign corporations.

TABLE 9.—*Patents issued to corporations, 1955*

Number of patents	United States corporations		Foreign corporations		Total to corporations	
	Number of corporations	Number of patents	Number of corporations	Number of patents	Number of corporations	Number of patents
1.....	2,693	2,693	643	643	3,336	3,336
2.....	702	1,404	134	268	836	1,672
3.....	315	945	52	156	367	1,101
4.....	164	656	26	104	190	760
5.....	100	500	13	65	113	665
6.....	75	450	7	42	82	492
7.....	53	371	6	42	59	413
8.....	32	256	6	48	38	304
9.....	27	243	5	45	32	288
10.....	16	160	2	20	18	180
1 to 10.....	4,177	7,678	894	1,433	5,071	9,111
11 to 20.....	119	1,693	12	164	131	1,867
21 to 30.....	36	888	3	70	39	958
31 to 40.....	26	911	1	40	27	951
41 to 50.....	11	497	1	41	12	538
51 to 60.....	7	384			7	384
61 to 70.....	6	382			6	382
71 to 80.....	5	381			5	381
81 to 90.....	2	171			2	171
91 to 100.....	0					
101 to 200.....	10	1,404			10	1,404
201 to 300.....	5	1,338			5	1,338
301 to 400.....	0					
401 to 500.....	1	472			1	472
Total.....	4,405	16,199	911	1,748	5,316	17,947

May 1956.

APPENDIX

LISTS OF CORPORATIONS AND NUMBERS OF PATENTS ISSUED TO THEM IN 1939-55

The following lists give the names of corporations and the number of patents issued to each during the 17 years, 1939-55. Following each name are given the names of other companies—subsidiaries, companies which have merged, and prior names of the same company—if any, which received patents which were added to the patents received by the main company to arrive at the total number given. It should be understood that the figure given for any individual company does not necessarily represent the actual number of patents owned by that company at the end of 1955, and that the figures have been compiled only for the purpose of statistical summaries.

There are three lists.

List I gives the names of 394 corporations which obtained more than 100 patents. This list is believed to be substantially complete.

List II is a partial list of corporations which obtained from 75 to 100 patents. These names have been tabulated for the purpose of listing the names of the corporations in the selected group of large corporations referred to in section 5, which are not on the first list, and to preserve the counts for the other companies included. Since the effort was made to find the corporations with more than 100 patents, this latter group would be incomplete.

List III continues the names in the selected group of large corporations by tabulating the names of those which received less than 75 patents.

The names of the corporations in the selected group of the largest corporations have been identified by the letter "A" placed after their name, in each of the three lists. Corporations not in this group and with assets of over \$100 million (and less than \$150 million) are identified by the letter "B" placed after their names in each of the lists; the three lists include all such names which were found. Corporations with no patents are not included in the listings.

One or two of the names included may not necessarily be corporations.

I. CORPORATIONS WITH OVER 100 PATENTS

1.	General Electric Co. (A)	10,757
	Includes patents issued to Hotpoint, Inc. (131); General Electric X-Ray Corp. (94)	
2.	American Telephone & Telegraph Co. (A)	8,539
	Includes patents issued to Bell Telephone Laboratories, Inc. (5,600); Western Electric Co., Inc. (2,087); Teletype Corp. (451); Electrical Research Products, Inc. (26); Nassau Smelting & Refining Co. (20)	
3.	Radio Corporation of America (A)	7,894

I. CORPORATIONS WITH OVER 100 PATENTS—continued

4. Westinghouse Electric Corp. (A)-----	7,567
Formerly Westinghouse Electric & Manufacturing Co. Includes patents to B. F. Sturtevant Co. (159).	
5. Du Pont de Nemours, E. I., & Co. (A)-----	6,338
Includes patents to Kinetic Chemicals, Inc. (36); Du Pont Film Manufacturing Corp. (33).	
6. Esso Standard Oil Co. (A)-----	4,899
Formerly Standard Oil Company of New Jersey. Includes patents to Esso Research & Engineering Co., formerly Stand- ard Oil Development Co. (4,626); Gilbert & Barker Manufac- turing Co. (175); Standard Catalytic Co., formerly Standard I. G. Co. (98).	
7. General Motors Corp. (A)-----	4,041
8. Eastman Kodak Co. (A)-----	3,784
Includes Distillation Products, Inc. (121); Tennessee East- man Corp. (18).	
9. Bendix Aviation Corp. (A)-----	3,113
Includes Bendix Products Corp. (164); Hydraulic Brake Co. (145); Eclipse Aviation Corp. (84); Bendix Radio Co. (33); Bendix-Kliesrath Hydraulic Brake (14); Bendix Brake Co. (5); Bendix Stromberg Carburetor Co. (3); Zenith Carbu- retor Co. (3); Pioneer Instrument Co. (1); Bendix Aviation, Ltd. (California) (1); Eclipse Machine Co. (1).	
10. American Cyanamid Co. (A)-----	2,872
Includes Chemical Construction Corp. (75); Lederle Laboratories, Inc. (37).	
11. United Shoe Machinery Corp. (B)-----	2,461
Includes B. B. Chemical Co. (69).	
12. Phillips Petroleum Co. (A)-----	2,424
13. Shell Oil Co. (A)-----	2,374
Includes Shell Development Co. (2,373).	
14. The Westinghouse Air Brake Co. (B)-----	2,108
Formerly the Union Switch & Signal Co.	
15. Sperry Rand Corp. (A)-----	2,066
Includes the Sperry Corp. (722); Sperry Gyroscope Co., Inc. (433); Remington Rand, Inc. (435); Vickers, Inc. (338); Ford Instrument Co., Inc. (89); Eckert-Mauchly Computer Corp. (17).	
16. General Aniline & Film Corp. (A)-----	1,919
Includes General Aniline Works, Inc. (147); Agfa Anasco Corp. (86).	
17. The Dow Chemical Co. (A)-----	1,884
18. Minneapolis-Honeywell Regulator Co. (B)-----	1,813
Includes the Brown Instrument Co. (324).	
19. Monsanto Chemical Co. (A)-----	1,747
20. Socony Mobil Oil Co., Inc. (A)-----	1,697
Formerly Socony-Vacuum Oil Co., Inc. Includes Magnolia Petroleum Co. (1).	
21. Universal Oil Products Co.-----	1,665
22. Union Carbide and Carbon Corp. (A)-----	1,645
Includes Linde Air Products Co. (423); Carbide & Carbons Chemicals Corp. (352); Bakelite Corp. (93); Oxweld Acety- lene Co. (77); National Carbon Co., Inc. (71); Haynes Stellite Co. (37); Prest-O-Lite Co., Inc. (13).	
23. B. F. Goodrich Co. (A)-----	1,559
24. United States Rubber Co. (A)-----	1,469
Includes Mishawaka Rubber & Woolen Mfg. Co. (59).	
25. Hartford National Bank & Trust Co. (A)-----	1,419
(Held for N. V. Philips' Gloeilampenfabrieken (Holland) and others.)	
26. International Business Machines Corp. (A)-----	1,410
27. International Standard Electric Corp.-----	1,406
28. Standard Oil Co. (Indiana) (A)-----	1,393
Includes Standolind Oil & Gas Co. (277); American Oil Co., formerly Pan American Refining Corp. (55)	

INCORPORATIONS WITH OVER 100 PATENTS--continued

29. International Harvester Co. (A)	1,391
30. United States Steel Corp. (A)	1,374
Includes American Wire & Steel Company of New Jersey (365); Carnegie-Illinois Steel Corp. (298); National Tube Co. (208); Oil Well Supply Co. (50); Tennessee Coal, Iron & Railroad Co. (32); Consolidated Western Steel Corp. (6); American Bridge Co. (4); United States Steel Products Co. (4); Columbia Steel Co. (3); Gerrard Steel Strapping Co. (2); Bradley Transportation Co. (1); Geneva Steel Co. (1); United States Steel Supply Co. (1); Universal Exploration Co. (1).	
31. Celanese Corporation of America (A)	1,354
32. Deere & Co. (A)	1,233
Includes Deere Manufacturing Co. (507); Dain Manufacturing Company of Iowa. (25); John Deere Tractor Co. (17).	
33. The Texas Co. (A)	1,151
Includes Texaco Development Corp. (133).	
34. Hercules Powder Co. (B)	1,107
35. International Telephone & Telegraph Corp. (A)	1,101
Includes Federal Telephone & Radio Corp. (927); Federal Telecommunication Laboratories, Inc. (59); International Telephone & Radio Manufacturing Co. (17); Federal Telegraph Co. (15).	
36. Chrysler Corp. (A)	1,089
37. Imperial Chemical Industries, Ltd. (Great Britain)	1,030
38. Associated Telephone & Telegraph Co.	1,017
Includes Automatic Electric Laboratories Inc., formerly Associated Electric Laboratories, Inc. (942).	
39. Curtiss-Wright Corp. (A)	964
Includes Wright Aeronautical Corp. (284); Marquette Metals Products Co. (96); Protektosite Co., Inc. (26).	
40. Raytheon Manufacturing Co.	948
Includes Submarine Signal Co. (182); Raytheon Television & Radio Corp., formerly Belmont Radio Corp. (88).	
41. Allied Chemical & Dye Corp. (A)	935
Includes the Solvay Process Co. (137); General Chemical Co. (82); National Aniline & Chemical Co., Inc. (75); the Barrett Co. (29); Semet-Solvay Co. (2).	
42. Allis-Chalmers Manufacturing Co. (A)	914
Includes LaPlant-Choate Manufacturing Co., Inc. (70); Buda-Harvey Corp., formerly Buda Co. (22).	
43. Wingfoot Corp.	887
44. American Viscose Corp. (A)	871
Includes Sylvania Industrial Corp. (85).	
45. American Can Co. (A)	845
46. United Aircraft Corp. (A)	821
47. Borg-Warner Corp. (A)	813
Includes Pesco Products Co., formerly Pump Engineering Service Corp. (51).	
48. Philco Corp. (A)	788
Formerly Philadelphia Storage Battery Co. Includes Philco Radio & Television Corp. (192)	
49. Rohm & Haas Co.	788
Includes the Resinous Products & Chemical Co. (169).	
50. Olin Mathieson Chemical Corp. (A)	779
Includes Mathieson Chemical Corp. formerly Mathieson Alkali Works, Inc. (293); Olin Industries, Inc., formerly Western Cartridge Co. (260); E. R. Squibb & Sons (164).	
51. Gulf Oil Corp. (A)	770
Includes Gulf Research & Development Co. (421).	
52. The Budd Co. (A)	758
Includes Edward G. Budd Manufacturing Co. (299); Budd Wheel Co. (119).	
53. Babcock & Wilcox Co. (A)	746
Includes Bailey Meter Co. (268).	

I. CORPORATIONS WITH OVER 100 PATENTS--continued

54. Joy Manufacturing Co.-----	745
Includes Sullivan Machinery Co. (305); Ladel Conveyor & Manufacturing Co. (14)-----	308
55. Pittsburgh Plate Glass Co. (A)-----	743
56. The Hoover Co.-----	737
57. The Singer Manufacturing Co. (A)-----	722
58. Firestone Tire & Rubber Co. (A)-----	705
59. Merck & Company, Inc. (B)-----	700
Includes Sharp & Dohme, Inc. (116)-----	
60. American Steel Foundries-----	685
61. ACF Industries, Inc. (A)-----	654
Formerly American Car & Foundry Co. Includes Carter Carburetor Corp. (317)-----	38
62. Sylvania Electric Products Inc. (A)-----	632
Formerly Hygrade Sylvania Corp.-----	33
63. Petrolite Corp.-----	621
Formerly Petrolite Corp., Ltd.-----	34
64. Pullman Inc. (A)-----	613
Includes the M. W. Kellogg Co. (445); Pullman-Standard Car Manufacturing Co. (136); The Trailmobile Co. (32)-----	
65. Telefunken-Gesellschaft für Drahtlose Telegraphie m. b. H. (Germany)-----	611
66. McGraw Electric Co.-----	607
Includes Line Material Co. (213)-----	37
67. American Optical Co.-----	603
Includes Spencer Lens Co. (55)-----	
68. Crompton & Knowles Loom Works-----	602
Includes Crompton & Knowles Jacquard & Supply Co. (9)-----	36
69. Food Machinery and Chemical Corp. (A)-----	588
Includes Food Machinery Corp. (287); Chicago Pump Co. (31)-----	31
70. Standard Oil Company of California (A)-----	578
Includes California Research Corp. (384); California Spray-Chemical Corp. (22)-----	33
71. Union Oil Company of California (A)-----	573
72. Cutler-Hammer, Inc.-----	565
Includes Schweltzer & Conrad Co. (70)-----	
73. Sun Oil Co. (A)-----	536
Includes Sperry Sun Well Surveying Co. (77); Sun Shipbuilding & Dry Dock Co. (20)-----	
74. Stewart-Warner Corp.-----	530
Includes Bassick Co. (68)-----	32
75. Libbey-Owens-Ford Glass Co. (B)-----	523
76. Norton Co.-----	515
77. United-Carr Fastener Corp.-----	513
Formerly Carr Fastener Co. Includes Cinch Manufacturing Corp. (62)-----	31
78. Electric & Musical Industries Ltd. (Great Britain)-----	491
79. Servel, Inc.-----	482
80. Ciba, Ltd. (Switzerland)-----	480
Formerly Society of Chemical Industry in Basle-----	
81. Air Reduction Co., Inc. (B)-----	478
Includes the Ohio Chemical & Manufacturing Co. (6)-----	
82. Underwood Corp.-----	476
Formerly Underwood Elliott Fisher Co.-----	
83. Ford Motor Co. (A)-----	467
84. I. G. Farbenindustrie Aktiengesellschaft (Germany)-----	467
85. W. H. Miner, Inc.-----	461
86. Thompson Products, Inc. (B)-----	458
87. Research Corp.-----	452
88. Aluminum Company of America (A)-----	435
89. Koppers Co., Inc. (A)-----	433
90. Goodman Manufacturing Co.-----	428
91. Corning Glass Works (B)-----	422
92. The National Cash Register Co. (A)-----	420

I. CORPORATIONS WITH OVER 100 PATENTS--continued

93.	Avco Manufacturing Corp. (A) Formerly Aviation Corp. Includes the Crosley Corp., formerly the Crosley Corp. and Crosley Broadcasting Corp. (79); Bendix Home Appliances, Inc. (90).	416
94.	Studebaker-Packard Corp. (A) Formerly Packard Motor Car Co. Includes Studebaker Corp. (90).	411
95.	Polaroid Corp.	408
96.	General Railway Signal Co.	407
97.	Houdaille-Hershey Corp.	405
98.	The Western Union Telegraph Co. (A)	397
99.	Armstrong Cork Co. (B)	388
100.	Sinclair Oil Corp. (A) Includes Sinclair Refining Co. (370); Sinclair Oil & Gas Co. (9); Sinclair Research Laboratories, Inc. (8).	387
101.	Continental Can Co., Inc. (A)	386
102.	Remington Arms Co., Inc.	383
103.	Owens-Illinois Glass Co. (A)	379
104.	Farnsworth Research Corp. Includes Farnsworth Radio & Television Corp. (193).	377
105.	Owens-Corning Fiberglas Corp.	370
106.	The Pure Oil Co. (A)	368
107.	Hoffmann-LaRoche, Inc.	366
108.	American Motors Corp. (A) Formerly Hudson Motor Car Co. Includes Nash-Kelvina- tor Corp. (330).	365
109.	Interchemical Corp.	363
110.	A. O. Smith Corp. (B)	363
111.	American Radiator & Standard Sanitary Corp. (A) Formerly American Radiator Co. Includes Detroit Con- trols Corp., formerly Detroit Lubricator Co. (225); American Blower Corp. (55).	359
112.	Zenith Radio Corp. Includes the Rauland Corp. (87)	359
113.	Hydraulic Press Manufacturing Co. Includes H-P-M Development Corp., formerly the Hy- draulic Development Corp., formerly Hydraulic Press Corp. (354).	354
114.	P. R. Mallory & Co., Inc.	354
115.	Jeffrey Manufacturing Co. Formerly the Jeffrey Co.	345
116.	General Mills, Inc. (A)	344
117.	Ingersoll-Rand Co. (A)	344
118.	The Upjohn Co.	344
119.	The Standard Oil Co. (Ohio) (A)	343
120.	Dresser Industries, Inc. Formerly Dresser Manufacturing Co. Includes Lane-Wells Co. (231); Dresser Equipment Co. (58).	342
121.	Houdry Process Corp.	342
122.	Johns-Manville Corp. (A)	341
123.	Parke, Davis & Co. (B)	341
124.	Commercial Solvents Corp.	340
125.	Minnesota Mining & Manufacturing Co. (A)	338
126.	Armour & Co. (A)	330
127.	Trico Products Corp.	322
128.	American Machine & Foundry Co. (B) Includes Transducer Corp. (7).	319
129.	Lockheed Aircraft Corp. (A)	312
130.	The General Tire & Rubber Co. (A)	308
131.	Wagner Electric Corp.	308
132.	Toledo Scale Co. Formerly Toledo Scale Manufacturing Co.	307
133.	National Lead Co. (A) Includes Doehler Die Casting Co. (11); W. B. Jarvis Co. (8); Doehler-Jarvis Corp. (7).	301

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136. Clark Equipment Co.....	289
137. Hazeltine Corp.....	287
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138. Baldwin-Lima-Hamilton Corp. (B).....	285
Formerly the Baldwin Locomotive Works. Includes Hydropress, Inc. (43); Lima-Hamilton Corp., formerly Lima Locomotive Works, Inc. (26); Austin-Western Co., formerly Western-Austin Co. (10).	
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140. Eaton Manufacturing Co.....	284
141. Scovill Manufacturing Co.....	284
142. Bausch & Lomb Optical Co.....	283
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144. Crane Co. (A).....	278
145. The Glenn L. Martin Co.....	277
146. The Cincinnati Milling Machine Co.....	274
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147. Emhart Manufacturing Co.....	274
Formerly Hartford-Empire Co.	
148. General Precision Equipment Corp.....	274
Formerly General Theatres Equipment Corp. Includes General Precision Laboratory, Inc. (126); Askania Regulator Co. (92); International Projector Corp. (53).	
149. Bell Aircraft Corp.....	273
Includes American Wheelabrator & Equipment Co. (73).	
150. Robertshaw-Fulton Controls Co.....	273
Includes Robertshaw Thermostat Co. (44); the Fulton Syphon Co. (28); Grayson Heat Control, Ltd. (22); American Thermometer Co. (8); Bridgeport Thermostat Co., Inc. (4); Paragon Manufacturing Co. (1).	
151. Tinnerman Products, Inc.....	268
152. Motorola, Inc.....	264
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153. J. R. Geigy, A. G. (Switzerland).....	263
154. Colgate-Palmolive Co. (A).....	261
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155. Clevite Corp.....	259
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157. J. I. Case Co. (B).....	256
158. Electrolux Corp.....	256
159. Stromberg-Carlson Co.....	255
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160. Ciba Pharmaceutical Products, Inc.....	254
161. Nopco Chemical Co.....	254
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162. United States Gypsum Co. (A).....	254
163. Collins Radio Co.....	253
164. Thomas A. Edison, Inc.....	253
165. The Atlantic Refining Co. (A).....	251
166. The Carborundum Co.....	251
167. Briggs Manufacturing Co. (B).....	248
168. Walter Kidde & Co., Inc.....	248
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170. American Chain & Cable Co., Inc.....	246
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172. Allen B. Du Mont Laboratories, Inc.....	244
173. Illinois Tool Works.....	243
174. General Dynamics (A).....	242
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175. I-T-E Circuit Breaker Co.....	240
Includes Bull Dog Electric Products Co. (62).	
176. Industrial Patents Corp.....	240
177. Swift & Co. (A).....	239
178. Square D Co.....	238
179. Harris-Seybold Co.....	237
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180. Jack & Heintz, Inc.....	234
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181. Knapp-Monarch Co.....	234
182. The Gillette Co.....	231
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183. The Timken Roller Bearing Co. (B).....	231
184. Eli Lilly & Co. (B).....	230
185. The Yale & Towne Manufacturing Co.....	230
186. Cities Service Oil Co. (A).....	229
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187. Hemphill Co.....	228
188. The Boeing Airplane Co. (A).....	225
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206. Douglas Aircraft Co., Inc. (A).....	200
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224.	Pneumatic Scale Corp., Ltd.	184
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227.	The Rudolph Wurlitzer Co.	183
228.	The Gleason Works	181
229.	Rockwell Spring & Axle Co. (B) Includes The Timken-Detroit Axle Co. (147); Standard Steel Spring Co. (13).	181
230.	Royal McBee Corp. Includes the McBee Co. (83); Royal Typewriter Co., Inc. (82).	181
231.	The Weatherhead Co.	181
232.	G. D. Searle & Co.	178
233.	Burroughs Corp. (B) Formerly Burroughs Adding Machine Co. Includes Control Instrument Co. (75).	177
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237.	The Sherwin-Williams Co.	176
238.	Tide Water Associated Oil Co. (A)	176
239.	The R. K. LeBlond Machine Tool Co.	175
240.	The Proctor & Gamble Co. (A)	175
241.	Blaw-Knox Co.	174
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243.	Carrier Corp. (B)	171
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245.	Hagan Corp. Includes Hall Laboratories, Inc. (145)	170
246.	Rolls-Royce Ltd. (Great Britain)	170
247.	The United Gas Improvement Co.	169
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249.	International Cigar Machinery Co.	168
250.	National Cylinder Gas Co. Includes the Girdler Corp. (79); Compressed Industrial Gases, Inc. (8)	168
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259.	Caterpillar Tractor Co. (A)	158
260.	Power Jets (research and development), Ltd. (Great Britain)	158
261.	Weston Electrical Instrument Corp.	158
262.	General Metals Corp. Includes Adel Precision Products Corp. (153)	157
263.	Corn Products Refining Co. (A)	156
264.	Daniel and Florence Guggenheim Foundation	156
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267.	W. R. Grace & Co. (A) Includes Dewey & Almy Chemical Corp. (88); the Davison Chemical Corp. (58).	154

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Edward Valves, Inc. (16); Rockwell Register Corp. (6);	
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296. Sunbeam Corp.....	141
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297. Telefonaktiebolaget L. M. Ericsson (Sweden).....	141
298. Chicago Bridge & Iron Co.....	140
299. Fairbanks, Morse & Co.....	140
300. The National Supply Co. (B).....	140
301. Autogiro Company of America.....	139
302. National Malleable & Steel Castings Co.....	139
303. Beloit Iron Works.....	138
304. The Cleveland Pneumatic Tool Co.....	138
305. Courtaulds Ltd. (Great Britain).....	138
306. Inflico, Inc.....	138
Formerly International Filter Co.	
307. Link-Belt Co.....	138
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308. Musher Foundation Inc.....	138
309. Penn Controls, Inc.....	138
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311. Monroe Calculating Machine Co.....	137
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314. Joseph Lucas, Ltd. (Great Britain).....	135
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327. Kaiser Aluminum & Chemical Corp. (A).....	131
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329. Wallace & Tiernan Co., Inc.....	131
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339. Beaunit Mills, Inc.....	123
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358. Sun Chemical Corp.....	115
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359. Armour Research Foundation of Illinois Institute of Technology... Formerly Armour Research Foundation	114
360. The Sharples Corp.....	114
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361. The Dayton Rubber Co.....	113
Formerly Dayton Rubber Manufacturing Co.	
362. The Sheffield Corp.....	113
Formerly the Sheffield Gage Corp. (A)	
363. Bastian-Blessing Co.....	112
364. Gardner-Denver Co.....	112
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365. West Virginia Pulp & Paper Co. (A).....	112
Includes Hinde & Dauch Paper Co. (54).	
366. The Borden Co. (A).....	111

367. Ekco Products Co.	111
Formerly the Edward Katzinger Co.; includes Autotyre Co. (47)	
368. Lear, Inc.	111
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369. Eureka Williams Corp.	110
Formerly Eureka Vacuum Cleaner Co.	
370. Friden Calculating Machine Co., Inc.	110
371. The Goodyear Tire & Rubber Co. (A)	110
Includes Goodyear Aircraft Corp. (53).	
372. Dunlop Rubber Co., Ltd. (Great Britain)	109
373. English Electric Co., Ltd. (Great Britain)	109
374. The Falk Corp.	109
375. Landis and Gyr, A. G. (Switzerland)	109
376. Loewe Radio, Inc.	109
377. Refining, Unincorporated.	109
378. Sutherland Paper Co.	108
379. Kearney & Trecker Corp.	107
380. The Oilgear Co.	107
381. Wyandotte Chemicals Corp.	107
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383. Whitin Machine Works	106
384. Burbatco, Inc.	105
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386. The New Britain Machine Co.	105
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389. The General Electric Co., Ltd. (Great Britain)	104
390. Vinco Corp.	104
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391. Arthur D. Little, Inc.	103
392. Vapor Heating Corp.	102
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393. National Dairy Products Corp. (A)	101
Includes National Dairy Research Laboratories, Inc. (27); Kraft Foods Co., formerly Kraft Cheese Co. (64).	
394. Technicolor, Inc.	101
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397. Gaylord Container Corp.	100
398. Wood Newspaper Machinery Corp.	100
399. Hughes Tool Co. (B)	99
400. Massey-Harris-Ferguson, Inc.	99
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401. The Permutit Co.	99
402. Saco-Lowell Shops	99
403. Bowser, Inc.	98
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404. Mine Safety Appliances Co.	98
405. Oil Devices	98
406. Symington-Gould Corp.	97
407. American Machine & Metals, Inc.	96
408. Electro Metallurgical Co.	96
409. Federal Paper Board Co., Inc.	96
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410. The Gardner Board & Carton Co.	96
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411. Minneapolis-Moline Co.	96
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412. National Automotive Fibers, Inc.	96
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413. Apex Electrical Manufacturing Co.	95

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415. Fernstedt Manufacturing Co	95
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418. The Bristol Aeroplane Co., Ltd. (Great Britain)	94
419. Diamond Alkali Co. (B)	94
420. The Miller Co	94
421. E. W. Bliss Co	93
422. The British Petroleum Co. Ltd. (Great Britain)	93
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423. Burndy Engineering Co., Inc	93
424. The Eagle-Picher Co	93
Formerly Eagle Picher Lead Co.; includes Ohio Rubber Co. (36).	
425. Eastman Oil Well Survey Co.	93
426. Eversharp, Inc	93
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427. Hooker Electrochemical Co	93
428. Standard Brands, Inc. (A)	93
429. The Stanley Works	93
430. Textile Machine Works	93
431. Easy Washing Machine Corp	92
432. The Fellows Gear Shaper Co	92
433. Hamilton Watch Co	92
434. The Quaker Oats Co. (B)	92
435. The Arrow-Hart & Hegeman Electric Co	91
436. Bryant Chucking Grinder Co	91
437. Dictaphone Corp	91
438. Emsco Manufacturing Co	91
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439. Pye, Ltd. (Great Britain)	91
440. Surface Combustion Corp	91
441. Whiting Corp	91
442. Keuffel & Esser Co	90
443. The Lionel Corp	90
444. Marchant Calculators, Inc	90
Formerly Marchant Calculating Machine Co.	
445. National Standard Co	90
446. Perfex Corp	90
447. Pitney-Bowes, Inc	90
Formerly Pitney-Bowes Postage Meter Co.	
448. Vickers-Armstrongs, Ltd. (Great Britain)	90
449. Anaconda Wire & Cable Co	89
450. Colt's Manufacturing Co	89
Formerly Colt's Patent Fire Arms Manufacturing Co.	
451. National Broach & Machine Co., Inc	89
452. Reliance Electric and Engineering Co	89
Includes Reeves Pulley Co. (60).	
453. Revere Copper & Brass, Inc	89
454. St. Regis Paper Co. (A)	89
455. Vacuum Process Corp	89
Formerly Guardite Corp.	
456. The Philip Carey Manufacturing Co	88
457. Conmar Products Corp	88
458. General Foods Corp (A)	88
459. Okonite Company	88
Includes the Okonite-Callender Cable Co. (53).	
460. Sears, Roebuck & Co. (A)	88
461. F. L. Smith & Co	88
462. Continental Motors Corp	87
463. Farbenfabriken Bayer Aktiengesellschaft (Germany)	87
Formerly Farbenfabriken Bayer.	

II. PARTIAL LIST OF CORPORATIONS WITH 75 TO 100 PATENTS—continued

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465. Cardox Corp.....	86
466. The Enterprise Manufacturing Company of Pennsylvania.....	86
Formerly the Silex Co.	
467. The Imperial Brass Manufacturing Co.....	86
468. Lincoln Engineering Co.....	86
469. Prosperity Co., Inc.....	86
470. The Taylor-Winfield Corp.....	86
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472. Zeiss Ikon Aktiengesellschaft (Germany).....	86
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474. Burroughs Wellcome & Co. (USA), Inc.....	85
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476. The Midland Steel Products Co.....	85
477. D. Napier & Son, Ltd. (Great Britain).....	85
478. S. Smith & Sons Ltd. (Great Britain).....	85
Formerly S. Smith & Sons (Motor Accessories) Ltd.	
479. Tung-Sol Electric, Inc.....	85
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480. Gar Wood Industries, Inc.....	85
481. Badische Anilin- & Soda-Fabrik Aktiengesellschaft (Germany).....	84
482. The Brunswick-Balke-Collender Co.....	84
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485. Societe Anonyme des Manufactures des Glaces et Produits Chimiques de Saint-Gobain, Chauny & Cirey (France).....	84
486. Standard Railway Devices Co.....	84
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487. Aircraft-Marine Products, Inc.....	83
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493. Federal Pacific Electric Co.....	82
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494. The Fluor Corp., Ltd.....	82
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499. The Flintkote Co.....	81
Includes Patent and Licensing Corp. (81).	
500. The Parker Pen Co.....	81
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502. Hammond Organ Co.....	80
Formerly Hammond Instrument Co. (76).	
503. International Minerals and Chemical Corp. (B).....	80
Formerly International Agricultural Corp.	
504. National Distillers Products Corp. (A).....	80
Includes United States Industrial Chemicals, Inc. (39).	
505. Universal Winding Co.....	80
506. Moore Corporation, Ltd. (Canada).....	80
Includes American Sales Book Co., Inc. (34); Moore Busi- ness Forms, Inc. (26); Gilman Fanfold Corp. (20).	
507. Productive Inventions, Inc.....	80
508. Birtman Electric Co.....	79
509. Buffalo Electro-Chemical Co. Inc.....	79
510. A. B. Chance Co.....	79
511. Johnson & Johnson (B).....	79
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518. The Thomas & Betts Co.	78
519. A. P. Controls Corp.	77
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520. The Chemical Foundation, Inc.	77
521. Enterprise Railway Equipment Co.	77
522. Lovell Manufacturing Co.	77
523. New Wrinkle, Inc.	77
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525. Junkers Flugzeug- und Motorenwerke Akt. (Ger.)	76
526. The Magnavox Co., Inc.	76
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529. L. A. Young Spring & Wire Corp.	76
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532. Budd Induction Heating, Inc.	75
533. Cornell-Dubilier Electric Corp.	75
534. The De Vilbiss Co.	75
535. Hydrocarbon Research, Inc.	75
536. The Kendall Co.	75
537. Lorentzen Hardware Manufacturing Corp.	75
538. Louis Marx & Co., Inc.	75
539. The Standard Register Co.	75

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American Sugar Refining Co., The (A)	10
American Tobacco Co., The (A)	18
Ampeco Metal, Inc. (A)	33
Formerly American Metal Products Co.	33
Anaconda Co., The (A)	67
Formerly Anaconda Copper Mining Co. Includes the American Brass Co. (34)	67
Anderson, Clayton & Co. (A)	8
Anheuser-Busch, Inc. (A)	9
Archer-Daniels-Midland Co. (B)	15
Formerly Commander-Larabee Milling Co.	15
Ashland Oil & Refining Co. (A)	2
Baltimore Gas & Electric Co. (A)	9
Formerly Consolidated Gas Electric Light & Power Com- pany of Baltimore.	9
Burlington Industries, Inc. (A)	13
Formerly Burlington Mills Corp.	13
California Packing Co. (A)	39
Campbell Soup Co. (A)	5
Cannon Mills (B)	5
Carnation Co. (B)	8
Champion Paper & Fibre Co., The (B)	69
Chesapeake & Ohio RR. Co., The (A)	4
Coca-Cola Co., The (A)	35
Colorado Fuel & Iron Co. (A)	25
Commonwealth Edison Co. (A)	3
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Electric Auto-Lite Co., The (A).....	21
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General American Transportation Corp. (A).....	46
General Telephone Corp. (A).....	3
Great Atlantic & Pacific Tea Co. (A).....	4
Great Northern Paper Co. (B).....	3
Greyhound Corp., The (A).....	5
Heinz, H. J., Co. (A).....	6
Inland Steel Co. (A).....	51
International Paper Co. (A).....	48
International Shoe Machine Corp. (A).....	16
Jones & Laughlin Steel Corp. (A).....	68
Kaiser Steel Corp. (A).....	7
Formerly Kaiser Co., Inc. (A).....	7
Kimberly-Clark Corp. (A).....	69
Includes Paper Patents Co. (69).....	2
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Kroger Co. (A).....	8
Includes Kroger Grocery & Baking Co. (14).....	12
Libby, McNeil & Libby (B).....	8
Lion Oil Co. (B).....	12
Formerly Lion Oil Refining Co. (A).....	8
Loew's Inc. (A).....	5
Lone Star Gas Co. (A).....	3
Lorillard P., Co. (A).....	2
Macy, R. H. & Co., Inc. (A).....	12
Marshall Field & Co. (B).....	8
McKesson & Robbins, Inc. (A).....	2
McLouth Steel Corp. (B).....	31
Montgomery Ward & Co. (A).....	46
National Biscuit Co. (A).....	39
National Gypsum Co. (B).....	21
New York Central R. R. Co. (A).....	5
Ohio Oil Co. (A).....	39
Oliver Corp., The (B).....	14
Formerly Oliver Farm Equipment Co. (A).....	3
Panhandle-Eastern Pipeline Co. (A).....	4
Paramount Pictures Corp. (B).....	22
Penney, J. C., Co. (A).....	6
Pennsylvania R.R. Co., The (A).....	49
Petroleum Heat & Power Co., Inc. (B).....	2
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Philip Morris (A).....	17
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Pittsburgh Consolidated Coal Co. (A).....	39
Pittsburgh Steel Co. (B).....	13
Public Service Electric & Gas Co. (A).....	50
Publicker Industries, Inc. (B).....	1
Formerly Publicker Commercial Alcohol Co. (A).....	31
Ralston Purina Co. (A).....	7
Rayonier, Inc. (A).....	23
Reynolds, R. J., Tobacco Co. (A).....	31
Richfield Oil Corp. (A).....	7
Safeway Stores Co. (A).....	23
Scott Paper Co. (A).....	31
Seagram, Joseph E., & Sons, Inc. (A).....	7
Schlitz, Jos., Brewing Co. (B).....	18
Skelly Oil Co. (A).....	3
Southern California Gas Co. (A).....	18
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