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GOVERNMENT PATENT POLICY

HEARINGS

BEFORE THE

SUBCOMMITTEE ON PATENTS, TRADEMARKS, AND COPYRIGHTS

OF THE

COMMITTEE ON THE JUDICIARY UNITED STATES SENATE

EIGHTY-SEVENTH CONGRESS

FIRST SESSION

PURSUANT TO S. RES. 55

ON

S. 1084 and S. 1176

PART 2

MAY 31, JUNE 1 AND 2, 1961

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and the public that wants to get cheaper vegetables. It seems to me that those people, both the farmer and the public that is going to buy the farm produce, get protected only if the new insecticide gets into large-scale production at a price which permits it to be bought on the large scale, and which enables the manufacturer to distribute it widely over the farm-growing areas. It is not really a question of who ought to own the patent, but what kind of policies will get a chemical into widespread use at a reasonable price and on an available basis to the widest possible number of users. This may be quite contrary to the apparently obvious question of who should own the patent.

It is not obvious that having the Government own the patent is the best way to do this. It is just a question of attracting competent assistance and next a problem in securing widespread use.

Mr. WRIGHT. You say, I assume, that whether or not that is or is not the best way would depend to a very large extent on what that invention was and the nature of the patent, would it not?

Mr. HOLST. I suppose so.

Mr. WRIGHT. Now, I have just a couple of questions on the question of incentive and enlisting these contractors. We have had some testimony here to the effect that in certain situations, the contractors' interest in doing what the Government wanted done, and this is referring specifically to the Defense Department, no rights could be requested in the invention. The situations that were brought to our attention—I would like to have your views on this—was, one example where the contractor has, himself, already brought an invention to the point where he has an application on file, or maybe even an issued patent, but he has not actually made it practical. He has a technical reduction to practice, of course, when he filed the application and got the patent. But all he has is a piece of paper which says he has made an invention, but he has not yet got something that works and is useful, and the Government puts up the additional money needed to actually reduce that invention to practice in fact.

Now, under those circumstances, according to the defense witnesses, if the Government feels its contribution, its final money that it gives is relatively small compared to what the contractor has already put in, that they will go ahead and put the money in necessary to develop and perfect the invention and receive no rights.

Now, is it your position that that is a necessary procedure in order to get these contractors that you say are the best, that in some instances, the Government has to give them money for that final development and receive no rights in return?

Mr. HOLST. Mr. Wright, I think the chairman and I agreed that it was a complicated matter, and I think that what you are dealing with here is this question: If an organization is in the habit of trying to promote developments at its own expense, which it can then go and offer to the Government, which developments are in various stages of development—some fully developed, requiring no further investment on the part of the Government; some not so fully developed—you are simply dealing with an organization which would like to feel that its total product output can pay for and support a substantial research program. You are able to choose instances, sometimes, where the contractor's investment is relatively minor and the Government's investment is going to be relatively major. That would be a

GOVERNMENT PATENT POLICY

WEDNESDAY, MAY 31, 1961

U.S. SENATE,
SUBCOMMITTEE ON PATENTS, TRADEMARKS, AND COPYRIGHTS
OF THE COMMITTEE ON THE JUDICIARY,
Washington, D.C.

The subcommittee met, pursuant to recess, at 10:10 a.m., in room 2228, New Senate Office Building, Senator John L. McClellan presiding.

Present: Senators McClellan (presiding), and Hart.

Staff members present: Robert L. Wright, chief counsel, Patents Subcommittee; Clarence Dinkins, assistant counsel; Herschel F. Clesner, assistant counsel; Thomas C. Brennan, investigator; and George Green, professional staff member, Committee on the Judiciary.

Senator MCCLELLAN. All right, the committee will come to order.

We are today resuming hearings on S. 1084, a bill providing for Government ownership of all patents arising out of Government-financed research and development, and on S. 1176, a similar bill, introduced by Senator Russell B. Long of Louisiana.

In addition to establishing a uniform patent policy for all Government agencies dealing with research, S. 1176 provides for an independent agency to administer all Government-owned patents.

During the series of hearings held by the subcommittee last April we heard the testimony of Senator Russell B. Long, representatives of some of the interested governmental agencies, and representatives of a number of private corporations. Now we will hear testimony from the interested governmental agencies not previously heard, and additional testimony from interested private parties.

We also have in our record a wide variety of views as to the merits of these two bills, but there seems to be general agreement that some legislative action should be taken to end the existing patent policy conflicts where two or more governmental agencies are dealing with the same contractors, with the same research objectives.

We hope that some of the remaining witnesses can suggest a fair and equitable legislative solution to this problem in addition to their comments on the pending bills. In order that the hearings may be expedited and, if possible, concluded this week, I shall appreciate the summarization by the witnesses of their statements, wherever it is practical for them to do so.

Mr. Counsel, call your first witness.

Mr. WRIGHT. Mr. Maclay of the Department of Agriculture.

Senator MCCLELLAN. Come around, please. Be seated.

All right, Mr. Maclay, will you identify yourself for the record, please, sir.

Senator McCLELLAN. In other words, you have 6 months to decide whether you want to take all the rights without any consideration.

Mr. SEEGRIST. That is correct.

Senator McCLELLAN. That is a part of the original contract. And so far you haven't deemed it necessary to take any.

Mr. SEEGRIST. We haven't had a single one; no.

Senator McCLELLAN. So this change—you say this change wouldn't make any difference to you?

Mr. MACLAY. We would have no objection to it.

Senator McCLELLAN. In other words, you just get title to all of it to begin with, and then——

Maybe getting something you don't want or don't need only in very, very rare exceptional instances, because you have never found it necessary or desirable to exercise the options you have had in all these years.

Mr. MACLAY. Dr. Newton, in the report previously referred to, brings out the disadvantages to allowing these foreign rights to revert to the employees. We believe that the Government pays for this research and that it should have the complete rights.

Senator McCLELLAN. Well, if you believe that, why haven't you exercised all those options?

Mr. MACLAY. I don't believe we have had the money to do it.

Senator McCLELLAN. I didn't understand it took any money.

Mr. MACLAY. You have to have money in order to go in and take foreign rights in these various countries.

Senator McCLELLAN. You mean the cost, the processing of those rights and getting the patents?

Mr. MACLAY. That is right. We have approximately 100 patents a year, and if you would go into 20 or 30 countries, it would take a sizable organization to do this.

Senator McCLELLAN. Is it going to take it now, anyhow, if we do this, if we give it all to you? It is going to take it?

Mr. MACLAY. Well, if we had these rights we wouldn't process probably many of them. It would take——

Senator McCLELLAN. I am trying to get at what we are talking about. We seem to be talking about nothing of any value.

You never exercised an option heretofore. You say one reason is you didn't have the money.

Suppose you get them. It will take a lot of money, and you say we probably wouldn't use them. I am lost here.

Are we talking about anything of much value or not? Apparently it has very little value. There might be a rare exception where some patents would have value. Is that——

Mr. MACLAY. There is probably a few percent of these patents that would have value foreignwise.

Senator McCLELLAN. Most of them do not? They are not worth the cost of processing. Is that correct?

Mr. MACLAY. That is correct.

Senator McCLELLAN. Very good. All right, let us move on.

Mr. MACLAY. Section 3(b) relates to acquisition by the Government of title rights in inventions resulting from contracts, leases, or grants. Under this provision the worldwide title rights to inventions arising out of such Government-sponsored activities would be obtained by the

from cases involving disputes between employees and employers over the ownership of inventions made by the employees in absence of an express contract specifying the disposal of the rights.

The regulations relative to foreign patent rights are developed independently from those which are applicable to domestic patent rights. Prior to 1943 there were no regulations relating to foreign patent rights of employee inventors. It was understood that the employees owned the foreign patent rights and they were free to seek foreign patents regardless of the disposition of the domestic patent rights.

When Executive Order 9865 of June 14, 1947, was issued, provisions were included for the Government to acquire the foreign patent rights if the domestic rights were assignable to the Government or subject to dedication to the public and if the Government desired to obtain foreign patents. Our present policy, with respect to the foreign patent rights governed by Administrative Order No. 6 issued by the Chairman of the Government Patents Board in 1954, is that the Department acquire an option to the foreign patent rights in those cases in which the domestic rights are assignable to the Government. By virtue of the administrative order, the options expire if they are not exercised within 6 months of the filing of a patent application in the United States and title to the foreign rights then remains with the inventors.

The Department does not exercise control over foreign rights unless some activity for which appropriations have been made render such control necessary or desirable. Up to the present time, we have not exercised the option under the administrative order.

The second area relates to Research and Marketing Act contracts. Contracts made under the Research and Marketing Act of 1946, as amended, contain provisions for the disposition to the public of the results of the research in accordance with sections 10 and 205 of that Act.

The following clause is used in all contracts with private organizations or individuals as a part of the patent provision and publication of research results: "The patentable results of research and investigations conducted under this contract and all information, data and findings developed under the terms of the contract, whether apprehended during the period of the contract or subsequent thereto, shall be made available to the public through dedication, assignment to the Secretary, publication or such other means as the contracting officer shall determine."

"Results of research or investigation and information concerning the project which the contracting officer determines will not form the basis of a patent application may be made known to the public only at the discretion of the contracting officer or his designated representative. Under such conditions as the contracting officer or his designated representative may prescribe and with such credit or recognition of collaboration as he may determine."

By the terms of our contracts all technical data are made available to the public. The results of contract research such as that carried on by this Department accrue to the benefit of all of the people. The present practice of this Department is directed to placing such results in the public domain through nonexclusive royalty-free licensing of assigned patents, by dedication of patents to the free use of the people of the United States, by publication, or by any other suitable procedure.

The provisions of the Research and Marketing Act have been interpreted as requiring a worldwide assignment to the Government of the patent rights in inventions arising out of contract research.

The third area covers research by the State agricultural experiment stations which is financed in part from Federal funds. In general, the Federal financing for such research is authorized under the Hatch Act, as amended by the act of August 11, 1955.

There is no patent clause provided in such legislation, and accordingly, the policy of acquiring the patent rights has never been applied to such funds. As a result, the State agricultural experiment stations, since the inception of the program, have established policies regarding the acquisition of patents on research within the framework of applicable State laws.

Funds made available under allotments to the various State agricultural experiment stations are primarily for research and for the printing and disseminating the results of such research. Funds available for allotment to States are paid to each State agricultural experiment station in equal quarterly payments beginning on the first day of July each fiscal year. The States also put in non-Federal funds for the support of agricultural research projects conducted at the

Mr. MACLAY. Of course, I think there is a difference in the type of material covered by the Department of Agriculture patents. Ours is not a procurement-type patent.

I think the procurement rights, as far as the Government in our type of patented process or product is concerned, is not too important. If you develop frozen orange concentrate, it is purchased by the public. It is not purchased by the Government.

Mr. WRIGHT. I wasn't referring to procurement. I was thinking more in terms of what you might call basic research in biological sciences, and I wanted to ask you whether, in your view, to the extent that you have two or more Government agencies contracting for that kind of research in the biological sciences, do you have any opinion as to whether it is or is not harmful to have conflicting patent policies?

Mr. MACLAY. We do basic research on our agricultural commodities and it would seem that, for the agricultural products with which we are concerned, we would be in a good position to sponsor that type of an effort. But I am not well enough acquainted with the defense agency's research in the agricultural field to state that there is overlapping.

Mr. WRIGHT. Let me put this question to you.

To the extent there is an overlap, would it, in your opinion, be desirable to have legislation which would establish a single policy which would eliminate the existing conflict?

Mr. MACLAY. I think that is a very difficult question for me to answer because there are so many ramifications to what the defense organization's ultimate objectives are as against our ultimate objectives, and maybe sometimes the same type of basic information would be necessary for their particular approach, and the same type would be necessary for ours. Whether or not their would be any duplication in that so-called basic research I couldn't say.

Mr. WRIGHT. I wasn't talking about duplication. My question presupposes that you have the same research objective in the same field. Do you see any reason why there should not be legislation requiring that in those instances there be just one policy with respect to the disposition of the inventions that come out of that research?

Mr. MACLAY. I see no reason why there shouldn't be one policy.

Mr. WRIGHT. The other thing I wanted to ask you about is this question of how long has the Department of Agriculture itself been engaged in this scientific research and development field.

Mr. MACLAY. It goes back to just about a century. The beginning of the Department was in 1862.

Mr. WRIGHT. That is probably earlier, I suppose, than any other agency.

Mr. MACLAY. And I believe it even goes back to the original Patent Office in 1836. That organization started to work in the field of agriculture, and then, when the Department was created in 1862, the Division of Agriculture at that time in the Patent Office provided the nucleus for the present Department of Agriculture.

Mr. WRIGHT. During this long period of time you have been engaged in this scientific research have you had different policies? Have you always had this policy that you describe to us today, or have there been periods or times when you allowed your contractors or employees to retain title to inventions coming out of research?

1961, as related to acquiring title to the domestic patents. It is believed legislative adoption of criteria according to section 3(a) would have little effect on the present practice of the Department with respect to domestic patents.

Relative to the foreign rights, the Department has been following the practice prescribed by Administrative Order No. 6, Executive Order 10096, under which an option to the foreign rights is acquired.

In all instances the options have expired in 6 months after filing of a U.S. application and the employee-inventors have thus retained the foreign rights. Since section 3(a) provides for the Government to acquire the worldwide title, its adoption would change the Department's practice with respect to foreign patents. We would have no objection to this change.

Senator McCLELLAN. As I understand it now, you only take title to the patents so far as their application is to the United States.

Mr. MACLAY. We take title, both domestic and foreign, but after 6 months, if we do not take up the option on the foreign rights, then those go back to the inventors, and the Department thus far has not seen fit——

Senator McCLELLAN. You take an option on the foreign rights?

Mr. MACLAY. That is right.

Senator McCLELLAN. You take title to domestic rights, an option to foreign rights for 6 months. At the end of 6 months, if you haven't exercised the option, then the inventor or company——

Mr. MACLAY. It reverts to him, that is, the employee inventors.

Senator McCLELLAN. Reverts to them.

Mr. MACLAY. That is right.

Senator McCLELLAN. You lose all equitable rights in it after the 6 months if you don't exercise the option?

Mr. MACLAY. That is correct.

Senator McCLELLAN. How do you go about exercising the option?

Mr. MACLAY. Thus far we haven't exercised——

Senator McCLELLAN. I understand, but what would you do? Do you pay anything? Is there any consideration? Or do you say, "Well, we decided to keep the whole thing"?

Mr. MACLAY. I think the history of it is that the Department of Commerce has responsibility for following through on these. At one time we recommended that foreign rights be taken. They did not have the funds, as I understand, to do it.

Senator McCLELLAN. What is the option? That is what I am trying to get. You say you take an option. Does the option provide how much you shall pay to get it?

Mr. MACLAY. No.

Mr. SEEGRIST. Our regulations say that it will be taken on request. Now, we have never had an occasion to take an option up, but if so we would notify the inventor, send him a paper to sign.

Senator McCLELLAN. I guess that is a moot question. If you have a right that you never exercise, why worry about it.

Mr. SEEGRIST. Well, that is about it. But it would be a simple matter to send the man a paper and ask him to sign it, which would be an assignment of the rights to us.

Senator McCLELLAN. But you would not be required to pay anything?

Mr. SEEGRIST. No; no consideration.

Senator McCLELLAN. Of course, they may fail and the Government would get nothing.

Mr. HOLST. That is right.

Senator McCLELLAN. But I still feel and still maintain, notwithstanding those benefits to the Government, there is an equity where the Government at least puts in a substantial amount; there is an equity that the Government should be protected in.

Mr. HOLST. I agree with you.

Senator McCLELLAN. As you say, you can carry it to the ridiculous. But in the first place, the Government is not going to put in money, it is not going to give money except where it has an interest in the results.

Mr. HOLST. In the results.

Senator McCLELLAN. A result that will benefit the Government two ways: First, by expediting making the thing applicable to where its practical use will benefit the Government, No. 1; and 2, the Government would benefit by the continuing acquisition of those benefits without paying a royalty.

Mr. HOLST. That is right.

Senator McCLELLAN. But where the Government puts in a substantial amount, I think then the question of title also enters in, to whom should the title belong?

Now, you argue, and I am not disputing you now, that while actually, after all, the Government will get the greatest benefit because the public will get the greatest benefit by leaving it in private enterprise and letting it be distributed from that source, rather than from the Government taking title and distributing it from that source.

Mr. HOLST. I do not think any point would be served, but I am perfectly willing to continue the argument, by running the argument out to ad nauseam. If you are going to say that because the Government shares in a contractor's overhead and indirect cost to some degree, therefore, it should own 1 square foot of the front office, and 2 square feet of the back office, and so forth, I do not think there is any point in that. As you said, Mr. Chairman, what the Government wanted was the best solution to some problem and the right to use that solution.

Senator McCLELLAN. It gets some return and benefit from the two sources; in other words, it will bring about the results quicker and make the process or patent applicable where it can be applied or apply benefits.

I am becoming more and more convinced that we have to have some flexibility. Whether it should be placed in a new agency of government, as provided in S. 1176, or how to do it, I am not sure.

Mr. HOLST. Let me put in my plug for the third party, namely, the public, not just the two contracting parties.

Senator HART. I shall not ask how a firm such as your develops its bid but——

Mr. HOLST. You may ask it if you wish.

Senator HART. I probably would not understand it if you replied. But I would like to get through my noodle just this: Let us assume that by law, the title to inventions that develop under a Government contract came to some Government agency—that was the law. This is to your point of, would competent contractors be available? Let us assume that was the law. None of these firms would go out of

cooperative agreements, by Federal grants to State agricultural experiment stations and by grants under Public Law 480.

Under the present practice, the worldwide title rights to inventions resulting from the Research and Marketing Act contracts are acquired on behalf of the Government and section 3(b) of S. 1176 would have no substantive effect on such contracts.

In the case of the cooperative agreements, the practice is to acquire the title if an employee of the Department is the inventor or is a joint inventor in accordance with the policy of Executive Order 10096. In case the inventor is not a Department employee, the title rights are left for disposition by the cooperator. Section 3(b) would change this practice.

It is presumed that the grants mentioned would include those allotments made by this Department to State agricultural experiment stations, universities, etc. It has not been the practice of the Department to acquire title to the inventions arising out of Federal grants to State agricultural experiment stations. In such instances the proprietary rights to the inventions have been left to the States for disposal in accordance with the policy or laws of the States. Section 3(b) would change this practice. The Department recommends retention of present policy as regards Federal grant funds under the Hatch Act to State agricultural experiment stations, namely, that proprietary rights to inventions made by State employees whose research may have been financed in part by Federal funds be disposed of in accordance with the policy or laws of the respective States.

Relative to inventions resulting from research grants to foreign institutions under Public Law 480, it is the practice of the Department to acquire the proprietary rights to any U.S. patents which may be obtained, and to acquire a worldwide license for governmental purposes. The foreign patent rights are, however, left to the disposition of the foreign grantees. Section 3(b) would change this practice. The Department recommends continuation of allowing foreign patent rights be retained by foreign grantees for inventions developed under Public Law 480.

Sections 4, 5, 6, 7, and 9 of the bill establish the Federal Inventions Administration, specify the functions and powers of the Administrator thereof, and specify the procedures to be followed in protecting the Government's interest in inventions.

We are particularly concerned with section 7 which would provide that the authority for the collection and dissemination of scientific and technological information be the responsibility of the proposed new administration.

The Department of Agriculture is founded on the principle of disseminating information to aid agriculture and associated industries, and the discovery of needed information to disseminate for public use is its principal function. The Department has been engaged in such functions for a century and has established competent and efficient capacity and procedures for the purpose. Establishment of a new independent agency of the type contemplated with functions and duties overlapping those of the Department would make possible complete control over or transfer of the functions to the new administration, thus involving a significant organizational change.

The Department has always stressed the importance of early publication and dissemination of research information and it has become a very active part of the programs. This action of the bill would disturb or delay the routine in release of research information. We believe that the present function and duties of the Department of Agriculture should continue in such matters as determining the appropriate time for release or dissemination of the discovered or assembled information, and determining the manner of release of the information for public use, whether by patenting, by printed publication, by disclosure to the public for public use purposes, or by any other procedure which may be effective to place any Government acquired inventions or its proprietary scientific and technological information in the public domain. Specifically, we feel that the bill should not make it possible for the proposed new administration to require clearance before the Department could issue a publication or could follow any of the other procedures set forth above for placing the proprietary scientific and technological information, or its Government owned inventions, in the public domain.

Section 8 authorizes the Government to issue licenses, nonexclusive or exclusive, with or without royalty payments, or to assign patents or interests therein. This Department has long considered it desirable that the Government agencies have authority to issue exclusive licenses or otherwise dispose of its interest

Senator McCLELLAN. Thank you very much, Mr. Cohen.
Senator Hart, any questions?
Senator HART. No.
Senator McCLELLAN. Mr. Counsel?
Mr. WRIGHT. Mr. Chairman, I would like to ask the witness about this compulsory licensing procedure.

If I understood you, you say you have by contract some agreements whereby the contractor says that he will license the invention for a reasonable royalty to whoever may be interested in it.

Mr. COHEN. Yes, sir.

Mr. WRIGHT. And what procedure do you have for enforcing that kind of arrangement?

Mr. COHEN. Well, basically, we view that as a third-party beneficiary contract. The member of the public would be a third-party beneficiary, and should the contractor refuse to issue a license, he would have his remedy in court.

Mr. WRIGHT. Well, this is what I am not clear about. Suppose somebody wants a license and negotiates with the patent owner, and they can't agree on what a reasonable royalty is. Then what happens? How does that problem get resolved? Do you have any part in that? Or what is the procedure by which a reasonable royalty would ultimately be determined and a license granted?

Mr. COHEN. We are currently revising our contracts, and that is one of the points that we will take care of. We propose to have a provision included that where the parties cannot agree as to what a reasonable royalty is, the Secretary shall make the determination, the Secretary of Interior.

Mr. WRIGHT. In other words, the Secretary would act as the arbitrator in the matter?

Mr. COHEN. That is right.

Mr. WRIGHT. Are you familiar with the report issued by this subcommittee on the experience of the Justice Department in connection with compulsory licensing of patents under antitrust decrees?

Mr. COHEN. No, sir.

Mr. WRIGHT. I simply call your attention to the fact that this matter of determining a reasonable royalty has not proved simple or expeditious in judicial proceedings that the Department has had to resort to. But I gather in your case, under your regulations, you now propose administrative determination by the Secretary which would not necessarily involve you in any litigation at all.

Mr. COHEN. Yes, sir.

Senator McCLELLAN. All right. Thank you, sir.
Senator McCLELLAN. Mr. Holst, please, sir.
Be seated, please, and identify yourself for the record.

STATEMENT OF HELGE HOLST, TREASURER, ARTHUR D. LITTLE CO., CAMBRIDGE, MASS.; ACCOMPANIED BY CHARLES W. COLSON, COUNSEL, THE NEW ENGLAND COUNCIL, WASHINGTON, D.C.

Mr. COLSON. I am Charles W. Colson, counsel for the New England Council, and I would like to briefly explain——

Senator McCLELLAN. What is the New England Council?

Government subject to such waivers and exceptions as are provided for in sections 10 and 11 of the bill.

Research of this Department, other than that by employees, is primarily sponsored by contracts under the Research and Marketing Act of 1946, by cooperative agreements, by Federal grants to State agricultural experiment stations, and by grants under Public Law 480 of the 83d Congress.

Under the present practice the worldwide title rights to inventions resulting from the Research and Marketing Act contracts are acquired on behalf of the Government, and section 3(b) of S. 1176 would have no substantive effect on such contracts.

In the case of the cooperative agreements, the practice is to acquire the title if an employee of the Department is the inventor or is a joint inventor in accordance with the policy of Executive Order 10096. In case the inventor is not a Department employee, the title rights are left for disposition by the cooperator. Section 3(b) would change this practice. However, the number of inventions under these cooperative agreements is very small.

It is presumed that the grants mentioned would include those allotments made by this Department to State agricultural experiment stations, universities, et cetera.

Funds made available under allotments to the various State agricultural experiment stations are primarily for research and for the printing and disseminating of the results of such research. Funds available for allotment to States are paid to each State agricultural experiment station in equal quarterly payments beginning on the 1st day of July each fiscal year. The States also put in non-Federal funds for the support of agricultural research projects conducted at the State agricultural experiment stations at an average of 4-to-1 ratio of Federal funds.

Senator McCLELLAN. In those instances do you take title to the patents?

Mr. MACLAY. We do not.

Senator McCLELLAN. The State puts in 4 to 1, $4 to your $1. Who gets it? Does the State get it?

Mr. MACLAY. Each State handles that according to their own practices and law.

Senator McCLELLAN. So there is no encroachment of States rights, is there?

Mr. MACLAY. That is correct.

Senator McCLELLAN. Very well.

Mr. MACLAY. The research conducted at these stations is with State personnel rather than Federal personnel. Therefore, it would become difficult to determine if an invention resulted from the use of Federal or State funds.

Senator McCLELLAN. There is no desirability or justification for interfering with that arrangement?

Mr. MACLAY. That is correct.

Senator McCLELLAN. Leave it just as it is?

Mr. MACLAY. Yes, sir.

Senator McCLELLAN. Thank you.

Mr. MACLAY. It has not been the practice of the Department to acquire title to the inventions arising out of Federal grants to State agricultural experiment stations. In such instances the proprietary

invented a new method for patching walls. The bill would require him to assign his invention for the repair of walls to the Government.

It is felt that this bill would introduce a good deal of uncertainty and confusion in Government contracts since the requirement to assign is not limited to contracts dealing with research and development or in which inventions may reasonably be expected to arise, but in all contracts.

Coming to the second bill, S. 1176, in the main it is felt that the provisions of this bill would be beneficial. Features which it is felt fill a definite need are those for providing review and uniformity of contracting policies, a central administrative agency for administering Government-owned patents, and the waiver provision in contracts.

However, as regards employees' rights, it is felt that the bill does not take into account the situations where the Government should leave the employee the commercial rights as, for example, where the invention is outside the sphere of an employee's duties and is made with a minor contribution by the Government.

Provision should also be made for leaving foreign rights with the employee where the Government does not file abroad. A royalty-free, nonexclusive, irrevocable license should be reserved to the Government with the right to issue sublicenses to U.S. citizens or corporations controlled by U.S. citizens to import into the foreign country in which a patent was obtained items made in the United States which are covered by the patent.

Senator McClellan. When you get to a breaking point there—I can't follow you because I don't have a copy—I want to ask you a question.

Mr. Cohen. Yes. The waiver provision of the bill could lead to the same results in practice that are presently obtained within the Office of Saline Water Contracts. This is a breaking point.

Senator McClellan. All right. First let me ask you what difference in policy do you propose, and, if you don't propose, what difference in policy should there be with respect to the Government dealing with one of its employees and with a contractor doing research work for the Government? In other words, the Government has a regular employee here that is paid a salary to perform his duties. In the course of performing his duties he discovers and develops an invention that the Government takes some right to, maybe all title or whatever is provided now. At the same time, the Government makes a contract with a laboratory or college to do some research, or with a corporation, and in the course of doing that research an invention is made, a by-product of it.

Now what different treatment should be prescribed or accorded the employee and the contractor for the Government? What is the difference? I am talking about what should be the equitable differences, if any.

Mr. Cohen. I should say the difference should be this: Of course, if the employee makes the invention in the course of his regularly assigned duties, the title to the invention belongs to the Government. There is no question about that.

In the case of a contractor, generally speaking the Government should take title. However, there may be situations where, because the Government is drawing on his past experience, his buildup of

Senator McCLELLAN. And they have it for their country and for all foreign countries?

Mr. MACLAY. Yes.

Senator McCLELLAN. That is the present practice?

Mr. MACLAY. Yes.

Senator McCLELLAN. And you say that practice, you think, should not be changed?

Mr. MACLAY. Yes. We would prefer it left just as it is.

Senator McCLELLAN. All right. I was just trying to understand it. Go ahead.

Mr. MACLAY. Sections 4, 5, 6, 7, and 9 of the bill establish the Federal inventions administration, specify the functions and powers of the administrator thereof, and specify the procedures to be followed in protecting the Government's interest in inventions.

We are particularly concerned with section 7 which would provide that the authority for the collection and dissemination of scientific and technological information be the responsibility of the proposed new administration.

The Department of Agriculture is founded on the principle of disseminating information to aid agriculture and associated industries, and the discovery of needed information to disseminate for public use is its principal function. The Department has been engaged in such functions for a century and has established competent and efficient capacity and procedures for the purpose.

Establishment of a new independent agency of the type contemplated with functions and duties overlapping those of the Department would make possible complete control over or transfer of the functions to the new administration, thus involving a significant organizational change.

The Department has always stressed the importance of early publication and dissemination of research information, and it has become a very active part of the programs. This action of the bill would disturb or delay the routine in release of research information.

We believe that the present function and duties of the Department of Agriculture should continue in such matters as determining the appropriate time for release or dissemination of the discovered or assembled information, and determining the manner of release of the information for public use, whether by patenting, by printed publication, by disclosure to the public for public use purposes, or by any other procedure which may be effective to place any Government-acquired inventions or its proprietary scientific and technological information in the public domain.

Specifically, we feel that the bill should not make it possible for the proposed new administration to require clearance before the Department could issue a publication or could follow any of the other procedures set forth above for placing the proprietary scientific and technological information or its Government-owned inventions in the public domain.

Senator McCLELLAN. In other words, you don't want a new agency now to tell you when you can release it and when you can't.

Mr. MACLAY. That is correct.

Section 8 authorizes the Government to issue licenses, nonexclusive or exclusive, with or without royalty payments, or to assign patents or interests therein.

have just said that without some period of exclusive use and limited protection, it is very difficult to get commercial application of new inventions.

I would like to emphasize and to make this point repeatedly: The Government itself benefits from commercial application. This benefit is not obtainable merely from the existence of a paper patent or its availability to the public.

Let me say again that the benefits are not only jobs to the employees and payrolls and taxes on both income and plant and equipment, the benefits also include new products and new processes which help us in a competitive way. This means, if the invention is successful, volume production of the items, and if a Government agency is itself buying these items, it means a reduction in the price and a greater availability of service to maintain the equipment in use. This is true even when the item is a defense item, which may not be quite identical with a public item because the same equipment being used on a larger volume of operations can spread its costs over a greater production, and the same service organization can exist throughout the country and service Government agencies, even if the equipment is not entirely identical with that of commercial practice.

Because many other witnesses have said that the situations to be covered by Government-sponsored contracts, and just what is required to get a patent exploited, varies from situation to situation, it seems to me that the only patent policy which would come near to meeting the great variety of requirements would be a flexible patent policy. Further, it seems to me that a policy which minimized the instances in which the Government takes ownership, and jeopardizes a commercial organization which performs Government research, would be a desirable policy. In other words, a flexible policy is preferable to a policy of rather frequent taking of ownership by the Government.

Senator McClellan. And what would be your comment with respect to whether the widest possible use, practical use, is obtained by the Government taking absolute right to it, or whether the Government leaves that right in private enterprise?

Mr. Holst. Would you like me to give some examples, if I could?

Senator McClellan. Well, I would like your opinion and one or two examples maybe.

The thought I had in mind is, the Government, of course, gets this much out of it: It finances the research and takes the right to get the benefit from any acquisition it may wish to make and to have the patent or the invention used to provide for the Government's needs. It gets that advantage. Thus, no royalty fee is ever charged the Government.

The next thought, as I understood from you, is the objective should be to get the widest possible use.

Mr. Holst. That is right.

Senator McClellan. Now, what would be your comment with respect to whether you do get the widest possible use and benefit to the public by the Government taking the title, and thus distribute licensing, from the Government, or whether you get the widest possible use by leaving ownership in private enterprise or to the original inventor, or the company doing the research?

Mr. Holst. I am quite convinced that you get the widest benefit to the public by leaving ownership in private hands, because then the

Mr. MACLAY. I am going to have to ask Mr. Seegrist to answer that question.

Mr. SEEGRIST. In the early years of the operation, as far as I know, there was no policy established of any kind. Probably there had never come up a problem to give rise to any policy.

The first regulation we had establishing policy came in 1905. That followed some investigations started by Congress, particularly the so-called Swenson case in which the Department had sponsored research. Swenson had been an employee. I think he was sort of contract employee, as far as I know. And he had developed some inventions for which he got patents in his own name. They were quite successful, and it was the attempt on Swenson's part or the corporation that he organized to exploit these patents to prevent other people from using them that caused the investigations to be brought forth.

The Department of Justice made an investigation. The Commissioner of Agriculture also investigated. And it finally resulted in a lawsuit that was heard in Kansas in which Swenson and his corporation were enjoined from enforcing the patent.

Mr. WRIGHT. They were enjoined on the ground that the patent was really the product of this Government's expenditure?

Mr. SEEGRIST. That is right; that they had no right to it.

Mr. WRIGHT. Has your policy then been one of taking title in the Government since that time, since this——

Mr. SEEGRIST. Yes. It was that case and perhaps a few others that led the Department to issue its first regulations which established our present policy.

Mr. WRIGHT. Thank you.

Senator MCCLELLAN. Thank you very much, gentlemen.

(The document previously referred to follows:)

U.S. DEPARTMENT OF AGRICULTURE COMMENTS ON SECTION "PATENT POLICY" OF REPORT, "AN APPRAISAL OF PRESENT PROGRAM, STAFF AND FACILITIES," BY ROY C. NEWTON, OCTOBER 14, 1960

The portion of the "Newton report" with which we are concerned in this discussion relates to the patent policies of the Department and is found on pages 12, 13, and part of page 14, reading as follows:

"*Patent policy.*—The policy of the USDA with regard to patents is closely and aggressively followed in the utilization research laboratories. These utilization laboratories account for approximately 85 percent of all USDA patents.

"According to this policy every effort is made to obtain U.S. patents on all inventions made in the course of these scientific studies. The U.S. patents are assigned to the Secretary of Agriculture and free licenses are issued to any responsible American citizen or company who requests it. The rights to foreign patents revert to the inventor if at the end of 6 months the U.S. Government has decided not to file application for patents in foreign countries. In practice the Government seldom files for foreign patents which means that foreign patents can be owned by the inventors and they are free to exploit them to their own financial benefit without any requirement to report except to the Department of Internal Revenue. In discussions with industry representatives there are two complaints commonly expressed. The first of these complaints has to do with domestic patents and arises from the fact that a company cannot get even a temporary exclusive license to compensate it for the expense of commercializing the product of the invention. These people will say that this inhibits the very objective of the research which is to market new products of agriculture, because no one will put up the risk capital for such a new venture without some exclusivity to protect it. A few leading questions however usually develops the fact that they will go into the venture if their competitors are making a success of it and if the invention is good enough to be very promising to their competitor

exclusive rights, thus to profiteer out of it? The widest possible use is of public concern, of Government concern. But still there comes, it seems to me, a special benefit to corporation A, with which the Government originally contracted, if it is allowed to have the exclusive right to exploit or to develop and profit out of the invention. There would seem to be a clash of policies here.

How do you eliminate this possibility and strong probability that one corporation with which the Government places a contract gets the right to develop a process and to profit from an invention that is financed by the Government?

Mr. HOLST. I am delighted that you asked that question, even if it is a complicated question, and I would like to try——

Senator MCCLELLAN. It gets complicated to me. It may not be to you.

Mr. HOLST. I would like to answer, and the answer may be complicated, too, but I have had a chance to see this in operation.

But first of all, is it fair that one organization be given essentially all or the full benefit from a development which it is said has been made at Government expense? Very seldom is the entire cost of an invention borne by any one source, including the Government, because the organization brings to it, usually, a know-how or an existing team or administration setup. But let us assume that somehow or other the majority of the cost of the original concept was paid for under a Government contract. It still seems to me necessary to take into account, whether the Government got the primary result which it sought out of the original contract. Did it get a successful solution as quickly as possible, at as low a cost as possible, and with as large a likelihood of success, and was the price fair in the first instance? Because if so, it can be said that the Government got all that it contracted for.

But let us go beyond that. If we believe that the Government agency itself, as well as the public at large, will get benefit only if the invention is put to use, this will certainly require further investments by the corporation, yours and others, and these additional investments will probably considerably exceed the original cost of the research. This is the usual experience.

As I mentioned in the beginning, the Government agency itself will benefit if the item is put into volume production or if it is carried into further stages of development. This is made possible by commercial development, and the Government agency itself will benefit if the organization sets up a service organization, such that the item can be serviced, not on a unique basis, but rather in a routine manner and on the basis of ready availability. All of this is of benefit to the Government agency which placed the contract and requires considerable further investment by the contractor not shared by the Government. Accordingly, it cannot be said that the contractor's benefits result entirely or even principally from the Government's expenditures under the contract.

Meanwhile, the public gets the benefit of a wider availability of the new item, and also the benefit of jobs, taxes, and the like. So it is not a black and white case, as you said in the beginning.

Senator MCCLELLAN. No; but there is another factor or element that seems to modify any inequity or injustice in letting the original contractor have the exclusive benefit from it. It is this: If the Government handles its contracts, negotiates these contracts on a basis

they would go into these developments if they saw that they could make money out of them.

In the Department I think various people have different ideas on it. I think there are certain marginal types of developments that an exclusive right would probably encourage industry to go into some of these developments that otherwise they would not. However, I personally feel that over the years, if you have a good development, people go into it.

Take, for example, the frozen orange concentrate, the penicillin, and numerous other of our developments which did not carry an exclusive rights provision and yet companies went into them. I do not think that many were deterred because they weren't able to get exclusive rights.

Mr. WRIGHT. As I understand it, you have no past practice of having given any exclusive rights at all. It that correct?

Mr. MACLAY. That is correct.

Mr. WRIGHT. In practice do you feel that making the inventions available royalty free to anyone has or has not resulted in maximum utilization of most of your inventions?

Mr. MACLAY. I think that there are occasions where if we could give exclusive rights it would help. I don't think it has been a big deterrent in acceptance of our developments.

Mr. WRIGHT. I wasn't directing my question to your opinion as to what you would like in the future. I was just wondering what your own appraisal was of your experience in the past, whether you have been able to get satisfactory utilization without those license privileges, exclusive license privileges.

Mr. MACLAY. I would say that for those of our developments, in which it is obvious that it would be profitable for a company to take up, and is willing to put money into them, I don't think we have needed that. There may be a few that if we had that authority it would be helpful to push some of them over the top that have not been taken up.

Mr. WRIGHT. There is one thing I wanted to ask you about. I didn't see it covered in your statement. That is this question of conflicting policies in areas where your research overlaps that of, let us say, the Department of Defense. You do very extensive research, for example, in biological sciences, don't you?

Mr. MACLAY. That is correct.

Mr. WRIGHT. And it is also true, isn't it, that the various armed services are engaged extensively in research in that area?

Mr. MACLAY. I would assume so. I am not familiar with their research programs.

Mr. WRIGHT. To the extent that you are both engaged in that area, your policy, I gather, is quite different from the policy that they apply insofar as dealing with research contractors is concerned. Is that correct?

Mr. MACLAY. I believe that is correct from the standpoint that the Department of Agriculture requires all patent rights on all contracts.

Mr. WRIGHT. And the Department of Defense requires generally a royalty-free license?

Senator McCLELLAN. Very well.
Anything further?
Mr. HOLST. No, sir.
Senator McCLELLAN. Thank you.
Senator Hart?

Senator HART. Mr. Chairman, on that last point, you developed rather fully in your last statement the notion of wide use being desirable and the means that could achieve it. You spent less time on what I understood to be your first point after making the statement, that the Government's interest was best served by achieving a prompt and responsible answer to its problem.

You then said but did not develop, as I hope you will, the notion that this prompt answer most likely will come from experienced sources. But these experienced sources would not be available as readily if there was a Government policy that did not assure them of exclusivity for a period. Would you fill me in on that chapter and verse?

Mr. HOLST. Can I cite you an example?
Senator HART. Yes.

Mr. HOLST. A great deal of the basic physics of matter is being studied with high energy machines which are called atom smashers. There are other elaborate names, but essentially, the devices are atom smashers. Much of the basic work in this field is being done with equipment produced by an organization called High Voltage Engineering Corp., of Burlington, Mass. That organization actually sought but could not get Government sponsorship to develop some of the concepts in this apparatus at an early stage. So, being composed largely of professors, they limped along as best they could until they were able to get a patent of their own. Only at that point were they able to secure outside financing, and they are now a publicly owned company. But not until they had a patent could they secure significant financing. Now because they own patents they have continued to develop the equipment, so that it now can be operated in a variety of ways, including as tandem equipment, one after the other.

Dr. Seaborg, the Chairman of the Atomic Energy Commission, speaking only last month to the American Physical Society, said that most of the interesting work being done in this field on the understanding of matter was being done with the equipment of this company. All of this was made possible, the company tells me—I know the president—only because the company had a patent; the patent enabled them to get public sponsorship and commercialization enabled them to get further funds of their own from earnings, so they have been able to spend $1,750,000 developing these pieces of tandam equipment.

If now the AEC or some other agency asks for equipment closely related to this kind of equipment, the obviously qualified source is that very company. If that company is asked to undertake developments under a policy by which it will lose all new inventions, and perhaps also be threatened with the loss of its existing commercial inventions, it will certainly be reluctant to work under such a policy. If, as a result, it withholds itself from working with the AEC or other Government agency, and the Government is therefore obliged to turn to competent but inexperienced physicists and engineers, the work

Senator McCLELLAN. All right. Do you have a full statement?

Mr. COHEN. The full statement was submitted to the committee.

Senator McCLELLAN. The full statement then may be printed in the record at this point, and do you have copies of your summary?

Mr. COHEN. No, sir; I do not.

Senator McCLELLAN. Well, we will try to follow it then.

All right, the full statement will be printed in the record at this point, and you may proceed to summarize your statement.

(The statement referred to follows:)

PREPARED STATEMENT BY ERNEST S. COHEN, ASSISTANT SOLICITOR, BRANCH OF PATENTS, SOLICITOR'S OFFICE, DEPARTMENT OF THE INTERIOR

The following is the statement of the Department of the Interior regarding S. 1084 and S. 1176. It also discusses the availability to local Government agencies, processers, producers, and the general public of inventions arising out of Government-sponsored research. Considering first the bills:

S. 1084

This bill would give the United States exclusive title to any invention made in the performance of any obligation arising from any contract or lease executed or grant made by or on behalf of the United States. It would affect the Department's relationship with contractors, lessees, and grantees, and would probably affect the Department's relationship with its employees.

1. Employees

It is assumed from the language of the bill that Government employees are not intended to be covered by this bill, since the specific language is directed to obligations arising out of contracts with the Government, or leases or grants.

The Department's patent regulations (43 CFR 6) define the respective rights of the employee and the Government to inventions. Section 6.12 therein states that these regulations are conditions of employment which are accepted by the employee. An invention made by an employee in the course of his employment could be considered an "* * * invention made * * * in the performance of an obligation arising from [a] contract * * *."

Under section 6.6 of the regulations, an invention made by an employee is assigned to the Government if it was made during working hours, or with a Government contribution of funds, equipment, etc., or if the invention bears a direct relation to the official duties of the employee.

However, where the Government's contribution was such that it would be inequitable for it to take title, or where the Government lacked sufficient interest in the invention, title could be left with the employee, subject to an irrevocable license to the Government. The bill seemingly would prohibit leaving title to such invention with the employee under these circumstances. It is felt that taking title to the employee's invention in all cases where the Government made any contribution whatsoever would be inequitable, and would make for poor employee-management relationship. Up to now, the regulations governing employees' rights to inventions have worked satisfactorily, and the change introduced by the bill would, it is felt, be a step backward. Clarifying amendments regarding employees' rights, which would leave commercial rights to the invention with the employee under certain conditions are believed desirable.

2. Contractors, lessees, and grantees

As regards inventions made by contractors, it is believed that making it mandatory for the Government to take title to inventions is too inflexible for satisfactory operation of the Department's research and development programs. The need for some leeway in this matter was recognized in the recommendation of the Attorney General in the "1947 Investigation of Government Patent Practices and Policies," volume I, page 4, section IV, item 3 therein states:

"Expert opinion and experience within and without the Government support the conclusion that a policy of public ownership of inventions made under Government contract would be acceptable to a sufficient number of competent private and institutional laboratories to make it workable. *However, exceptions to the basic policy should be allowed where necessary in emergency situations, to permit the contractor to retain the patent rights to inventions to which he has*

Senator HART. That this might be an instrument of Government policy aimed to meet that asserted desirable social end?

Mr. HOLST. Yes; but——

Senator HART. Is it because of that that you also oppose the creation of the agency?

Mr. HOLST. No; it is not. I did not deal with that originally, and my attitude toward that is this: Let us have the diagnosis of the unknown disease made by the most competent organization. Allow that organization, if you will, to retain whatever inventions may flow from it, but grant to the Government a right to use the invention or the patents for governmental purposes. If, now, this leads the Government to feel that it should have a second source, the license will be such that they can turn to a second source, the problem having been solved in the first instance.

But along the lines of first things first, the most important function is to get the problem solved in the first instance. I would like to have a policy that enlists the most capable organizations, because this will give you the largest likelihood of success and the most advanced progress in the shortest time and at the lowest costs. What you do from that point on, I think, is a secondary matter.

Senator HART. So that the record may be clear, do you feel that in the area that we are discussing, unlike the role of the physician, services would be withheld by the most experienced source, for a perfectly justifiable economic reason—I am not arguing this—if there was not the assurance of exploitation to follow?

Mr. HOLST. We may not like this, but it is a fact.

Senator HART. So the analogy with respect to the medical diagnosis is not on all fours.

Mr. HOLST. I think it applies in the medical field, too. There are very fine doctors who do not answer emergency calls.

Senator HART. They are always reluctant to make comments with respect to their professions to the Congress.

Mr. HOLST. That is right.

Senator HART. I see you are freer than most.

Senator MCCLELLAN. Mr. Wright?

Mr. WRIGHT. I would like to ask a few questions.

I gather from what you say that you believe that any statutory solution of this problem ought to have maximum flexibility, and I gather further that you think that flexibility should be such that you can treat the question of who gets title differently, depending upon the particular circumstances under which an invention is made, and the nature of the invention itself?

Mr. HOLST. That is true.

Mr. WRIGHT. And it is a fact, is it not, that whether or not you would need, for example, these exclusive privileges to make further commercial investment and development of the invention worthwhile depends, does it not, to a great extent on the nature of the invention itself?

Mr. HOLST. The extent of the further investment varies. But there is no question whatever that to take something from the laboratory or from a report and get it into—to debug it and get it into large-scale production, and to introduce it to the market, will call for further investments.

the phrase "obligations arising under any contract" is not intended to include conditions of employment accepted by an employee. Also, section 10(b)(1) provides that the waiver shall contain such terms and conditions to insure that the recipient will effectively conduct the research in the attainment of the objectives of the Federal program. Obviously this has no application to an individual employee. Section 10(b)(2) provides that the patent application shall be filed at the recipient's expense. Since this provision is inconsistent with 35 U.S.C. 270 which provides that patents may be granted to Government employees without payment of fees where they agree to give the Government a license, this would appear to be further evidence that inclusion of Government employees was not intended.

Also, it is thought that provisions should be made for giving to the employee-inventor the foreign rights to an invention, title to which is in the Government, when the Government decides not to file abroad. Foreign filing can be fairly expensive, and after a patent issues many countries require annual taxes. In many instances the Government would probably decide that the invention is not worth the trouble and expense of foreign filing.

In such cases, the employee should be given the right to file in those countries where the Government does not, at his own expense, subject to granting the Government a suitable license. The latter should include a right to grant a sublicense for the importation, use and sale in the country granting the patent, of items covered by the patent and which are manufactured in the United States by a citizen of the United States, or a company owned by citizens of the United States. A sublicense of this character would protect the rights of any U.S. businessman who wishes to import a device covered by the foreign patent into the country granting it.

By giving the inventor the foreign rights where these are not required by the Government, there would be stimulated increased employee interest in the Government's patent policies, leading to greater inventive activities and enhanced patent consciousness. Such benefits would be obtained at no cost to the Government and at no detriment to any U.S. citizen.

The following two minor points are noted. In section 8(a)(2), line 5 it is thought that "friendly" should be deleted. Whether or not a foreign government is "friendly" at the time an obligation is required to be fulfilled should not be material to the granting of a license. What should be important is whether it would advance the objectives of some program of the United States.

Section 9(d) provides for the assignment of title to the Administrator where a patent was issued to an applicant after filing a false or misleading statement of relationship of the invention to a contract with the Government. This subsection (line 3) gives the Administrator 5 years after date of issuance of the patent to request such assignment. Since the fraud might not be discovered until after the 5-year period has elapsed, it is thought that the time-period should be changed to "90 days after the discovery of such false and misleading representation of any material fact."

EFFECT OF S. 1176 ON DEPARTMENT OF THE INTERIOR OPERATIONS

As regards employee's rights, the bill is seen as too rigid, since it makes no provision for title going to the employee where this is deemed equitable. Insofar as regards contractors, the present operations of the Department in research and development may be affected thereby.

The agency conducting the bulk of contracted-out research and development in the Department is currently the Office of Saline Water. The Office of Coal Research will be active in this field in the future when it is fully staffed and operative.

Also, the proposed marine science or oceanography bill would give expanded responsibilities in the fields of marine science to the Department of the Interior which would involve expanded authority for research and development contracting and grants.

Most of the research and development contracts of the Office of Saline Water leave title with the contractor, the Government reserving a royalty-free, nonexclusive, irrevocable license, and the contractor agreeing further to issue licenses at reasonable royalties to applicants therefor. In a minor number of contracts title is assigned to the Government.

Under the waiver provisions of section 10, if the requirements therein are met, contracts could issue with title to the contractor as at present. If the

the standpoint of the Department and submit that as a recommendation.

Mr. GUDEMAN. As a recommendation from the Department of Commerce, yes, sir.

Senator MCCLELLAN. So you are going to hold that when? The latter part of June?

Mr. GUDEMAN. Well, we are tentatively setting it up for June 27 and 28. Those dates have not been firmed.

Senator MCCLELLAN. I am not trying to put pressure on you. I am trying to get the picture.

Mr. GUDEMAN. No. We are very——

Senator MCCLELLAN. We don't want to delay it indefinitely. At the same time I think it is a problem that doesn't yield to solutions easily.

Mr. GUDEMAN. No question.

Senator MCCLELLAN. We have got to search for information that may help us, but I just didn't want us to get in an attitude here, oh, well, this thing is a problem; just keep deferring it, talking about it and never do anything about it.

We ought to get some action sometime.

Mr. GUDEMAN. As a matter of fact, our conference would have been held earlier except that Commissioner Ladd had to go to Europe, and that is the only reason it is late in the month.

Senator MCCLELLAN. Well, he has only been in a short time; only about 2 months, isn't it?

Mr. LADD. That is correct.

Senator MCCLELLAN. Anyway, let us get to the conference and get it over with and see if we can come to some conclusion.

Mr. GUDEMAN. That is exactly it.

Senator MCCLELLAN. I think it is going to take a while even when we conclude these hearings to study this record. We can't do it overnight.

I am interested in this thing. I kind of inherited this from my predecessor, the Honorable Senator O'Mahoney from Wyoming. I kind of inherited this problem from him. It was his committee. He was doing a good job in handling it. I have had to take it over.

I have come to the conclusion there is something here that needs attention, and I want to move toward that objective.

Mr. GUDEMAN. Yes. We wholeheartedly agree with you on that. There is no difference of opinion at all.

Senator MCCLELLAN. I trust then as soon as you have that meeting, promptly thereafter you will report to us that either you have come to a conclusion or you need a little further time and more information or something.

I don't know that we can get legislative action at this session, but I think we should be able to get legislative action during this Congress.

Mr. GUDEMAN. We would like to go further than that with you, sir. You are going to have hearings over the next several days.

Senator MCCLELLAN. Not that soon; not immediately at least. Someday we might have to have some more hearings, but tomorrow and the next day is about as far as we are going.

Mr. GUDEMAN. Well, we would like, of course, to go over those, and then if there is something in those hearings that could lead to a

The agreement also provides that in the event the supplier elects not to supply a chemical found useful and over which it holds a patent, it will license another organization to manufacture it.

If this does not provide a source of supply, then the patent owner will license the Government to have it manufactured for governmental animal control purposes.

It is hoped that the foregoing statement will be found useful by the Subcommittee on Patents, Trademarks, and Copyrights in its studies of patent problems.

Mr. COHEN. By way of introduction, the research and development work in the Department of Interior is conducted largely by its own agencies. In fiscal 1960 total research and development funds for the Department of Interior were roughly $63 million. Of this, about 85 percent was for intramural research, and the remaining sum, $9,800,000, was for contracted-out research of which $1,200,000 was with profit organizations.

Of the patents held by the Department, substantially all are the result of work by its own employees. Therefore, the main effect of the legislation on the Department at the present time would be on the intramural research and development and on employees' rights to inventions.

Contracted-out research and development will expand in the future as the activities of the Office of Coal Research and the Office of Saline Water, whose research is conducted by contract, get under full swing. Should one of the bills here under consideration be passed, it would have an increasing effect on the Department's contracted-out research as time goes on.

Considering the bills, taking up first bill S. 1084, this bill is viewed as lacking desirable flexibility in requiring the Government to take exclusive title to inventions in all cases.

Senator MCCLELLAN. In other words, that is just too rigid?

Mr. COHEN. That is right.

Senator MCCLELLAN. That policy would be entirely too rigid?

Mr. COHEN. That is right.

Senator MCCLELLAN. But you can start with that as a base and provide the proper exceptions?

Mr. COHEN. Well, that would be a base for further consideration; yes.

Senator MCCLELLAN. Take that as a base and then make the modifications and exceptions to it.

Mr. COHEN. Yes. First, as regards employees, while the intention appears to exclude employees under the Department's patent regulations, they would probably be covered by the language. Our employees accept as a condition of employment with the Department its patent regulations.

This could be considered an obligation arising out of a contract. Under the bill, all inventions made by an employee, if connected in some way with his employment, would be assigned to the Government. This could result in injustices in some cases.

As regards contractors, it is believed to be too rigid since it does not take into account emergency situations where the contract would not be accepted under these terms, and situations where the requiring of assignment of title would be inequitable.

Under the lease provisions the bill would cover situations where a lessee of a Government building who covenanted to keep it in repair

Mr. LADD. I have a rough draft of the statement. I did not realize until this morning that I was coming up to testify.

Senator MCCLELLAN. That is all right.

Go ahead and give us the highlights of it, please, sir.

Mr. LADD. Reference is usually made to the Government Patents Board. Executive Order 10096, dated January 23, 1950, in effect did three things: First, it established a basic policy to be followed by Government agencies with respect to inventions made by Government employees; second, it established a Government Patents Board, but the functions of the Board as such were merely to act in an advisory capacity to the Chairman; and, third, it established the position of the Chairman of the Government Patents Board having certain functions and duties.

The recent Executive Order 10930, dated March 24, 1961, abolished the Government Patents Board and transferred the functions of the Chairman thereof to the Secretary of Commerce with authority in the Secretary to provide for the performance of the transferred functions by such officers as the Secretary might designate.

In accordance with this Executive order, the Secretary of Commerce has designated the Commisioner of Patents to carry on these functions. At the time of the transfer the functions and operations under the Executive order consisted of the following:

First, the individual agencies made their own determinations of the respective rights to an invention made by an employee in accordance with the basic policy established by the Executive order.

Second, certain ones of these determinations; namely, those in which the title to the patent was left in the employee, required the approval of the Chairman. Reports of these determinations were periodically forwarded to the Chairman who took action approving and in a few instances disapproving or modifying the agency determination.

The third step in this procedure is that the Chairman also had the duty of deciding appeals from the agency determination which might be taken by an agency employee who was dissatisfied with the ruling. Such appeals have been very few in number. The number of cases brought up to the Chairman of the Government Patents Board was running roughly 400 a year. At the time that the duties of the Government Patent Office were transfered to the Department of Commerce there was pending a total number of cases of around 259. Since the transfer there has been a total of 90 decisions rendered, and those decisions have been forwarded to the agencies. An additional 30 will go out within the coming week, and since the function of the Government Patents Board has been transferred to the Department of Commerce and, thence, to the Patent Office, a total of 10 additional cases have been received.

The functions which have been mentioned are those now transferred to the Commissioner of Patents and are being continued by him and appropriate officers in the Patent Office. At the present moment, besides carrying on the work at hand—and that is the caseload remaining—the Commissioner of Patents and his staff are engaged in a study of the regulations under the Executive order with a view to their modification toward simplification of the procedure.

knowledge, his equipment and manpower, it would not be fair for the Government to take the entire title. There may be situations, and I believe we have them.

Senator McCLELLAN. Why would it be fair to take all of it from the Government employees and not all from the corporations? Here is the Government employee. He works, and in the course of the performance of his work he gets an idea. He got the idea because of the fact that he is a Government employee performing his Government service. On his own time possibly he goes out and experiments with that idea, and, as a result of that experimentation, he develops a discovery or an invention.

Now it seems to me that he has got a little equity there. He didn't have to go to that extra trouble. I don't know.

Mr. COHEN. Well, that is a difficult question to answer. Under our regulations and under the common law, title to the invention would belong to the Government.

Senator McCLELLAN. Would it belong to the Government? I have been working for the Government. To take an illustration, you are an employee. You are working for the Government. You work 40 hours a week. That is the prescribed time. In the course of that work you get an idea that this thing over here—I watch it; I see it; it is Government work. That could be done much better; it could be expedited if we could just get hold of something that would do a certain thing. And then when you go home nights, Saturdays, evenings, and so forth, you experiment with that idea and you finally develop it.

Do you tell me that title to that invention, that discovery, all of it belongs to the Government? Just simply because you are a 40-hour-a-week employee and draw a salary?

Mr. COHEN. Yes, sir; under the common law it would. If you were hired to invent along those lines——

Senator McCLELLAN. You are not hired to invent.

Mr. COHEN. Well, then I misunderstood you. I thought that the research——

Senator McCLELLAN. No; no. You are—I don't know what you are doing; driving a truck or whatever you are doing. But in the course of your work you conceive an idea that that work could be expedited or something could be done more efficiently, or something could be done more economically if there was a certain instrumentality devised with which to do it. In off hours when you are not doing that 40 hours you are getting your salary for working for the Government, you process or experiment with and develop a new invention that could very well save the Government considerable money.

Take the Post Office Department. You have employees there handling mail. Use that as an illustration. An idea could come to them, well, if we just had a certain type of machine here or something we could expedite this mail delivery or process it very rapidly, much more so.

Now he develops that after hours of his work. Does that belong to the Government?

Mr. COHEN. No, sir.

Senator McCLELLAN. What?

Mr. COHEN. No, sir.

As to appeals taken by employees from agency determinations, we will continue a case-to-case review, and the employee will have an appeal as a matter of right.

As to the vast majority of cases which involve decisions in which both the agency and the employee are satisfied and the surveillance or review of the Patent Office, the Commissioner, is required, simply I would say as a routine matter and as an effort to maintain uniformity, my suggestion as to these, which constitute the vast majority of the cases which are brought to the Commissioner now, some kind of sampling review possibly could be submitted without sacrificing the purposes and intent of the Executive order.

In any event, we are investigating this area now. I mention this to you not because we have come to any conclusion but because this is the area of our present investigation.

Mr. WRIGHT. I had, Mr. Chairman, some questions I wanted to ask Mr. Gudeman, too.

Senator MCCLELLAN. Proceed.

Mr. WRIGHT. Under this question of urgency here, as to whether or not Congress should act, if I understood you correctly, you are of the view that Congress should not take any action at this point with respect to this problem.

Mr. GUDEMAN. Well, we are of the opinion that Congress should not take action until your hearings are held, and until we see what alternative recommendations are made there, and until a meeting that we are organizing is held with representatives of industry, both large and small business, to see what we can work out, possibly some middle ground that will be satisfactory to all concerned.

Mr. WRIGHT. Well, you are aware, are you not, that during the history of this Government Patents Board even the Government agencies themselves over a long period of time weren't able to work out an agreement as to what any statute ought to say? Is that correct?

Mr. GUDEMAN. Yes, sir; I am aware of that.

Mr. WRIGHT. I am just curious as to why you think there is any prospect in the foreseeable future of an agreement not only among the Government agencies involved but between them and the contractors and other private interests involved as to what the policy ought to be.

Mr. GUDEMAN. Well, I think there are several different answers to that. One of them is—and now I am speaking for myself—in the Department of Commerce our own newness to this problem. I haven't been saturated in it enough to draw a conclusion at this time.

Whether any conclusion can be drawn after such a meeting as I have stated I do not know. But I certainly think that it is worth holding to see whether some conclusion can be drawn.

There are various groups in industry that have worked on this problem. I personally do not know their viewpoint but I would like to know their viewpoint before taking a stand for the Department of Commerce.

Mr. WRIGHT. Well, let me get back to the history of this thing.

As I understand it, as a result of the Government agencies' inability to agree among themselves, the General Services Administration hired the George Washington University Foundation to make a study; did they not?

Mr. GUDEMAN. That is correct, sir.

purposes. The contractor also agrees to issue licenses to any patent arising out of the research to the public at reasonable royalties. It is felt that this makes the patent available to the general public even where the contractor has title.

Now this was commented upon by the Committee on Government Operations, 31st Report, House Report No. 2551. It stated:

> The excellent patent provision used in the research contracts of the Office of Saline Water, which are in line with the intentions of Congress that the results of the research "shall be available at all times for general public use," should be adopted by other Federal agencies participating in similar research and development contracts. Under those provisions, the inventions resulting from the federally supported project would be assigned to the United States, or, if patent rights are retained by the contractor, the use of the inventions would be available (1) to the United States under a royalty-free, nonexclusive license, and (2) to all qualified applicants under a nonexclusive license upon payment of reasonable royalty.

The Office of Coal Research, which is not yet in full operation, in its general patent policies will parallel those of the Office of Saline Water. Here the act provides, in section 6, Public Law 86–599:

> No research shall be carried out, contracted for, sponsored, cosponsored, or authorized under authority of this act unless all information, uses, products, processes, patents, and other developments resulting from such research will, with such exceptions and limitations, if any, as the Secretary may find to be necessary in the interests of national defense, be available to the general public.

It is felt that the type of contract provisions that we have worked out, that even where the contractor has title and where the Government has a royalty-free license, that the agreement by the contractor to issue licenses to members of the public carry out the intention of this act.

In the case of fisheries, a few research and development contracts have been signed with educational institutions. All require assignment of title to the Government.

Another class of agreements presenting unique patent problems is involved in chemical screening tests run by the Fish and Wildlife Service in the fields of sea lamprey control and animal damage control. Here the supplier sends a chemical voluntarily and free of charge to the Fish and Wildlife Service for screening. The supplier has title to any invention in chemicals per se while title to the invention to its use may be with the supplier or with the Fish and Wildlife Service, depending on who made the conception. Both parties agree to cross license to each other patents arising as a result of the program.

The supplier may deal with his patents in the usual way, issuing licenses or not as he sees fit to the general public. The Government will license any applicant in accordance with the Department's patent licensing regulations under any patent it has title to.

Another provision in the agreement that should the supplier subsequently fail to make available a chemical he has a patent on and which chemical has been tested by the Government under the program and which is required by the Government, the supplier agrees to license another company to manufacture it; manufacture the chemical.

If no other manufacturer can be found who will make it, then the Government can prepare the chemical for its own use under a royalty-free license.

That concludes my statement.

the Congress thought it might be desirable to protect them in some instances?

Mr. LADD. I cannot give you an opinion at this time. I can make a couple of comments, however.

I raise the question on the basis of past experience whether it is desirable to provide for such a program. I am not saying that we should not necessarily. I am simply saying that the past experience would raise serious questions as to whether we should undertake it.

Secondly, the prosecution of foreign applications would introduce a kind of work into the Patent Office which is different from the kind of work which we are now doing; namely, the examination and adjudication of patent applications.

Mr. WRIGHT. That is all.

Senator MCCLELLAN. All right.

Anything, Senator Hart?

Senator HART. No, sir.

Senator MCCLELLAN. Gentlemen, thank you very much.

The Chair will direct that a statement and letter of Chairman Vogel of the Tennessee Valley Authority be printed in the record at this point. Also a statement of Dr. Robert E. Stewart representing the Veterans' Administration will be printed in the record at this point. And a statement of Max B. Paglin, General Counsel, Federal Communications Commission, will be printed in the record at this point.

(The documents referred to follow:)

TENNESSEE VALLEY AUTHORITY,
OFFICE OF THE BOARD OF DIRECTORS,
Knoxville, Tenn., April 18, 1961.

HON. JOHN L. MCCLELLAN,
Chairman, Subcommittee on Patents, Trademarks, and Copyrights, Committee on the Judiciary, U.S. Senate, Washington, D.C.

DEAR SENATOR MCCLELLAN: In accordance with a recent conversation between Miss Marguerite Owen, our Washington representative and the clerk of the committee, we are transmitting herewith 50 copies of a statement by TVA with respect to S. 1084 and S. 1176 in lieu of presenting a witness.

If you need any further information as to TVA's patent policy and practice or if there is any other way in which we can assist the committee, please let us know.

Sincerely yours,

HERBERT D. VOGEL, *Chairman.*

STATEMENT OF TENNESSEE VALLEY AUTHORITY ON SENATE BILLS 1176 AND 1084 (87TH CONG.)

S. 1176

S. 1176 would establish a uniform governmentwide policy with respect to the ownership and disposition of inventions made in the performance of their duties by employees of the Federal Government and employees of firms doing work for the Government under contract. The bill provides in general that the United States shall have title to all such inventions, but that its proprietary interest can be waived under certain conditions. A new independent establishment, the Federal Inventions Administration, would be created in the executive branch to administer the policy.

Under the bill, all actions in connection with the disposition of such inventions, including the acquisition of patents or the granting of licenses, would be taken by the Administrator of the Federal Inventions Administration. Thus, the Administrator would determine for all departments and agencies of the Government (1) whether the Government shall acquire title to an invention made by a Government employee or the employee of a Government contractor, (2) whether the Government shall waive its proprietary rights, (3) whether application for a patent shall be made, (4) to whom and under what conditions licenses for the

Mr. COLSON. Well, I have a brief statement which I will give to the secretary explaining the council. It is a nonprofit, nonpartisan organization made up——

Senator MCCLELLAN. All right. You have an associate with you?

Mr. COLSON. Mr. Chairman, my associate, Mr. Holst, has studied the legislation that is before your committee on behalf of the New England Council, and has a number of observations that he would like to make following a brief introduction, if I may.

Senator MCCLELLAN. You are Mr. Colson?

Mr. COLSON. I am Mr. Colson.

Senator MCCLELLAN. All right, Mr. Colson, make your introduction.

Mr. COLSON. Mr. Chairman, I appreciate very much the opportunity which your subcommittee has afforded to the New England Council to discuss briefly legislation to establish a national patent policy.

The New England Council is a nonpartisan organization, representing all aspects of the New England economy. It was established in 1925 at the request of the six New England Governors and serves today as secretariat for the New England Governors' conference. In addition, the council provides a number of services to the State governments, working principally in the area of interstate cooperation. It is concerned, of course, with Federal legislation as it affects the economy of our region. Made up of representatives from industry, labor, educational, and farm groups, as well as the State governments, the council is concerned solely with regional development and with the improvement of the New England economy.

The council does not concern itself with most of the bills which are before the Congress. Our interest is confined to that legislation which clearly affects the New England economy and which has a peculiar specific impact on our region.

New England's industry is heavily oriented toward modern science, and many of the Nation's recent technological breakthroughs have been the product of New England genius. The growth of many New England industries—industries which provide jobs for our citizens and important payrolls for our communities—is directly attributable to the private commercial development of patented products. It is for this reason that we have taken a special interest in the legislation now before your committee.

Accordingly, the council asked Mr. Helge Holst of the Arthur D. Little Co., to study the proposals before your committee and their possible impact on the New England economy. Because of its knowledge of science-oriented industries in New England, its close relationship with the leading academic institutions of New England, its own experience with private ownership of patents, and its close liaison with many Government agencies, the Arthur D. Little Co., represented today by Mr. Holst, is uniquely qualified to evaluate and discuss this vital topic.

Mr. Holst, treasurer of the Arthur D. Little Co.

Senator MCCLELLAN. Thank you very much.

Do you have a prepared statement?

Mr. HOLST. Yes, Mr. Chairman, and it has been delivered. But as I listened to your questions, I thought we could make the best use of the committee's time if I spoke to what I think are the essential points, suggesting that you ask questions whenever you wish. I will try to present an otherwise orderly statement of what I think will be

STATEMENT OF DR. ROBERT E. STEWART, REPRESENTING THE VETERANS' ADMINISTRATION

Mr. Chairman and members of the committee, we are glad to have the opportunity of explaining the patent policy of the Veterans' Administration, both as to research contracts and as to employees. Also we appreciate the opportunity of commenting on S. 1084 and S. 1176. Our comments on these bills must necessarily take into consideration the specialized situation in which the VA finds itself with respect to research.

The VA received an appropriation of $22,500,000 for research in the current fiscal year (Public Law 86-626), exclusively in the medical field. Of this sum, $1 million is for prosthetics. All research in the VA is therefore centralized in the Department of Medicine and Surgery. This has always been so.

Research and development contracts are a minor factor monetarily in our research. Out of the $22,500,000 appropriated, approximately $617,000 is being spent on such contracts. The rest is being spent in intra-VA research, i.e., in our own facilities, by our own employees, in approved projects.

Contracts for research and development only concern prosthetic and sensory aids. This specialized research is carried out predominantly through actual cost-reimbursable-type contracts with universities and nonprofit institutions. In 1956, the VA established a prosthetics center in New York City, and there has been a trend toward intra-VA prosthetic research. The principal emphasis in both extramural and intramural research on prosthetic and sensory aids has been on artificial limbs, which altogether has required approximately three-quarters of the total effort in prosthetic and sensory aids since the Veterans' Administration began support of work in these fields in 1946. This great emphasis was necessary because of the lack of fundamental research in locomotion and motions of the upper extremity compared with the fundamental knowledge available in other fields and because of the inadequate appliances available at the end of World War II. In recent years increasing emphasis has been given to aids for the blind and to hearing aids.

VA research in prosthetics is intended to benefit all disabled persons. Section 216(b) of title 38 provides:

"In order that the unique investigative materials and research data in the possession of the Government may result in improved prosthetic appliances for all disabled persons, the Administrator may make available to any person the results of his research."

In World War II, there were estimated to be three times as many amputations due to accidents in war plants as there were due to military service.

VA research in medicine is accomplished under 38 USC 4101 which authorizes the Chief Medical Director to engage in research. This research, entirely intramural, is for veterans but its nature is bound to help other human beings. There are contracts supported by medical research funds, usually with nonprofit organizations, for services in support of intra-VA research activities. In fiscal year 1961 these were:

1. National Academy of Sciences—National Research Council (3 contracts):	
(a) Statistical services (for analysis of veterans' clinical records and publication of findings as VA monograph)	$165,300
(b) Pathology, in support of cancer research	25,000
(c) Publication of Atlas of Tumor Pathology	6,500
2. Sciences Information Exchange (partial support of this agency)	30,000
3. University of North Carolina (statistical services in support of a cooperative study)	8,165
4. Georgetown University (laboratory facilities and animal care for research in pulmonary diseases)	5,000
5. Bureau of Standards (testing of dental prosthetic materials)	5,000

Research funds are also used in support of a VA contract with System Development Corp. of Santa Monica, Calif., which calls for a long-range study of hospital design, operation and administration at the VA Center, Los Angeles. The phase applicable to study of research activities amounts to $68,877 in fiscal year 1961.

With respect to inventions by employees, the bills now under consideration do not change the criteria established by Executive Order 10096 respecting ownership of inventions, as we see it. There are changes of procedure. VA Regu-

3. PUBLIC WELFARE SERVED BY PRIVATE OWNERSHIP AND EXPLOITATION OF PATENTS

It must be appreciated that inventions in themselves are of little benefit to the inventor or the public. It is not sufficient that patents be available for license. A patent only becomes meaningful when it results in a process or product being produced in quantity for public use and benefit. Unless the patented process or product enjoys successful application, it is little value to the inventor and confers no public good. In turn, public good is promoted by the offering and use of improved products and processes and this public benefit is achieved simultaneously with the private benefit to the inventor or exploiting company. It is essential to recognize that both sides must benefit for there to be any public benefit, for without such reward for effort and risk taken, inventors and entrepreneurs will not undertake to bring out new developments.

No evaluation of the interest of the Government with regard to inventions and patents is sound unless it takes into account the interest of the general public, not merely a specific Government agency. Thus, it is clear that new items and processes if put to extensive use confer at least the following benefits on the public:

1. Create job opportunities with resulting payrolls.
2. Result in plant and equipment construction or expansion resulting in equipment and building expenditures.
3. Produce taxes both Federal and local on income and property.
4. Provide goods and services to the public.

As mentioned above, the existence of patents are almost essential to the creation of new business, or at least greatly facilitate financing by permitting recoupment of development costs during an initiation period of restricted competition.

4. THE GOVERNMENT ALSO BENEFITS FROM PRIVATE EXPLOITATION OF PATENTS

There are further benefits to the public and to the Government when a patented process or product is successfully exploited. If success results in such public acceptance that quantity production is achieved, this will reduce costs on Government procurement. In addition, if the manufacturer or other source sets up service stations for widespread distribution, this will reduce service costs and enhance utility by ready servicing when needed.

5. GOVERNMENT PATENT POLICY SHOULD BE FLEXIBLE TO MEET OBJECTIVES

It must be realized that the personnel—to whom the Nation looks for its new products and processes, both military and commercial—are limited in number, estimated as not over 600,000 including both professional and nonprofessional. In other words, from approximately one-third of a percent of the population must come all new developments. On these relatively few rests superiority in weapons and defense systems, and the products, equipment, and processes that must provide our rising standard of living, ability to pay higher wages, and to remain competitive in the face of international competition. Obviously, this resource is limited and must be enlisted in Government assignments under conditions most likely to arouse interest and enthusiasm. Since talent devoted to Government work is taken from industrial development, it is natural that industrial participation will be most readily extended when the fields offer hope of application to the contractor's commercial operations. As noted before, it is in the Government's interest to have developments made for the Government become sufficiently successful to achieve commercial scale and distribution.

In the light of the foregoing, it seems clear that it is unnecessary and unwise for the Government to have a fixed patent policy requiring in every instance assignment of inventions resulting from Government-sponsored research to the Government. To do so will simply require the Government to process much paper, many engineering and chemical facts, and related legal activities, without any assurance that the substantial costs incurred for this purpose will be of any utility to the Government.

Instead it seems far preferable for the Government patent policy to be sufficiently flexible to permit acquisition of patents by the Government when appropriate and to avoid such taking wherever not clearly in the interest of the Government. As noted above, the service of the Government's and public's interests by commercialization of inventions is such that it should not be assumed that the taking of title to inventions is always the only means of protecting Government of public interest.

practice of the invention may be granted, (5) the form of provision to be included in Government contracts to protect the Government's proprietary interest, and (6) awards to be made to persons on account of scientific, technical, or medical contributions of significant value to national defense, public health, or any program administered by a Government agency.

We understand that one of the primary objectives of the proposed legislation is to preserve for public use and benefit the inventions or discoveries which are made through public-financed research and development work and to avoid the windfalls which have sometimes accrued in the past to those engaged in such research and development work under contract with the Government. This is a commendable purpose and one with which we fully sympathize. There is no such problem, however, with respect to inventions made in connection with TVA's activities. TVA's policy on inventions, which was established many years ago pursuant to the provisions of the TVA Act, provides for ownership by TVA of all inventions made by its employees or contractors in the course of their services for TVA. This policy has been commended not only for its protection of the public investment in TVA's research and its fairness to TVA employees but also for its effectiveness as an aid in carrying out the TVA program. We believe that a system involving transfer of all authority and responsibility with respect to the disposition of inventions made as the result of TVA research and development from TVA to a central agency in Washington would be administratively unsound and would impair the conduct of TVA program activities of which the making and use of inventions are an integral part.

TVA conducts a program of research and development designed to discover new and better fertilizers and to find better and cheaper methods of fertilizer production. The ultimate objective, of course, is to make it possible for the farmers to fertilize their lands more effectively and economically. It seems evident that when new discoveries or improvements are made as the result of such research and development, TVA is in better position to determine how and on what terms they should be made available to the fertilizer industry than an agency in Washington with no responsibility for the program and presumably with no special interest or experience in it. TVA is also in a better position to determine whether any invention developed in the program is of such character or importance as to warrant seeking patent protection on it.

Putting the invention to productive and beneficial use, which is the ultimate objective, cannot be achieved simply by giving notice of the invention's existence to people or firms having a possible interest in it. The technical staff of TVA's Chemical Engineering Office spends a great deal of time and effort in acquainting people in the fertilizer industry with the developments made in TVA's laboratory and experimental plants. Some of this educational work is done through technical publications and trade journals, press releases, conferences or demonstrations; but a great part of it is done through correspondence with the fertilizer industry and through visits by industry representatives to TVA's chemical plants and laboratory at Muscle Shoals, Ala., where they view TVA's developments and discuss with TVA technicians the problems of practical industrial application. For example, in fiscal year 1960, nearly 800 persons having a technical interest in TVA's fertilizer research and developments visited our plants. We answered more than 1,300 direct written inquiries in this field during the same period.

TVA's inventions policy has been successful in getting the results of its fertilizer research and developmental work into use. This is demonstrated by the attached chart which shows the location of the many plants in the United States which have obtained licenses to use TVA developed processes or equipment. It also shows that as of July 1, 1960, a total of 221 licenses had been granted to 167 firms for use of such developments in 233 plants. Since World War II the average analysis of fertilizer produced in this country has increased from 21.7 percent to 30.2 percent available plant food. While TVA does not claim that this remarkable improvement in quality is due entirely to its activities, TVA's substantial contribution to the advance in fertilizer technology is evidenced by the fact that approximately two-thirds of the granular fertilizer made each year in the United States is produced under TVA licenses. Thus TVA's research and developmental work, of which the patenting and licensing of resulting inventions is an integral part, is helping TVA to achieve the objectives set out in the TVA Act of improving and cheapening the production of fertilizer for the benefit of the farmers. Assignment of the control and disposition of such inventions to another agency inevitably would hinder the accomplishment of these objectives.

Comstock & Wescott, Inc., 179 Fifth Street, Cambridge, Mass.

This partnership under the name of Calmus, Comstock & Wescott was formed by MIT professors for the express purpose of developing color film suitable for motion picture cameras. As they achieved success it became necessary to create a corporation—Technicolor Corp.—which was publicly owned. For this purpose it proved essential to have patent protection before public financing could be obtained. It was the work of Comstock & Wescott and the Technicolor Corp. which gave rise to "Technicolor" for the movies. The same combination was responsible for the "Kodachrome" film, the rights to which were subsequently acquired by Eastman Kodak. The management of Comstock & Wescott assert that financial sources refused to offer the securities of the corporation for sale until appropriate patent protection had been obtained.

Polaroid Corp., Cambridge, Mass.

This enterprise, now a leading manufacturer of cameras, responsible for the first major improvements in photographic processes in many years, owes its existence to the development of polarizing film. From this flowed sunglasses and antiglare developments of various types. By this means also three-dimensional picture presentations are possible. Most recently, Polaroid Corp. has developed and offered the public a novel camera providing high-speed picture development. And within a year this has been followed by photographic film of such sensitivity as to make picture taking feasible in substantially any light.

Polaroid Corp., whose officers are personally known to us, has stated that the formation and financing of their company would have been impossible without the existence of patents. Here can be seen also the beneficient effect of patents in allowing a newcomer to enter existing fields—sunglasses then served by many existing manufacturers—and photographic supplies long the province of such corporate giants as Eastman Kodak and Agfa.

Clearly the using public, Polaroid and employees, and the Government through taxes and the creation of a new resource have all benefited in ways that would have been impossible without patents privately owned and privately exploited.

High Voltage Engineering Corp., Bedford, Mass.

This organization provides the Nation, as well as other free countries, with very high voltage Vandergraft. Trump, and similar high radiation generating equipment. These units are used for medical research, medical treatment, product sterilization, and nondestructive metallographic examination of cast parts. The organization, now in its 15th year, was founded on the basis of a Vandergraft patent which has since expired. The organization was explicitly told by its prospective sources of finance that unless it could arrange for a period of at least 10 years exclusive rights under the patents, public funding could not be obtained. Since the patents have since expired, the field is now open to others while in the meantime the activities of High Voltage Engineering Corp. have developed the equipment and its market to a point where Dr. Glenn T. Seaborg, Chairman of the Atomic Energy Commission in speaking on April 26, 1961, to the American Physical Society testified to the importance of research and the necessary tools, citing in particular the high energy tandem particle accelerators of HVEC which were developed by it at a cost of $1,750,000 at a time when Government sponsorship could not be secured because the concept was so far in advance of public recognition.

Yankee Homecraft Corp., 167 Pearl Street, Somerville, Mass.

This organization produces a patented home knitting device called knit-wit covered by patent 2,611,947. This device permits the relatively unskilled user to produce satisfactory knit pieces which can then be assembled into clothing, blankets, or other articles. The company could not have started or progressed without the temporary protection of its patent.

Arthur D. Little, Inc., Acorn Park, Cambridge, Mass.

The ADL cryostat has provided the principal source of basic technology for extreme low temperature research and for the safe and efficient handling of liquid hydrogen and deuterium, essential ingredients in the thermonuclear weapon. This development, and subsequent improvements and modifications, have stemmed from Collins patent 2,458,894, the existence of which justified the considerable investment required in this field at a time when it was of little more than scientific interest to the Government or industry, but appeared to Arthur D. Little, Inc., to hold promise of future utility. Approximately 200 of these units have been made and at one time almost 90 percent of all extremely

The change in the latter type of contracts would put title to inventions in the Administrator of Federal Inventions instead of leaving naked title in the contractor, subject to the irrevocable and exclusive right in the VA to designate licensees without payment of royalty. We do not know how this change would affect our prosthetics research program. It may not have any appreciable effect if our experience of the current fiscal year is indicative. In this period, all new research contracts included our short form except that with the University of California, contract V1005M–2075. The patent clause in this contract is being renegotiated. The short form was unacceptable to the board of regents of the University. As a compromise, they have tentatively agreed to a patent clause which gives the Government an irrevocable royalty-free and exclusive right to all patents in prosthetic devices for Government use or otherwise. The university retains the rights for all commercial applications, if any, for purposes other than prosthetics. The amount of funds obligated under this contract during fiscal year 1961 is $204,209.

Section 7 of S. 1176 is probably more significant with regard to the VA. With respect to research in prosthetic and sensory aids, the greatest emphasis in the United States is probably in the Veterans' Administration. It spends far more for such research than any other agency, and its efforts to enlarge the field of knowledge in prosthetic and sensory aids are in proportion. This is not a field of great commercial potential. It is small and specialized, even as to the businesses which manufacture the items.

There now exist established scientific indexes, including the unique prosthetic reference collection and exhibit in New York City. These are so closely related to the research that any change as to the depository of this knowledge and indexes would either impair the continuation of the research, or duplicate work. The continuation of the research, and the currency of knowledge as to the state of the art are very closely tied together. We believe it would be a disservice to the disabled veteran, and to all disabled persons, to separate responsibility for maintaining and disseminating knowledge in this very limited field from the responsibility for research. The VA and its contractors have actively disseminated new results through publications in scientific and technical journals, books, intensive courses, and widespread distribution of reports to those concerned.

Therefore, we believe that retaining the present system is preferable, and the VA would continue to make the data available to all disabled persons pursuant to 38 U.S.C. 216(b) supra.

Section 8 of S. 1176 would put administration of patents under the Administrator of Federal Inventions, and allow issuance of licenses under certain conditions, either for royalty or royalty-free. We believe that royalty-free licenses should be revocable by the Government. Since 1946, when the first appropriation for reesarch in the field of prosthetic and sensory aid was made, there has been no royalty charged for manufacture of any prosthetic or sensory device developed with Government funds. We believe that the subcommittee will agree that no royalty should be charged as a rule, in view of the humanitarian character of these devices. It is suggested that administration of patents in this small and unique field therefore be left in this agency, either by amendment of section 8, or by authorizing the Administrator of Federal Inventions to delegate.

FEDERAL COMMUNICATIONS COMMISSION,
Washington, D.C., April 20, 1961.

Hon. JOHN L. MCCLELLAN,
Chairman, Subcommittee on Patents, Trademarks, and Copyrights, Committee on the Judiciary, U.S. Senate, Washington, D.C.

DEAR CHAIRMAN MCCLELLAN: I am submitting herewith a statement concerning the Commission's patent policies and practices which I was directed by the Commission to make on its behalf.

In my telephone conversation on April 19 with counsel for your subcommittee, Mr. Robert L. Wright, he suggested that the statement be submitted for the record at this time in lieu of my personal appearance since your hearings were running considerably behind schedule.

If we can be of further assistance, please let us know.

Sincerely yours,

MAX D. PAGLIN, *General Counsel.*

licenses of a foreground character, such organizations may welcome the opportunity to assist.

As repeatedly stated, commercial exploitatiton of developments flowing from Government sponsorship of research is distinctly in the interest of the Government and the public at large. Such exploitations should therefore be facilitated and encouraged.

11. PATENTS DO NOT PROMOTE SECRECY OR PROLONGED MONOPOLY

In any consideration of patents, it should be recognized that patents do not promote secrecy or prolonged monopoly. Their entire existence is directed to and dependent upon a contrary effect, i.e., patents require disclosure adequate to permit others skilled in the art to understand and subsequently to practice the processes. Likewise, patents, because temporarily they exclude others from practicing the identical processes, stimulate the development of alternative and frequently improved processes and product. This therefore afford the public a selection of alternatives in addition to the original benefits described above as flowing from patent ownership.

12. THE DESIRABLE GOVERNMENT PATENT POLICY

From the foregoing it is evident that in dealing with the Nation's research and development talent, the Government's patent policy touches upon a very limited but indispensable national resource. With only limited numbers of engineers and scientists available, the patent policy must encourage this creative genius of these talented individuals.

At the same time the scientific, engineering, and research personnel of the Nation do not exist as detached individuals. They are principally to be found as members of commercial and private organizations. In these organizations they exist as members of departments and groups dependent for their effectiveness upon their organizations for support, administration, and facilities. These organizations are usually free to devote their research talent to commercial or Government effort. It is desirable, therefore, that Government patent policies enlist the interest and support of private, commercial, and other institutions.

Clearly, the patent policies most likely to interest private sources in participating in Government-sponsored research and development will be policies which do not threaten the commercial endeavors of those firms. In fact, Government policy should encourage the development and use of new products and processes. Such use, it has been shown, is of benefit to the Government as well as the citizen at large. But, as noted before, commercial development is both costly and attendant with high risk. Under these circumstances, development will only take place if patent ownership assures a limited period of exclusive right. The granting of exclusive right by license from the Government would be difficult. Private ownership is consequently far preferable.

The only patent policy sufficiently adaptable to give the Government the right to require assignment of patents when appropriate, and yet to avoid such assignment when not required, is a flexible patent policy. The policy of the Department of Defense has proven itself over a considerable period of years to be acceptable alike to Government agencies and to contractors. There is no evidence that it has failed to protect the Government's interest. It therefore commends itself as an acceptable flexible policy for the Government.

Senator McCLELLAN. You may proceed, Mr. Holst.

Mr. HOLST. It seems to me that the first question we should consider is what should be the objectives of a Government patent policy. Later on I will be glad to speak of the significance of patents to New England. But let me at the moment say that it seems to me that the committee should concern itself with what should be the objectives of of a Government patent policy. It would appear that the most significant point, first things coming first, is how can the Government—whether it is the Department of Defense or the space agency or any other agency—how can it get its problems solved most successfully in the shortest time and at the least cost?

Senator McCLELLAN. Its problems solved?

In 1957, the Commission had before it in dockets 10090 and 11228 the question of whether rules should be adopted which would have required the filing of patent information on a regular reporting basis. At that time, a majority of the Commission decided that patent information should be obtained on an ad hoc basis as it became relevant to a particular proceeding. In declining to adopt the proposed rules, the majority rested its action on the administrative difficulties which would be involved in processing and classifying the raw patent data which would be submitted to it. The majority also felt that overall surveillance of patent matters should be left to other Government departments more directly concerned with the correction of patent abuses.

However, in this connection, let me state that the Commission is currently giving consideration to the matter of a reappraisal of its patent practices and policies. The subcommittee will be kept informed as to any action the Commission may hereafter take regarding this matter.

Turning now to the two bills before your subcommittee, S. 1084 is a bill to establish a national policy for the acquisition and disposition of patents upon inventions made chiefly through the expenditure of public funds and provides that the Federal Government shall have title to all inventions and patents resulting from the performance of any obligation pursuant to a Government contract, grant, or lease, or resulting from a research grant or contract financed by the Federal Government.

S. 1176 would create a new Government agency to administer the Federal Government's patent rights. The United tSates would have exclusive right and title to any invention of any Federal employee made during working hours or with a contribution by the Government of materials, information, or the services of another Government employee during working hours. In addition, the U.S. Government would have exclusive right and title to any invention made by any person in the performance of a Government contract, lease, or grant.

It is believed that FCC contributions to the group of patents to be administered under the provisions of these bills will be very small. However, if the overall volume and complexity of administering patents held by the Federal Government is sufficient to warrant the establishment of an agency for this purpose, as proposed in S. 1176, there would seem to be no reason why patents arising from FCC activities could not be administered by such an agency. The extent and volume of patents which have been developed by Commission employees or under Commission research projects were reported to your subcommittee in the Commission's response of April 20, 1960, to your subcommittee's questionnaire. An additional patent not included in that response was issued on September 8, 1959, and covered equipment for a new TV color system. In this case the employee retained title and the Commission was granted a nonexclusive, royalty-free license. Other than the additional work that would be required of the Commission in keeping such records as may be prescribed by the Administrator, the bill, if enacted, would not be burdensome to the Commission.

As a final observation concerning these bills, let me state that whether these bills should be enacted is a matter of legislative policy for determination by the Congress.

Before closing, there are two other matters which I feel deserve attention. The Commission has noted that your subcommittee in its annual report (S. Rept. 143, 87th Cong.) has recognized, at page 14 of the report, that while the Commission seldom engages in direct scientific research, it does promulgate technical standards on which patent rights have a substantial impact. The report then notes that—

"* * * the Commission has formally declined to estimate the effect of such rights on the general availability of the specified equipment standards and maintains no staff competent to make such an investigation."

In our view, that statement does not reflect accurately the Commission's position or statutory authority with reference to patent matters and the establishment of technical standards. As already pointed out in the beginning of this statement, the Commission does consider the possible effect of patent domination before it adopts technical standards.

The Commission has also noted that at page 14 of the subcommittee's annual report, it is stated that—

"Unlike the FCC, the FAA does investigate the impact of such rights on the technical equipment standards it promulgates and makes a positive effort to see that such equipment is equally available to all the carriers it regulates."

mercial rights involved. At any rate, the first step is enlisting the most able people. How is this to be done? It seems to me, this is most likely to be achieved by giving those contractors incentives to take on this work, and I think the strongest incentive will be both a desire to serve the national interest and also, if possible, at the same time to serve their own private interests.

Senator McCLELLAN. In other words, the second objective, as a means to getting the most competent contractors, you would like to provide or you think it is necessary to hold out some incentive to them that, in addition to serving the public interest, they stand a chance, also, to profit by new discoveries in the course of carrying out their contracts.

Mr. HOLST. That is correct. And, looking at it from the other side, if you have enlisted contractors with a background in this field, the Government patent policy should not jeopardize the contractor's commercial background which they bring to the Government.

Senator McCLELLAN. I don't know that I understand what you were trying to say there. Say it again.

Mr. HOLST. I said that the successful solution of difficult problems—and the problems with which the Government is normally concerned are difficult problems—will be most quickly achieved and at the least cost to the Government and with the greatest likelihood of success, if the Government is able to enlist contractors who are already working in fields very close to the areas to be investigated.

Senator McCLELLAN. Who have——

Mr. HOLST. And, therefore, those organizations——

Senator McCLELLAN. Who have a background experience that will enable them to pick up and go on.

Mr. HOLST. That is right, without any educational period or educational cost. Those are the very organizations which will already have commercial rights which could be jeopardized under one kind of Government policy but could actually be enhanced under another kind of policy.

Senator McCLELLAN. Jeopardized under a Government policy that would take all the rights.

Mr. HOLST. That is right.

Senator McCLELLAN. Whereas the assets they already have, the talents and experience they already have, could be enhanced if they were to receive the rights.

Mr. HOLST. That is correct.

Now at no time am I suggesting in any way that the Government's rights to use the results of the work should be restricted. We are assuming the right to use second sources and many other unpopular things. I am not speaking against that.

Senator McCLELLAN. Does that right of the Government include the right for the Government, say, to have a contract here and if a patent results from it, or an invention, that the Government has the right to use it? Does that include the right of the Government to make a subsequent contract with possibly a competitor of this company and provide that competitor with the right to supply Government products?

Mr. HOLST. Yes, sir, it does. This is the normal foreground license provision——

Senator McCLELLAN. To use the patent royalty-free?

To the extent that this statement suggests that the Commission does not take into account, before adopting technical standards, the possible adverse effects which patent domination might have on the public interest, the Commission likewise feels this statement does not accurately reflect its firm determination to assure itself whenever necessary that its technical standards will serve the public interest and not merely the private interests of the patent holders.

Also, in this connection, let me make a final observation; namely, that the Commission knows of no case in which a potential Commission licensee has been unable to operate under our rules because of his inability to obtain a patent license or the use of patent equipment pursuant to a requirement of our rules, or any claim of exorbitant license fees.

Senator McCLELLAN. All right; the committee stands in recess until tomorrow at 10 o'clock.

(Whereupon, at 3:30 p.m., the hearing was recessed until 10 a.m., Thursday, June 1, 1961.)

is known, and therefore it does afford opportunities and actually presents challenges to others to improve on them.

Mr. HOLST. That was exactly the point I was going to make.

Senator MCCLELLAN. That is why it cannot be an absolute monopoly.

Mr. HOLST. That is correct, sir. It is exposed long before it expires, so that the competitors can study it from the beginning and, on its expiration, can practice the process. If the description is not clear enough for that, then the patent is invalid. But in addition to that, it is the experience of people who depend on patents for protection from competition that patents do not prevent competition from going around the patents.

Senator MCCLELLAN. To find another way to do the same thing?

Mr. HOLST. That is right.

Senator MCCLELLAN. And thus circumvent the patent.

Mr. HOLST. You can say circumvent if you wish, but I would prefer to say it also offers to the public alternatives. Let me give you a striking example.

The Polaroid Corp., with its Polaroid camera and very rapid film, as you know, came into being long after Eastman Kodak and Agfa and other companies had a very strong, well-established patent position. It was necessary, therefore, if Polaroid was going to gain entry into the photographic field, to come up with something new which did not conflict with the Eastman patents and which had enough merit so that the public was given a choice between the Eastman method and the new Polaroid method. Without these patents, Polaroid has told me—I know the officers in the company—they could not procure financing for the company, and they could not have undertaken the cost of development and the cost of distribution. Had it been possible for Eastman and the other companies, on the morning after Polaroid produced and sold their product, to reproduce it, Polaroid could not have recouped their cost.

But the original point, as you made yourself, Mr. Chairman, was that patents, in a sense, merely pose a challenge to others to come as closely as they can to the benefits without infringing the patent. And the exact coverage and process of the patent is disclosed at all times for all to see. So while it is true that the patent statute gives a limited period of protection, it is quite limited, both in period and in the extent of disclosure. And this period has, in fact, proven to be necessary in industrial practice to allow the originator of a patent to recoup his development costs and the cost of introducing a new item on the market. Where there has not been such protection, or where a patent has merely been available to the public, the industrialists have been very slow indeed in exploiting new but theoretically available inventions, and the finding of finance for these inventions where there is not a period of assured recovery is very difficult indeed.

Now, if there is validity to our point that introducing new products is very expensive, and very difficult to finance, unless there is some brief period of exclusive use—it need only be a brief period, but it has proven to be necessary to have a brief period—if these are necessary, it seems to me that a Federal Patent Administration would be put in a very difficult position to perform successfully. For a Government agency to give exclusive rights to inventions that have supposedly been made at public expense will be very difficult. Yet we

the bills presently pending before this subcommittee. My remarks will be directed more particularly to S. 1176, which is much the more detailed and comprehensive of the two measures you are considering.

In the first place, and in my deliberate judgment, I call your attention to the fact that this proposal provides for an amendment to the Constitution of the United States, not in the way the Constitution prescribes but by the proscribed method of legislative enactment. There are many who fear that in recent years, legislatively and judicially, occasional resort has been had to such unauthorized modification of the tenets of our organic law.

Now let us see, according to the Constitution, what is the power of Congress concerning patents. It is found stated in the following language in section 8 of article 1: "The Congress shall have power * * * to promote the progress of Science and Useful Arts"—how?—"by securing for limited times"—to whom?—"to Authors and Inventors"—securing what to them?—"the exclusive right to their respective Writings and Discoveries."

Inasmuch as there seems no present intimation that the Government contemplates confiscating the writings of authors, let us confine our consideration to the patent provision of the Constitution.

Now, we all realize that the Founding Fathers were men of wisdom who knew the meaning of words and terms—such as "exclusive right"—and they knew well also that the idea for a patentable discovery originates in the mind of an individual and not in the complexities of the organizations of corporations and governments. So, for a proper limited time, they accorded this exclusive right in patents to individual inventors responsible for the discoveries their patents attested.

Therefore, for that limited time the proprietary rights under such patents belong to those individuals. They can, if they so desire, assign them to corporations or to the Government, but that is a matter of their own free choice. How otherwise could corporations or the Government acquire rights under patents according to the Constitution? Bear in mind that a patent is not a gift from the Government. On the contrary, it is something an inventor has earned for himself if the discovery complies with the requirements for the issuance of a patent.

But some proponent of this legislative proposal may ask me if I have ever heard of the general welfare clause of the Constitution. Yes, I am familiar with it and think I understand its proper application. It is not directive with reference to any particular matter of legislative enactment, as is the constitutional provision concerning patents, but on the contrary a mere broad and general statement of one purpose of all legislative action, much like a Mother Hubbard which some wag has described as "an old-fashioned garment which covers everything and touches nothing."

And, though I would not ascribe such intent to any of the honorable and patriotic men and women serving in the two bodies of the Congress, there are many citizens of our country who think that, in the absence of specific constitutional authority for a legislative proposal, this general welfare clause is sometimes used as a convenient closet in which to hide such discrepancy.

private owner will have an incentive, and also a means of financing further development.

If, in fact, you take ownership into the Government and make it available to others, and if that availability cannot be granted on an exclusive basis for a time, I believe you will not get investment in it; you will not get exploitation and, therefore, you will not get wide public use.

Senator McCLELLAN. In other words, it may take a capital investment of some magnitude to put it into development, to put it into manufacture, you may say? And if this opportunity is available to everyone alike, from Government sources, there would be less incentive for one company to take it up and invest the $5 or $10 million in it because it would have no protection others could do the same thing. Is that right?

Mr. HOLST. That is correct.

Senator McCLELLAN. Whereas, if it is in private ownership, the owner licenses it out, subject to some exclusive right for a limited time and so forth. Potential users, with this protection, can afford to make the investment, can afford to put this into production?

Mr. HOLST. Yes. To give you some idea of magnitude—I cannot prove these to the last penny—it is commonly reported in the research industry, of which my company is a member, that for each $1 of basic research to conceive new ideas, it takes approximately $10 of applied research to prove out the new concept, to demonstrate its usefulness and workability, and then approximately $100 to provide the plant and equipment and the marketing and sales effort necessary to launch the new product.

In other words, each next step costs approximately 10 times more than the previous. So that merely creating a new idea does not, of itself, launch it in a successful manner in a way that will give the public any benefit.

Senator McCLELLAN. Off the record.

(Discussion off the record.)

Senator McCLELLAN. Back on the record.

Mr. HOLST. Well, we can see this in operation.

One other point should be mentioned: If a development is privately exploited and the new product or process does get launched in a field, the private owner will inevitably use some of the earnings from that invention to promote further development and further widespread use. This follows because it is obviously in the company's commercial interest to continue to serve the public in a large way, in spite of the efforts of others to duplicate the process or to arrive at the same product by alternative means.

Senator McCLELLAN. I think we are getting down to the crux of this thing quickly. That is, that after the Government gets the right to use, without royalty—a royalty-free license to use—then how do you best serve the public with the new development? How do you get the widest distribution? That is No. 1.

But No. 2, here comes a complication. After all, it was the Government's money, the Government financing, which made it possible for this invention to be developed. Now, just because the Government had a contract with corporation A over here, and corporation A happened to be the one that developed it, why should corporation A get

Consider, as one of many such examples, the many appropriations wisely made to the farmers of our country to facilitate their production, in several instances to stabilize the prices they receive for their products, to assure safety from flood damage, et cetera. By way of analogy, can any of you tell me what proposed legislation is pending to require the farmers in return for this helpful service to turn over to the Federal Government the right to market for its own use the things they produce?

In other words, in all these other fields of governmental financial aid there is no thought of depriving the recipients of such aid of all the benefits it bestows. But, with reference to patents, it is now suggested that we even take away from inventors in and out of the Government the benefits the Constitution accords them. I think it would be well for you to look carefully into this phase of the proposal before you.

In the second place, briefly and in keeping with much that I have stated, this bill provides a long step toward the abolishment of our Patent Office, the governmental agency designed to carry out the constitutional intent in the administration of patent rights. In many respects set forth in the pending bill the Commissioner of Patents is to become a mere agent of the Administrator to do his bidding. So now it is proposed that we establish in the executive branch of the Government a Federal Inventions Administration with rather unbridled power concerning patents.

In assuming functions of the Patent Office, the Administrator is empowered to make such rules and regulations as may be necessary to control the administration of patents placed under his jurisdiction. He will be authorized to "obtain, assemble, and classify available publications and other information concerning inventions and discoveries which may provide assistance for inventors, small business organizations, and the general public." Also it will become his duty to "compile, publish, and provide for the greatest practicable distribution to libraries, trade associations, and organizations engaged in trade and industry" of information he deemes advisable.

Examine section 13 of the bill on page 27 and you will note the many functions, powers, duties, and obligations of the Government Patents Board, the Department of Commerce, et cetera, which are to be transferred to this Federal Inventions Administration.

And let me add here that the Government Patents Board no longer exists. It was abolished by Executive order of the President, in February of this year, as I recall, and its duties transferred to the Commissioner of Patents, where they properly belong. But this bill, of course, turns those duties over to the Administrator.

Senator McCLELLAN. You think this bill takes away those same functions and places them in another board?

Mr. LANHAM. To do what the Government Patents Board did.

Senator McCLELLAN. To do what the same old Board did that was abolished.

Mr. LANHAM. That was abolished and its duties transferred to the Commissioner of Patents.

Senator McCLELLAN. And we are trying to go back?

Mr. LANHAM. Yes, sir.

Senator McCLELLAN. All right, sir.

where other competitors have equal opportunity, then there is incentive to them, to the other contractors, to the others in the same business, to come in and bid and get a Government contract. That incentive is there, and that incentive is present to others who might have competed and who might have gotten the same contract.

Mr. HOLST. That is right.

Senator MCCLELLAN. That is another element that is present.

Mr. HOLST. The competition presumably was open to all in the beginning.

In any case, if we have, in fact, demonstrated that securing competent contractors, the ownership of patents, and getting them widely used is a complicated matter, then this situation recommends a flexible Government patent policy.

Senator MCCLELLAN. Well, as I said, a while ago I began to wonder about any rigid policy being equitable. I know there are varying circumstances and conditions and contingencies that can intervene that would, quite obviously, preclude a rigid policy, possibly such as the bill that I introduced.

Again, I said it may serve as a base, start from there and make the modifications and exceptions that would move toward justice and equity.

Mr. HOLST. There is one other point I would like to make again. Bill S. 1176 suggests, among other things, the creation of a Federal agency to bring about the exploitation or use of patents. It seems to me that two points are pertinent: First, I believe it would be very difficult for such an agency to grant periods of exclusive use. It seems to me that having a public agency grant exclusive rights would be rather difficult to do.

But the second point is that if the Nation already has industries that are already in existence, already familiar with the fields to which the invention relates, they would seem to be the natural vehicles for exploiting new inventions. They already have the machinery for doing so, they already are in business, whether as to production, financing, or selling. Why not turn to these as natural vehicles for exploiting new inventions, particularly since exclusivity has been shown to be necessary to the launching of new inventions?

Senator MCCLELLAN. Is there any reason why a Federal agency should not go to the source?

Mr. HOLST. No; I think it should. But there would still be the difficult question of exclusivity.

Senator MCCLELLAN. You would naturally assume, I would think, that if you establish such an agency having that purpose, it would turn to the sources most able to get the result desired.

Mr. HOLST. I would hope so.

Senator MCCLELLAN. I would hope so, too, and I can see very little reason for them not doing so, unless some questions of mercenary interest entered into it.

Mr. HOLST. Remember also, Mr. Chairman, that the existence of such an agency, if it coincides with a policy of taking title in most cases, will be in conflict with the incentive to organizations which already have background rights serving the Government in those fields. So that there is another side to the coin.

Now let us sadly contemplate what S. 1176, if enacted, would say to such needed and struggling searchers for discoveries that would promote our national defense and add countless blessings also to the demands of our domestic lives. Remember that practically everything, even very ordinary articles, are useful in national defense.

If this bill should become law, it would give such essential inventors a very positive warning in advance that, if they should succeed in their worthy endeavors and undertakings, the Government would hasten to take their patents away from them. Remember also that an inventor has no protection for his discovery until he gets his patent. Accordingly, applications for patents appropriately are kept secret. But that salutary practice would be set aside under this bill and the Commissioner of Patents would be required to give the Administrator upon his request access even to pending patent applications.

In other words, an inventor could be deprived of the benefits of his discovery even before he would have any power to protect it. In effect the Administrator would be empowered simply to tell an inventor that he might as well try to make a living in some other way and forget all about his efforts to create something worthwhile. To the inventors, so many of whom are humble citizens the Government likely would not employ, that would mean "Goodby, incentive."

Complaint is being made by many of our citizens that in some important fields of progress and advancement our country is running second by centralizing in control of the Federal Government many of the liberties of our people and by making our States mere Federal districts. In the field of advantageous patentable discoveries to keep us preeminent, how can we expect a better status if we practically prohibit the contributions of patriotic citizens capable through their own research of improving vastly our international standing? Too many laws have been enacted already with this unfortunate trend.

If ours is the earnest wish "to promote the progress of science and useful arts," "to establish justice, insure domestic tranquillity, provide for the common defense, promote the general welfare, and secure the blessings of liberty to ourselves and our posterity," let us adhere to the sound and fundamental principles of the Constitution and not be diverted therefrom by the approval of such offside legislative proposals as are now being considered.

Mr. Chairman, in addition I quote a few very pertinent passages of a statement by Mr. John W. Anderson, who is the president of the National Patents Council, which is a nonprofit, educational organization of smaller manufacturers, inventors, researchers, and other professional groups devoted to the field of science and invention.

Now, his background will convince you that his views are worthy of very serious consideration, and I ask that his statement be placed in the record for careful study.

Senator McCLELLAN. The statement of Mr. Anderson will be printed in the record immediately following the testimony of Mr. Lanham.

Mr. LANHAM. I shall quote a few parts briefly as time will not permit reading all of it.

Senator McCLELLAN. Go ahead.

will take longer, be more costly, and be less likely to succeed than if the experienced company originally undertook to do the work,

I have tried to show that private ownership of inventions is not against the public interest, but rather, is in the public interest. Clearly this is the experience of the Nation with private enterprise and private initiatives. It seems to me that Government patent policy should be one which enables the Government to have the services of the most qualified organizations, and those with the most clearly pertinent background. That is the point I was trying to make.

Senator HART. You did not spell it out, but you implied in your exchange with our able chairman, on the question of a Federal patent agency, that perhaps the agency would not turn to the most qualified private sources if a policy was adopted as outlined in S. 1176 which created such an agency. You implied that you thought that perhaps it might not turn to what would appear to us to be the obvious sources. Is this because you feel that there may be sentiment in the country perhaps in the Congress, that in the long haul, we might be better served not to continue to build the few who are the obvious skilled sources, but seek affirmatively to generate additional sources?

Mr. HOLST. I did not mean to deal with that point at all, Mr. Senator.

Senator HART. Will you deal with it?

Mr. HOLST. Yes; I will. The point I was making was that I believed it will be rather difficult for a public agency, dealing with an invention which it feels has been created by public expenditures, to give anyone an exclusive right. If you cannot give an exclusive right for at least a limited period, I think it will be very difficult to get commercial exploitation which requires investment. That is the point I was making. I was not contending that it is not in the Nation's interest to develop second, third, or fourth sources. It seems to me if you have a flexible patent policy, you can do that, because the Government can, itself, place its orders for equipment with a second source knowingly. This is particularly easy if the Government is in the position of having had the back of the problem broken for it in the first instance by using the most competent organization. But this can be achieved under a license policy.

Senator HART. You are directing your reply to second sources of defense-related or, really, Government-related item?

Mr. HOLST. It really does not matter what field you are in. I think if you have a difficult problem, like a difficult medical problem, you take it to the best doctor. After the most able people have shown how to handle it, others can. At that point, it is safer and perhaps although not necessarily less expensive to turn to other sources or other organizations, if you think that is a desirable thing to do.

Senator HART. Certainly, when you relate it to our personal health, you want to go to the best doctor.

Mr. HOLST. If it is the Nation's interest to develop second sources—by all means, create second sources.

Senator HART. Is it not true that there is strong and not irresponsible opinion that there is an obligation on the Government to seek to avoid creating just a few giant doctors?

Mr. HOLST. Yes; there is such a sentiment.

dressed such conferees, pointing out to them the danger of enacting that bill with the patent provisions then included therein, as follows:

"Our membership is seriously hopeful that H.R. 12575 may not be finalized containing any patent provision that would in any way alter the U.S. patent system to deny inventions affecting astronautic and space developments any traditional status.

"You may remember that the atomic energy bill in the House was amended at the behest of our members, who are smaller manufacturers, to give atomic energy inventions conventional patent status. Under severe executive pressures the Senate-House conference committee sent the bill back to the House in its original form in which it was enacted after restoring provisions affecting patents which provisions many predicted would bring about the widely publicized conditions that have since ensued as affecting competitive international atomic energy developments.

"Our organization feels that if the even-more-drastic patent provisions now under consideration are enacted results will be deplorable and added loss would be irretrievable. Individual incentive to invent and develop would be destroyed. The broad long-pull incentives of American industry would be stifled. Control of personnel having access to top secrets would be removed from civilian responsibility. Impediments helpful only to our military competitors would be planted in critical operations with responsibility therefor carried solely by individuals having no direct accountability to prime sources of economic contributions to national defense.

"Haven't we suffered enough from the serious error made by deep-freezing inventive incentive through the Atomic Energy Act? Your good offices in promoting wide publicity as to the significance of the proposed legislation and urging exhaustive study, befroe enactment, of its probable consequences, we believe can earn you not only much future commendation but also deep personal satisfaction as a legislative leader."

It has been only a little more than 3 years since the space bill was enacted into law. Already it is evident, from reports from members of industry and of the patent law profession, that the patent provisions of the act have served as a sad deterrent, tending to discourage industry from engaging in any research in the subject field of activity.

For these and other reasons herein set forth, I strongly urge that this subcommittee consider rejecting S. 1176 and S. 1084.

WHY REPEAT DANGEROUS ERROR?

The patent provisions of the Space Act of 1958 provided for the Government acquiring outright title to inventions made during research contracts with the Space Administration. Similar provisions were included in the Atomic Energy Act, with the result that, as stated by Mr. David Lilienthal, former head of the Atomic Energy Commission, in his 1950 series of articles in Collier's magazine:

"No Soviet industrial monopoly is more completely owned by the state than is the industrial atom in free-enterprise America. The Government has today an ironclad, airtight and all-embracing legalized monopoly of this vast enterprise, and of the new industrial era the development of the atom could bring to this country."

We deal in this statement with substantially the same serious problems dealt with in my statement before the Joint Committee on Atomic Energy when, in behalf of National Patent Council and others, including my company, we opposed the enactment of the atomic energy bill with patent provisions equally violative of constitutional concepts as are those found in the proposed bills S. 1084 and S. 1176.

In Congress, the House in 1946 adopted our amendment to the Atomic Energy Act, by almost unanimous vote. The Senate-House conference committee—to whom the atomic energy bill was then referred—sent the bill back to the House in its original form—under assurances by the White House that the provisions for Government acquisition of patent rights and for modifications of the traditional functions of the patent system must be enacted without amendment and must stand until Russia agreed to international control of atomic energy and to internal inspection of atomic energy activity. Responsive to White House pressures, the committee yielded and, with the Congress under the befuddling panic the Bikini tests were certain to create, the bill was so enacted.

Mr. WRIGHT. Yes; it will call for a further investment, but one of the witnesses who preceded you has stated that the Department of Agriculture has a policy of making inventions freely available, and in large part, this had resulted in very extensive commercial development of those inventions, many without any grant of any exclusive privileges to any of the manufacturers who put in money to develop it.

I take it that in your judgment, that was because of the nature of those inventions? They were of such a kind that it was possible for somebody to go in and use them, whether or not he had exclusive privileges?

Mr. HOLST. That is right. If they are chemicals, for example, it frequently happens that a chemical company already has the raw material available from which to make the insecticide or the water-purifying agent.

Mr. WRIGHT. So that any kind of flexible policy which produced the best results, in your judgment, would have to be one, would it not, where you did not make a final decision as to who got title to the invention until at least after you saw what the invention was? Is that not so?

Mr. HOLST. That would be a very difficult policy to administer, I think, because the deterrent effect would probably prevail during the time that you are trying to enlist contractors.

Of course, if the agency had been in being for some time and had shown how it was going to operate, that would be different.

Mr. WRIGHT. We are trying to talk, as I understand it, of situations where you are not trying to enlist the aid of a contractor to make any particular invention. What I am asking you about is situations where the Government makes a contract with a contractor, not to invent something, but to carry out research and development in a particular field. Now, at that time, it is true, is it not, that neither the contractor nor the Government knows whether, in the course of carrying out that contract, any inventions are going to be produced? Is that not so?

Mr. HOLST. That is usually the case with a difficult research assignment.

Mr. WRIGHT. Yes, and the problem is, I suppose, how the Government can protect itself, best protect itself, at that time. One of the difficulties in framing any statute is to see that the Government is in a position, I suppose, where, in the event an invention does come out of that research that might be of such a nature that would be desirable for the Government, rather than the contractor, to have title, what kind of statutory provision would best protect that interest of the Government, the public, and everyone else, in seeing that that particular invention were treated in a way which would result in maximum public benefit?

Mr. HOLST. I am glad that you have reverted to the subject of maximum public benefit, because I tried to make this point, in my introductory comments. The Government agency—let us say that it is the Department of Agriculture which is looking for an insecticide that will withstand heavy rains, for example. What it is seeking is a successful insecticide, not a patent. Now we are trying to protect the public at large, both the farmers who want to get larger crops,

tremendous significance as to have required that our patent system, as affecting all three of those forces, be perverted, to place these new forces, and inventions for their application, under arbitrary control by governmental agencies. To achieve this control it was to be necessary to presume, in the gravest of subversive error, that Government could own, outright, patents in those three fields, whenever and wherever, in the opinion of a governmental agency, an invention was invested with power to affect our capacity for national defense. What invention has not that power, to some degree?

THE FRUITS OF PROPULSION BY INCENTIVE ARE EVERYWHERE AROUND YOU

To assist in restoring true perspective toward this problem of preserving incentive vital to our continued existence, may I challenge you, most respectfully, to name a single product of America, from building brick to battleships, that has not been made more useful, or more useful and less costly, or more readily available, because of one or more patentable inventions embodied in it or employed in equipment used in its production or transportation? You may search futilely for even one such product, throughout every room in your home, as well as throughout all your daily experiences, wherever you go and whatever you see. All the untold thousands of such inventions bring to you the blessings of our patent system.

Tragic it is, indeed, that familiarity makes us so blind to the true source of creative incentive that has brought, to us all, day-to-day advantages unknown, even to kings and potentates, in days before our Constitution.

Had inventors been handcuffed with relation to steam power, electric power, and the power of internal combustion, as they have been, and are, in the field of atomic power, what would be the state of our industrial economy today?

If the present enfeebled condition of our program for application of atomic energy to civilian needs is any criterion, we can be thankful that the techniques of bureaucratic control were not sufficiently advanced, at the time of their discovery, to have committed steam, electricity, and internal combustion to bureaucratic domination.

Have you asked yourself what is done to our national morale by the spectacle of our leaders whistling their way through the graveyard of our once-proud claims of world supremacy in science and invention—in this day when Russia alone commands a view of the dark side of the moon?

Any belief that we can prevent foreign infiltration of our governmental agencies, and thus prevent foreign acquisition of our atomic secrets, at the price of stifling our own inventors, unquestionably has proved fallacious. Our enemies have infiltrated our defense agencies to acquire our atomic and related inventions almost before we ourselves have had our facts officially established. It has been said that to keep fully abreast of what goes on in the atomic energy field in America one should have reliable sources of information in enemy countries.

Can we longer afford to support laws that stifle inventive incentive in America?

Questions herein are asked not idly, but rather in the hope that they may help spur us to take all the handcuffs off America's researchers, inventors, and manufacturers.

A DARK DAY IN OUR HISTORY

History will record, as one of our darkest, the day of our first departure in the Atomic Energy Act of 1946 from the constitutional concept of unrestrained incentive to create and produce for our needs of today and for our dangers of tomorrow. Can your committee, and our Congress, possibly ignore the resultant extremity in which we find ourselves? Can they ignore their obligation to restore—in our law—the only incentives that can save us from the destruction invited by our previous errors? Even a little later may prove too late.

Your committee has ample authority to determine the extremity to which Government cartels in U.S. patents have been employed to perpetrate almost unbelievable economic atrocities, sufficiently known, in the areas affected, to have disabled competent and loyal contractors and to have spread, in and far beyond those areas, discouragement to create and produce.

A VOICE TO BE HEARD

In the November 1959 edition of the magazine Electrochemical Design, Robert R. Lent, formerly an Air Force major associated with Administration of Research and Development at Air Force Headquarters, authored an article entitled "Government Erosion of the Patent Right." Mr. Lent presented, from

hard case to argue for. But I think you are dealing with a contractor, in the situation which you mentioned, which has been following a policy of spending considerable sums on its own self-sponsored research programs, and it naturally is looking for the output of its factories to pay for that research program and make it possible. So I would say a flexible policy which can take into account the relative investment and relative merits of the case is the proper answer.

Mr. WRIGHT. If I understand you correctly, then, according to your position, the Government could and should make substantial contributions to a contractor's commercial research and development program or to the development of his inventions, and receive no rights in the resulting inventions, providing that what the Government puts in, no matter how large it may be, is regarded as relatively small compared to what the contractor has put into those independent programs resulting in the inventions, is that right?

Mr. HOLST. Obviously, you can drive the argument to a ridiculous conclusion, by which the contractor has spent $1 and the Government spends $1 million. But as a matter of fact, that is not the usual situation.

Mr. WRIGHT. I am talking about the unusual situation. But as to engineers or any of your clients, if you had an invention that you had spent a lot of money in developing, which needed $100,000 more, or another $1 million to really perfect it, would you be able to go out and get that money you needed from anybody and still get it on terms which gave him no rights in the invention?

Mr. HOLST. Yes; that is the normal experience of a company borrowing on its general credit or soliciting——

Mr. WRIGHT. I am not talking about borrowing, I am talking about somebody actually, as the Government does, handing over the money that is needed to do the job on, in effect, a grant or contract basis; can you go out and get that kind of money from anyone else to develop an invention and perfect your own commercial research wthout giving any rights in the resulting inventions?

Mr. HOLST. It is not possible, but remember, what does the buyer want? Does he want a successful airplane, flying at an altogether new speed, or does he want a patent, or does he want some rights in a patent?

Mr. WRIGHT. My question is addressed to the specific problem, where there is an identified invention that you have made, you have not made a practical reduction to practice, and you are being given money to actually reduce it. I cannot understand, under what rationale, even if the Government puts in $1 and you put in $1,000, the Government should not at least be in a position to recoup from whatever profits you may make out of exploitation of the invention, its $1; why you should expect to be given money for that purpose.

Mr. HOLST. I favor the flexible policy which can deal with the equities.

Senator MCCLELLAN. One thing, one factor in that regard. The Government is not going to give him money in any instance. It expects to receive the right of use and also the expedition of achieving the goal. Those two benefits would accrue to the Government, potentially so.

Mr. HOLST. That is right.

"(2) To do so would be to place this Government in an embarrassing position with relation to any decision to deny to foreign countries the right to acquire U.S. letters patent—and thereby to amass pools of patents in this country, with all the accompanying implications of power to obstruct and coerce American industry.

"(3) This council has long recommended the enactment of a Federal statute providing that whenever any government, our own included, becomes the owner of any U.S. patent that patent be forthwith at an end, with the same effect as its normal expiration by time limitation.

"(4) For our Government to attempt ownership or control of any U.S. letters patent, other than possession of rights thereunder to employ the invention for governmental uses only, such as for war, would be a perversion of the basic principle of our patent law and would be contrary to the intent of the Constitution of the United States.

"(5) A patent grants only a negative right. That right is to exclude others, for the limited period of 17 years, from manufacture, sale, and/or use of the invention—at the will of the patent owner, and to any extent he may desire.

"(6) When our Government, which is presumed to be the entire citizenry, acquires a patent, that patent by every constitutional intent automatically expires, because there is none left to exclude. To hold differently is to hold that our Government has become a competitive device imposed upon the citizen and deriving its powers arbitrarily from a source apart from any formalized expression of the will of its people. The Government, which has granted the patent, in presuming to own it places itself in the untenable position of having vested in itself, without authority, a right which clearly, by constitutional intent, can be possessed only by the citizen.

"(7) And may not the citizen, who has heard much from certain departments of our Government about the constricting evils of cartels, ask by what conception of consistency those same departments now propose to elevate the cartel to the dignity, and destructive power, of a device employed by government itself?

"(8) It is therefore the recommendation of the council that the U.S. Government refrain also from acquiring patents in foreign countries. It recommends instead that the inventor or his assignee, other than the Government, determine whether or not to proceed 'to acquire and maintain patent protection abroad.' It is recommended that our Government refrain from obstructing in any way such action, and refrain from any participation in control of any patents so obtained by U.S. nationals.

"(9) It is not regarded as objectionable that wherever contributions by our Government to the processes of research and invention may justify, royalty-free licenses under patents be acquired by our Government for the uses and purposes of Government only, as for war, and not in any event for civilian uses or for any uses competitive to civilian manufacture, sale, and/or use."

Any patent provision in a Government contract requiring the contractor to assign to Government the entire right, title, and interest in any invention made in the performance of that contract serves only to deter contractors from entering fields of activity important to our security. Rather than face such hazards, many contractors and inventors naturally prefer to concentrate their research efforts and facilities to the development of inventions not confiscated by Government and thereby unlawfully restricted from commercial application by patent provisions such as those found in S. 1176.

Our Government should be satisfied to acquire "an irrevocable, nonexclusive, royalty-free license to practice or cause to be practiced by or for the U.S. Government for its uses only, any such invention, improvement, or discovery" as may be made in the performance of any Government contract. This would impose no military handicap upon Government. And, at the same time, it would restore incentive for the contractor to pursue, for commercial use, the development of such inventions.

WHO SPREADS THIS FALSE ASSURANCE?

In the November 23, 1959, issue of Detroit Free Press there occurred an erroneous statement, frequently encountered, promoting a serious misunderstanding of the status of patents presumed to be owned by Government. That statement said, in a press release with a Washington dateline, devoted to Senator Russell B. Long's Senate Small Business Committee's "monopoly committee," that "when the Government retains patent rights a new invention generally becomes part of the public domain, available to anyone."

business, would they? Would they not continue to seek, regretting that the law prohibited them from getting these delightful surprises—would they not continue to be available for Government business?

Mr. HOLST. That has been your experience, but there is also experience that you do not know about of various sections of companies and various engineers and scientists, and so on within companies, having a choice of working on commercial or military assignments, and asking, preferentially, to be on one or the other field. It is certainly a fact that the General Motors and the GE's, and the Arthur D. Littles are all working for the Government. I cannnot deny that; not always with enthusiasm, but I cannot deny it.

Senator HART. That is the point I would think the record would reflect.

Mr. HOLST. Yes, but do not forget, as I mentioned to the chairman, how do you create the most public good? First, does the Government agency, the Department of Defense or any other, get its problems solved?

Second, how do you get the things into most widespread use in the shortest possible time? Is merely making a Government-owned patent available to all as effective as allowing it to remain with the contractor, giving the Government the right to use second sources if it wishes, but giving the commercial oragnization the right to exploit it commercially, a preferable policy?

Senator HART. I am conscious of the second point, but I was trying to get back to the first one, the disappearance of suppliers.

Mr. HOLST. I am not saying that we shall not work for you; I am not saying that.

Senator MCCLELLAN. Is there anything further?

(No response.)

Senator MCCLELLAN. Thank you very much.

The committee will stand in recess until 2 o'clock.

Mr. HOLST. Thank you.

(Whereupon, at 12:15 p.m., the committee was recessed, to reconvene at 2 p.m., the same day.)

AFTERNOON SESSION

Senator MCCLELLAN. All right, the committee will resume.

Call the next witness.

Mr. WRIGHT. General Services Administration.

Senator MCCLELLAN. Is there someone here representing General Services Administration?

STATEMENT OF PHIL W. JORDAN, DEPUTY ASSISTANT COMMISSIONER, OFFICE OF PROCUREMENT POLICY, GENERAL SERVICES ADMINISTRATION; ACCOMPANIED BY J. H. MACOMBER, GENERAL COUNSEL, GENERAL SERVICES ADMINISTRATION

Mr. JORDAN. Good afternoon, Mr. Chairman.

I am Phil W. Jordan of the General Services Administration, the Deputy Assistant Commissioner of the Office of Procurement Policy. And with me is Mr. J. H. Macomber, Jr., the General Counsel of General Services.

"(b) What patents or applications, if any, the applicant for license is willing to cross-license to the Government as consideration for the license to him.

"(c) The experience and facilities he has that will enable him to exercise such a license with benefit to the public.

"(d) Where will the manufacturing be done."

That letter enclosed a form of contract to be signed by the citizen, if it is decided by Government that he is entitled to a license. That contract makes the licensed citizen subservient to Government in a number of ways. He must submit statements "setting forth the experience and know-how acquired by licensee in the exercise of this license." The most ruthless provision, which leaves the licensee and his investments completely at the mercy of the Government, reads "that Government may revoke this license, after written notice to licensee and an opportunity given for licensee to be heard in the matter, upon a finding by Government that licensee has knowingly committed any breach of this license or that it is otherwise in the public interest that this license be revoked."

In its reply the Tennessee Valley Authority, by Joseph C. Swidler, General Counsel, asks for the identity of the applicant and his business, and closes his letter by saying:

"We will then advise him as to whether and under what general terms the license may be granted."

The Treasury Department replies that after receipt of further information it "will indicate the conditions subject to which the grant might be made and the form and content of the requisite application of request."

The Department of the Interior enclosed four pages of "Regulations of the Department relating to such licenses." The regulations state that the Government shall "determine whether the license shall be granted."

The licensee may be required to submit technical or statistical reports concerning the experience acquired through exercise of the license which provides for revocation by Government if it finds the terms of the license have been violated and that revocation is in the public interest. The regulations state that "a cross-licensing agreement may be considered adequate consideration."

The Department of the Army states that "consideration will be given to the application" upon receipt of certain information requested in its letter.

The Department of Commerce asks for information and says, "Upon receipt of this information the matter will be submitted to the Bureau concerned for its recommendation."

The Federal Security Agency states, "Licenses generally have been issued on a revocable, nontransferable, nonexclusive, royalty-free basis."

The Office of Alien Property, Department of Justice, states that patents "are being licensed on a revocable nonexclusive royalty-free basis under our standard terms."

The Department of Agriculture, as to its licenses, states, "They are also made revocable, and nontransferable, but the Department would not, of course, revoke a license except on good reason. * * *"

A condition common to nearly all such licenses is that the license may be revoked arbitrarily by Government. That makes the license a very hazardous thing for the citizen. No citizen can hope to benefit by a license unless he first invests considerable money for production and distribution. Men in business are not inclined to make such investments on any confidence they have been able to generate in the stability of persons who might exercise for Government and "in the public interest" such revocation privileges.

Here we see Government holding tenaciously to its controls of rights under patents in its expanding pools. The Antitrust Division of the Department of Justice denounces restrictive licenses, patent pools, and requirements that licensees grant rights to licensors under improvement patents. Nevertheless, Government itself proceeds to issue restrictive licenses, and builds patent pools by demanding not only rights under improvement patents but also "experience reports" transmitting "know-how."

Senator McCLELLAN. Thank you, Mr. Lanham.

If I interpret correctly your statement, you feel that for the Government to receive a royalty-free license is ample reward for any financial investment it may have made, in the research from which the invention may have been developed?

instance would be the most desirable for the Government and that it should be adopted as a firm national policy. In summary, we are not convinced that there is the necessity for one uniform Government policy on the subject which we would recommend be prescribed for all agencies regardless of the nature of their mission.

The Bureau of the Budget has advised that, from the standpoint of the administration's program, there is no objection to the submission of this report to your committee.

Sincerely yours,

JOHN L. MOORE, *Administrator.*

GENERAL SERVICES ADMINISTRATION,
Washington, D.C., April 21, 1961.

Hon. JOHN L. MCCLELLAN,
Chairman, Subcommittee on Patents, Trademarks, and Copyrights, Committee on the Judiciary, U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: Reference is made to your request for the views of the General Services Administration on S. 1176, 87th Congress, a bill to prescribe a national policy with respect to the acquisition and disposition of proprietary rights in scientific and technical information obtained and inventions made through the expenditure of public funds; to establish in the executive branch of the Government a Federal Inventions Administration to administer in the public interest the proprietary rights of the United States with respect to such information and inventions; to encourage the contribution to the United States of inventions of significant value for national defense, public health, or any national scientific program; and for other purposes.

The bill is intended to provide for the retention by the United States of full proprietary rights to all scientific and technological devices and inventions resulting from the application of resources of the U.S. Government, and also to provide for the administration and use of the Government's proprietary rights to promote the maximum practicable dissemination and use of such discoveries. For such purpose, the bill would establish a new Federal Inventions Administration charged with the responsibility for protecting, promoting, and administering the proprietary rights of the United States with respect to inventions made and scientific and technological information obtained through contracts, leases, grants, and other activities conducted by executive agencies. In addition, the bill provides for a program, under the direction of the new administration, of awards for certain inventive contributions.

GSA favors several of the features of S. 1176 but does not recommend enactment of the bill. It is believed that the "exclusive right and title" policy expressed in the bill does not provide the flexibility generally desirable in negotiating contracts required to meet the research and development programs of the Government, and further, that enactment would deter normal and desirable efforts of supply contractors to achieve product improvement during the period of performance of a Government contract.

While GSA does not make research grants or carry on extensive research and development programs, we have followed, with minor exception, the license concept in the relatively few research contracts awarded by GSA in recent years. Based on our limited experience, we feel that there are situations where insistence upon an "exclusive right and title" policy may disrupt vital research and development programs. On the other hand, we recognize that there are programs which may reasonably be viewed as not only justifying but requiring acquisition by the United States of right and title to an invention resulting from research financed with public funds. Accordingly, it is our view that a rigid national policy is not desirable. The authority in the Administrator of Federal Inventions to grant waivers does provide for a certain degree of relaxation of that rigid policy but appears to us to involve an unsound diffusion of procurement responsibility and to be so cumbersome that it will be relatively ineffective in providing the requisite flexibility.

With respect to the normal Government supply contract (as distinguished from contracts for research and development) the provisions of S. 1176 appear to vest in the United States all the right and title to inventions, discoveries, improvements or innovations made in the performance of the contract if they are "directly related to the subject matter of such contract." Contractors, subcontractors, and grantees would retain no rights to such inventions, but could apply to the new Federal Inventions Administration for a nonexclusive royalty

trary to the protection that is already granted, except to the extent of serving the Government in that period of crisis.

Mr. LANHAM. But, Mr. Chairman, if that authority, as provided in this bill, is given to an Administrator, we are going to lose the unhampered efforts and the industry of the inventive, creative genius of our country. Naturally, the primary impulse of the inventors, while they wish to do something for their country, is to help themselves, to get something that will commercially put money in their pockets.

Senator MCCLELLAN. Do you think any of this legislation would simply destroy incentive in the individual, and that is a source from which invention must come, the minds of individuals?

Mr. LANHAM. That is right, it must come from the minds of individuals. And as I have indicated, many of our very best investors, whose names have become well known and famous throughout the world, have been very humble folk that the Government likely never would have employed in the first place.

Senator MCCLELLAN. Are there any questions?

Mr. WRIGHT. No.

Senator MCCLELLAN. Thank you very much. Good to see you again.

Mr. LANHAM. Thank you very much, Mr. Chairman.

Senator MCCLELLAN. Our next witness is Mr. Sunstein.

Will you come around, please, sir?

Be seated, please, sir and identify yourself for the record.

STATEMENT OF DAVID E. SUNSTEIN, BALA-CYNWYD, PA.

Mr. SUNSTEIN. I am David Sunstein, of Bala-Cynwyd, Pa.

Senator MCCLELLAN. Are you with some organization?

Mr. SUNSTEIN. I am employed, but I am speaking as an individual. I can give my qualifications.

Senator MCCLELLAN. All right, give a little background so he who reads might know more about you.

Mr. SUNSTEIN. First, I would like to thank you for inviting me to testify. I have made no written statement, and that was done for two reasons: (1) the pressing of time; and (2) I think it might be more beneficial to your committee if this were conducted informally from my standpoint.

Senator MCCLELLAN. We are perfectly willing, as you like. Just proceed and make any statement that you think will be informative and helpful to the committee.

Mr. SUNSTEIN. Thank you.

First, as to qualifications, I am not a lawyer, but from my past experience, I have feelings on the interaction between law and inventions and on getting inventions into public use.

I am an inventor. There are about, I would guess, 65 to perhaps 70 patents that are issued in my name in the United States, others pending. I received a bachelor of science degree from MIT in 1940, with honors. I am a professional engineer in the State of Pennsylvania, a fellow of the Institute of Radio Engineers.

I am chairman of the Research and Development Committee of the Philadelphia Chamber of Commerce and a member of organizations such as the American Society of Inventors, the Franklin Institute, the Pennsylvania Society of Professional Engineers.

subject to certain patent restrictions. The Du Pont Co. has waived its right of first refusal for the purchase of that plant and has agreed to license any other purchaser. Negotiations for the sale of the plant to General Dynamics Corps. have been terminated, and further steps are now being explored for the sale of that plant.

The Cactus Ordnance Works at Dumas, Tex., is designed for the production of anhydrous ammonia. There are no patent or license problems connected with the sale of this plant which is now under lease to Phillips Petroleum Co. No efforts are being made to sell the plant until the expiration of the lease to Phillips Petroleum Co. in 1963.

The San Jacinto Ordnance Works in Harris County, Tex., is designed for the production of anhydrous ammonia. The plant has now been sold by sealed bid to Smith-Douglas Co., Inc., which had been operating the plant for a period of 5 years under a lease arrangement. In order to operate the plant, Smith-Douglas Co., Inc., had to acquire certain patent licenses from Hercules Powder Co., the original operator, and two French corporations, L'Air Liquide and Societe Chimique de la Grande Paroisse.

GSA has recently received from the Patent, Trademark, and Copyright Foundation of the George Washington University a report of a factfinding study of the patent policy practices of the Government undertaken pursuant to a contract with GSA. The patent policy problem has been under consideration for some time by a special interagency study group formed by GSA and under the chairmanship of the former Commissioner of Patents. After initial study of the subject, the group felt that additional factual information was necessary before formulation of recommendations. Accordingly, GSA entered into a contract with the foundation providing for the development of factual information reflecting both Government and private industry experience under practices heretofore followed. The study group now has report of the foundation under consideration. It should be made clear that the tentative conclusions and recommendations of the report are those of its authors and have not been adopted as recommendations of the study group.

Sincerely yours,

JOHN L. MOORE, *Administrator.*

Mr. JORDAN. In these letters we had pointed out, Mr. Chairman, that in the General Services Administration we only have had limited practical experience with research and development contracts and patent problems generally. However, in both of these letters commenting upon legislation we express the view that we felt that flexibility was both desirable and necessary on this matter of ownership of patents arising from Government-financed contracts.

Senator MCCLELLAN. You think there can be or should be a rigid policy of uniformity with respect to all inventions arising out of Government-financed operations?

Mr. JORDAN. No, sir, we do not.

Senator MCCLELLAN. Do you think there can't be or shouldn't be?

Mr. JORDAN. We do not believe it is in the best interests of the Government to be frozen into a rigid policy.

Senator MCCLELLAN. Do you think one agency might well have one policy and another agency a different policy?

Mr. JORDAN. Yes, sir, and even within the same agency the circumstances might warrant a different policy approach with respect to different programs within the agency.

Senator MCCLELLAN. Well, the circumstance might warrant an exception or some modification, but you wouldn't say——

What I am trying to determine is primarily with respect to an overall policy. Should it be the overall policy of the Government to take title where it furnishes a substantial part of the financing in the research program? Or should it simply take a license, royalty-free license?

That strikes it off with the broad aspects of it.

provide himself faith in thoughts he has which he knows to be incomplete at the time they are first conceived, in order that he or others working with him can bring about a successful completion of the invention and commercial exploitation.

Well, that is only one aspect of it, but essentially the incentive for invention should be placed upon the inventor so that the incentive for getting the invention put to use would exist with the inventor. That incentive has been, in some measure, already removed by existing operations—not by law, to my knowledge, but just by custom, which makes it so that inventors who are in the employ of commercial organizations or, for all I know, in the employ of the Government, are required as a condition of employment to divest themselves before the fact of any creative ideas they may have, without any contemplation of just compensation for that.

Senator McCLELLAN. So you think they then immediately say, well, even if they have a thought, have an idea, they will not pursue it, there is no incentive for them to pursue it?

Mr. SUNSTEIN. That is partially true even now, and that trend should be reversed back to what existed prior to 60 years ago.

There was then very little invention that took place other than by the one-man "attic" inventor. Now inventions take place in large organizations, but they still take place only in the minds of individuals in those large organizations, and usually only in the mind of one individual—sometimes two or three, but it is still a small number of people for any given invention. There's already the condition that has grown up in the past—I do not know over how many years—that, as a condition of employment in such organizations, one is frequently required to divest himself without just consideration of his rights to ideas that are not yet conceived in the manner that he might have been required but is not yet required to divest himself of inheritances he might receive.

Senator McCLELLAN. You think it has already had an impact, the very fact that they are required to divest themselves of their ideas?

Mr. SUNSTEIN. Yes, I think that has already had an impact and it has been in the wrong direction.

I think it is possible to provide an environment in which inventors are rewarded for their invention, even when they are working in organizations with several other inventors. In fact, in the small organization I am connected with, we have provided such an environment. We have not gone as far as we would perhaps like if it were not for competitive conditions being otherwise, practiced generally throughout the industry, but we have made a very honest attempt to reward inventors for the value of their inventions by judging them after the invention, not as a part of salary, but in consideration of the value of the assignment of that invention to the corporation, which value is redetermined from time to time by a committee set up for that purpose.

This sort of environment has proven to be one which I think is partially responsible for an unusually creative amount of output from the very small number of individuals in the organization.

I think that the practice that exists widely elsewhere now in industry, and under which the Government would seek through the proposed legislation to take title to patents created in connection with

the title and further exploration of the invention commercially, and so forth, in the hands of private enterprise, is the question.

Mr. MACOMBER. Well, we would think, Mr. Chairman, that the natural starting point for the policy would be that you start with the idea that, other things being equal, the Government takes title, but recognizing at the same time that we say that there will be many, many instances where exceptions of greater or lesser extent must be made to give essential equity.

Senator MCCLELLAN. I appreciate that. I may be wrong, but I still believe we ought to start with one premise or the other, not with both of them, in order to legislate, in order to develop rules or policies of administration. We ought to start with one or the other.

Mr. MACOMBER. Yes, sir.

Senator MCCLELLAN. You might start with one on the licensing, just taking the license and saying there are exceptions and the Government ought to take title. Well, I think we ought to start with something. I am trying to get a starting point.

Who do you say ought to be the starting point?

Mr. MACOMBER. Well, I am not sure that I speak for the agency on this point because it is not covered in our letters, but I would say that the natural starting point would be that the Government takes title subject to exceptions which——

Senator MCCLELLAN. Whoever finances it, if it is a product of Government financing, the Government takes title. Would you start with that?

Mr. MACOMBER. But recognizing that immediately you run into all kinds of exceptions depending upon the nature of the invention, the degree of background furnished by the contractor, the relative financial contributions to the particular research, and a number of other things.

Senator MCCLELLAN. If we are going to start without any exceptions, just going to say no cases involved at all except where the Government furnished all the money and as a result of the research done, a discovery was made and an invention resulted, who should get it? Should the Government just get a license to use it or should it get title? We start with one or the other.

Mr. JORDAN. Our difficulty as we have analyzed this problem, Mr. Chairman, is that we considered that when we make a selection of one or the other—and we have considered this—and we find ourselves identifying this as a departure point rather than as a policy——

Senator MCCLELLAN. As a what?

Mr. JORDAN. As a departure point. In other words, it is a point from which you start making exceptions, if we accept title as a policy——

Senator MCCLELLAN. Then I will call it a starting point from here on. I don't care whether we call it policy or starting point. You can't start from both directions.

Mr. JORDAN. That is true, absolutely.

Senator MCCLELLAN. I was just trying to nail it down, where we should start from.

I think, frankly, we ought to start from the position that the Government owns what it buys and pays for, or what it has developed as a result of work that it authorizes be done.

ments with the Government to do research, and I assume they found it profitable.

Mr. SUNSTEIN. They may find they are in a sort of rat race in one respect in that, having built up a staff of a given size, it may be to their overall benefit to augment their abilities to provide job opportunities for their graduate students and extra aid for their professors by having research and development grants in house. I cannot speak for the universities generally to know whether or not they lose money or make money on their contracts. I think, being nonprofit organizations, they generally operate without profit as such.

But I do know that in any contacts I have ever seen with industry on research and development work, conducted for the benefit of the Government by industry, the Government, in its cost principles, does not allow any payment at all for assignment of title to the Government on inventions that are either conceived or first reduced to practice under a contract.

The Government gets at least a royalty-free right with the Department of Defense, and, in other agencies, may take full title. In fact, in some agencies, the Government right now operates to require industry to pay to the Government a royalty for its use of the invention up to the amount of the contract.

Now, in general, when the Government contracts for work with industry, it does it for the benefit of the Government. It seeks delivery of models of equipment to perform specific functions, or it seeks analysis of the merits or comparative merits of different ideas or different systems. In general, it gets the work it paid for, without any invention. There may be employed on those jobs people who are capable of invention. Their employment is not guaranteed by the Government. The Government contracts for a specific period of time (usually for a year or less) and for specific work, with the contractor, and the contractor must seek continued new business with the Government once it has, to a degree, become dependent on Government business by virtue of having established the Government as a prime customer. So industry takes the risk of employing the individuals, the Government may give the contractor contracts from time to time, but the Government has not paid for the past talents of the individuals that have gone into this contract, or their assignment of title or rights to any invention. The Government pays the going wage of the individual for performing that work, plus the overhead that may be associated with it, and so on. But they do not pay for assignments of either royalty-free rights or title on inventions that are related to that.

I think that the equities would be clarified somewhat further, too, if the history of an invention in connection with Government jobs were separated into the several possible types of conditions under which inventions may arise, in which the Government plays a part through its contracts or contractors.

In one case, there may be an inventor who is not working on a Government contract who conceives an idea which he feels would be of benefit to the Government. If this inventor is in a large corporation, that corporation may be in a position to reduce that idea to practice prior to seeking any Government contract. In a small business, it is very rare that a reduction to practice can be made prior to seeking a Government contract.

Senator McCLELLAN. Well, I think the Chair had in mind a while ago, after you laid the foundation of the starting point, you might very well have to have some tribunal, some agency to evaluate the different equities and so forth and make some ruling. I wasn't ruling out the provisions of S. 1176. I didn't mean to do that. I meant to start with the case where the Government furnishes the money, lets out a contract to do research and, as a result of that research, some discovery is made, some invention is discovered that can be patented and is patented, to start with the premise that that title belongs to the Government.

But again we would have to make the exceptions. You could only set out possibly in the statute in broad outline the things to be considered and then leave the ultimate discretion or adjudication with respect to merit in some tribunal or some agency that the law would establish for that purpose.

I still believe you have got to start with one base or the other. Either the Government has the right to accept the license or that you take title except where certain situations intervene that present equities that ought to be taken into account in adjudicating the rights as between the Government and the intervenor or the discoverer.

Mr. MACOMBER. Right.

Senator McCLELLAN. All right, counsel.

Mr. WRIGHT. I just have a couple of questions.

I wonder how you would feel about a bill which, let us say, just took the title approach and then simply required that after the invention was made—this is on any kind of contract—then the agency itself could decide whether the contract or the Government should take title and what should be done with it, but would be required to make a record of the reasons, a public record of whatever reasons led it to do what it did. Do you feel that kind of flexibility would be satisfactory?

Mr. MACOMBER. Mr. Wright, I can't speak from any experience that our agency has had in answer to that question, but, from listening to the testimony at these hearings, it would seem to me that perhaps that would not go quite far enough to preserve this incentive that we have heard so much about, that your contractor, with the great amount of background and prior effort in the area, might be somewhat less than enthusiastic about devoting his best talent to a particular research program without knowing what benefits incentivewise he would derive until after the invention had been patented.

Mr. WRIGHT. Really in no event, insofar as you are talking about an incentive that grows out of title to some invention that hasn't been made or conceived of at the time the contract is negotiated, there isn't any way that either the Government or the contractor can make any kind of incentive evaluation of some inventions that might theoretically come out of the contract, is there?

Mr. MACOMBER. Well, no, no precise evaluation certainly.

Mr. WRIGHT. An evaluation of any kind. Is either party then in a position to say at the time they negotiate the contract how much, if any, incentive is going to result from who gets title to some invention that then hasn't even been thought of? They don't even know whether there is going to be any.

Mr. MACOMBER. Well, the incentive I am talking about is not the incentive of a particular invention but the incentive of having some assurance of being in a position to exploit the invention if it is made.

it were not for technology created by private industry on the expectation of return from patents on television prior to the war.

Electronic digital computers, which are necessary for control of nearly all activities that go on in this country now, including space flights, in large measure got their start from two inventors, John Mauchley and Pres Echert, who started a very small business about 15 years ago, with the incentive of retention of all commercial patent rights.

New technology really feeds on old inventions. The rate at which the airplane industry progressed was dependent upon having an aluminum industry earlier built up. Similarly, the rate at which this country can progress in any new field now, take it as space or other fields not now forseen, is dependent in large measure on the rate at which other technology can be applied to these new fields. And that, in turn, will be increased enormously if the incentive is restored to the individuals responsible for bringing about the technological improvements.

These new industries, of course, have supplied economic employment for the country in ever-increasing scale. The country seems to need a new large industry every 10 years to keep its economy healthy. These new industries will usually arise from a small business that has some incentive for carrying these ideas forth. Our patent system has provided a necessary economic ingredient for that, and I think the whole system is in great jeopardy as to at least half of the inventors in the country, if there is not private retention of inventions, because the other half will find it necessary to adopt regulations comparable to the first half, which will remove nearly all incentive.

I think that instead of the sort of legislation that I have seen considered, if there is any further legislation needed it should be such as to correct existing inequities, to insure that there is private incentive for the taking of risks necessary to bring inventions into public use, to insure that any firms undertaking contracts with the Government for research and development work provide just reward to their inventors for the value of their inventions, and this cannot be done under the contract during which an idea is conceived because the value is not realized until later.

The contractor should further be required to insure that if the contractor does not make use of inventions conceived by his staff, the inventor has the right to do so on his own behalf.

It is this sort of thing that I think should be provided, rather than a removal of incentives through taking over title into hands which, despite perfectly good intentions, would inherently reduce the rate of progress.

I might cite one example of where there was published and known to anyone who read it a very good description of television in 1906, electronic television, with electronic scanning and a cathode-ray tube, and photoelectric cells, and so on. Making public knowledge of a concept does not insure its use. There needs to be much development from that point on before the public can benefit, and that development needs private incentive, and the incentive should lie with the inventor or the person to whom he transfers some rights with expectations of some rewards for himself.

Senator McClellan. Very good, sir.

Are there any questions?

in a position to transfer not only title to the physical property but the right to use whatever inventions are essential to an efficient use of that property?

Mr. MACOMBER. Well, I can only say, Mr. Wright, that I can certainly conceive of an instance where it might make a great deal of difference, but so far as the specific instances that we have had are concerned, we cannot point to any case where it—where we have found it has made any substantial difference in the price we could obtain.

Mr. WRIGHT. It is a little difficult for me to see how you know that. How will you know just what you could get? How do you know you couldn't have gotten more if you had been in a position to give the buyer not only the physical property but rights and patented processes that were essential to its use?

Mr. MACOMBER. Well, we don't know positively, of course, because we haven't been able to offer it both ways, Mr. Wright. But it is really a matter of judgment.

Mr. WRIGHT. You do have a number of facilities now where you cannot offer to the buyer an unrestricted right to use the processes, the patented processes that are essential to its operation, do you not?

Mr. MACOMBER. I don't know about a number. There are very few, and in some of those cases at least, Mr. Wright, the inability to furnish the buyer with the patent rights appears not to be a handicap because no potential buyer who would use the plant for the purposes for which it was constructed has shown any interest in purchasing it.

Mr. WRIGHT. Yes, I think I understand what you are saying. You are saying that only because the purchaser is going to buy it and use it for the same purpose you were using it and frequently you find he has an entirely different use in mind, in which case I suppose he doesn't care what these patents involved in the prior use.

Mr. MACOMBER. It just happened in a number of these cases where we have not had the patent rights to transfer, the process was obsolete or was a high-cost process or something of that kind, so that when we finally came to sell the plant it was to a buyer who proposed to use it for an entirely different purpose.

Mr. WRIGHT. But you would agree in general if you were going out and financing a plant tomorrow that the Government, to protect its interest, would insist, wouldn't it, before it pours out a million dollars into a plant, that it did have the right to control whatever patented processes might be necessary to the operation of that plant for the purpose it was interested in?

Mr. MACOMBER. Well, I certainly think it would be desirable that the Government have not only a license but an assignable license.

Mr. WRIGHT. Yes. Thank you.

Senator MCCLELLAN. All right. Anything further?

Thank you very much, gentlemen.

Senator MCCLELLAN. Mr. Wenchel, come up, please, sir.

Identify yourself for the record.

such licensees after we recover the costs of obtaining the license. It is realized, of course, that we have experiences in connection with several that do not result in any income to the company, but only expense. So we adopted this roughly 20-percent figure as one that appeared to be equitable. It may be changed upward or downward from time to time, perhaps, but it appears equitable at the moment.

Now, if we use any patentable invention on which we have a proprietary position—that is, rights which have not been given away to the Government—if we use such invention in one of the products that we sell, we pay to the inventor, again in consideration of his assignment to General Atronics of the invention, a payment which is expected to be generally between zero and 5 percent of the net amount of the sale.

Now, the word "zero" is left in there because there may be some inventions which are trivial, having to do with, say, screw plating in the whole radar system, and the amount of very close to zero of the whole value of the radar may go to the plating of the screw. But, on the other hand, if the reason for the radar business having been brought about can be laid to the inventions, then the amount of payment in consideration of assignment of that invention to the company would be a significant percentage.

Right now we are paying something on the order of 3 percent on some articles we are making.

Mr. WRIGHT. Would you favor legislation which gave contractors who undertake to see that the individual inventors themselves are awarded, to the extent that their inventions prove commercially successful, or would you care for legislation that gave contractors of that kind a perferred position over those which, in the normal case, simply take title to the invention of the employee, he receiving no more award than is——

Mr. SUNSTEIN. Very much so.

Mr. WRIGHT. You have no specific proposal along that line, though?

Mr. SUNSTEIN. Well, I have not tried drafting a bill ready for submission, if that is what you mean.

Mr. WRIGHT. That is all I was interested in.

You said, I think, that you worked for big business for 15 years, but you did not give us the name of the company. Could you tell us who that was?

Mr. SUNSTEIN. That was Philco Corp.

Mr. WRIGHT. You worked for Philco for 15 years.

When you were with Philco, did you make any inventions during that period?

Mr. SUNSTEIN. Yes.

Mr. WRIGHT. Those were assigned to Philco?

Mr. SUNSTEIN. Those were assigned to Philco for no consideration.

Mr. WRIGHT. You were not given any share in the proceeds, if any, or commercial profits from the invention?

Mr. SUNSTEIN. No.

Mr. WRIGHT. We had a witness here earlier, representing the Federal Aviation Agency, who explained to us the policy they were instituting of attempting to recover for the Government the amount of its R. & D. expenditures from the contractor to the extent that the contractor was able to make a profitable use of whatever patented items the R. & D. developed.

How does that plan appeal to you?

partment does not look to any impairment of its research and development program.

Both bills, however, cover a much wider field than research and development contracts. It would seem that some exceptions should be made as for example for machinery development to improve production efficiency under a contract for standard items. As the extent and nature of the exemptions would be difficult to define with precision, the Department believes that some central authority should be empowered to grant exemptions under statutory standards as section 11 of S. 1176 provides or that some measure of discretion be granted contracting agencies.

This Department can see no objection to providing for Government title to employee inventions, the establishment of a Federal Inventions Administration, the collection, preservation, indexing, and dissemination of scientific and technical information, and the making of awards for scientific and technical contributions of significant value.

We do not believe the enactment of a bill along the lines of S. 1084 or S. 1176 would have any significant effect on the costs of the Post Office Department.

We have been advised by the Bureau of the Budget that from the standpoint of the administration's program there is no objection to the presentation of this report to the Committee.

Sincerely yours,

J. EDWARD DAY,
Postmaster General.

STATEMENT OF ADAM G. WENCHEL, ASSOCIATE GENERAL COUNSEL, POST OFFICE DEPARTMENT

Mr. Chairman, I am Adam G. Wenchel, Associate General Counsel for the Post Office Department. I am accompanied by Mr. Edward M. Tamulevich Administrative Officer, Programing and Control Staff, Office of Research and Engineering.

This subcommittee under the chairmanship of Senator O'Mahoney published a report dated November 5, 1959, on patent practices of the Post Office Department. That report set out the practices and polices of the Department in this field.

In our report on S. 1084 and S. 1176 we are advising you of a change in the Department's patent policy. I would like to read that report in the record at this time.

The Department does not make grants. Its contracts are primarily for mail handling machinery and related items. The area is that of practical application rather than of basic research. Most of this contracting is on a cost-plus-fixed-fee basis.

Since 1952 the Department has entered into 52 contracts of this character. Of these 18 are currently in force representing total obligations of slightly in excess of $11 million. Incidentally 11 of these 18 involying approximately 5½ million are held by small business.

The Post Office Department's program is only a minute segment of the Government's total program. For example, the President requested a total of $7,877 million for research and development for all agencies for the current fiscal year. Of this amount $12 million was for the Post Office Department. On a percentage basis this amounted to less than fifteen one-hundredths of a percent of the total requested. Thus, the significance of the Department's program on the economy obviously is slight.

In the past the Department has been using a slightly modified version of the Defense Department clause (ASPR 9–107.1 Rev. 11, June 1958) to obtain a nonexclusive license on patents covering inventions made in the performance of these contracts. It has also used the Defense Department clause (ASPR 9–203.1 Rev. 11, March 1958) entitled "Rights in Data—Unlimited." In addition, another clause ("No. 15 Data To Be Furnished") requires the contractor to supply operational and design data on articles furnished the Government under the contract. I have a copy of the form of contract and the ASPR clauses mentioned if the committee desires to have them.

Since 1952, 62 subject inventions have been reported to the Department.

Applications for patents filed on 42 of these.

Mr. SUNSTEIN. I think in many instances, if, in fact, not in most instances, when the idea is conceived prior to the contract, that is unjust.

Mr. WRIGHT. Can you give me a specific instance in your case, where you think you were unjustly required to give a royalty-free license?

Mr. SUNSTEIN. Without reviewing the file back in the corporation, I am not certain which ones would be required. I am certain that every one reduced to practice during the contract or conceived during the contract, the Government now has a royalty-free right, and this, in many cases, in addition to being unjust, reduces our ability to——

Mr. WRIGHT. That is what I am asking for, a specific case where you think it is unjust, so you can know what the facts are on which you base your belief of injustice?

Mr. SUNSTEIN. Well, you raise a good question, and I would like to go back to look at the record of which contracts that has occurred in.

I should recite in the history of our company, which has been a growing one, our ability to reduce things to practice is only a recent one. So we are just starting now to reduce things to practice.

I will state right now, for example, we are working on a contract with the Government which, when completed, will call for reduction to practice under the contract, as I understand it, and I am not certain at all that we will be left with all rights to the invention even though it was conceived prior to contract award, even though it took a long time to get a contract based on this, despite the fact that there were agencies that felt that this was what they were waiting for for 3 years and were trying to invent themselves, and despite the fact that we expended considerable sums prior to contract award which are not reimbursed and despite the fact that under the contract the funding was in two phases, the initial phase of which ran out before the second phase was provided resulting in our having to stretch out the program over a protracted period through no fault at all of anyone in the Government to my knowledge and through no fault at all of anybody in General Atronics, but solely due to the way the situation operates, and right now when that job is completed we will be lucky to recover our costs.

Mr. WRIGHT. Well, I would like, with the chairman's permission, to suggest that when you go back and look at your records, if you find then that there was a situation where you felt you were unjustly required to give a royalty license, write us a letter about it and then we can include that in the record, too.

Mr. SUNSTEIN. All right, I will be glad to.

Senator MCCLELLAN. If you would care to cite an example of your own experience in your operation, you may submit it in the form of a letter and it will be inserted as a part of your testimony.

Mr. SUNSTEIN. I would like to add, however, that when we agree to take a contract with the Government, it is under the standard regulations that are now in use so that we may have already agreed to give the Government such a royalty-free right.

Senator MCCLELLAN. You can make any statement about it that clearly explains it.

Mr. SUNSTEIN. So that when the question of injustice arises, should we have to be forced to make such an agreement in order to take on the development work for the benefit of the Government? I think there is some inequity in that.

Senator HART. Mr. Chairman, I take it the Department has not had any experience under the new policy that would give us any good answer.

Mr. WENCHEL. No. We have let one contract, but, of course, it has not progressed to the point where we have any experience to help the committee.

Senator HART. Was this a contract where two or more firms were invited to make an offer? I was curious as to whether you found any less interest.

Mr. WENCHEL. Actually we were in the midst of negotiations with this particular firm at the time the Department determined to change its title policy.

Senator HART. So far as you could tell, did the attitude and interest of the firm change when you changed your policy?

Mr. WENCHEL. Not particularly, I believe. But this was a contract which did not involve a great deal of equipment development, and I think it was a minor part of that particular contract.

Senator HART. Thank you.

Senator MCCLELLAN. Very well.

There will also be made a part of this record a statement submitted, entitled "Disposition of Inventions Disclosed" which was submitted along with the report of the Post Office Department. And also there will be printed in the record a list of patents, disclosures, and patent applications, as submitted in the memorandum dated April 18, 1961. That will also be made a part of the record.

(The documents referred to follow:)

Disposition of inventions disclosed

Patent applications	46
Applications being prepared	2
Public disclosures	1
Patentability under study	4
Determined to be unpatentable	4
Not patented because not of sufficient value	5
Total inventions disclosed	62

Actions on patent applications

Patents granted	14
Patent claims allowed but patents not yet issued	3
Application abandoned	1
Applications pending	28
Total applications	46

plus its own employees comprise approximately 50 percent of the creative people in the country, is simply that there is usually no incentive for an inventor to carry his creative concepts into patentable form, when either royalty-free rights or all rights to the invention are removed without consideration.

4. Another comment I wish to make with regard to some of the testimony presented on June 1 relates to small business views. Certainly small businesses which are doing out-in-front R. & D. work will be vastly better off for retention of all patent rights, as will be the public. It is through this means that such small businesses are able to compete with the giants. Moreover, small businesses which do not have research and development skills, but who simply do production, typically by being low bidder, should not be affected by whether the Government takes title or not. This is true for two reasons.

First, under the existing laws, if someone sells to the Government a product involving patented material, the patent holder's only recourse of action is against the Government, in the Court of Claims, rather than against the vendor. Therefore the small business that undertakes such work is not under law open to suit. However, the Government in some instances writes into the contract with the vendor an indemnification clause in which the contractor has to agree to indemnify the Government in case the Government gets sued. This is really an unjust type of clause which needn't be employed by the Government in its procurement, but is sometimes now employed. No new legislation should be required in this regard, unless it be that such indemnification clauses should not be allowed to be inserted into contracts with small businesses, nor, in any contract calling for production of equipment which has been either developed elsewhere for the Government, or developed elsewhere and not originally intended for governmental use. That is, if the Government wishes to have made for it something which is a duplicate of a standard commercial article, it should not impose upon the maker of that duplicate equipment the onus of having to indemnify the Government for infringing patents that the original developer may have had on the original article. Rather, the clauses inserted in such procurement contracts should be the standard authorization and consent clauses which give the vendor the right to use material and designs whether or not patented. As I understand the procurement regulations of the DOD such clauses are standard practice anyway in any item calling for developmental equipment, and more widespread use in production contracts would be to the best interests of the Government, the business community, and the public at large.

I wish to thank you again, for allowing me to present my views. It is apparent that your committee is operating to hear all sides of the story, and should therefore be enabled to reach whatever constructive legislation may be needed.

If I can be of any further assistance to you and your committee in considering these matters, please feel free to call on me.

Very truly yours,

DAVID E. SUNSTEIN, *President.*

ARMED SERVICES PROCUREMENT REGULATION, SECTION 9–107.2

(31 January 1961, Rev. 3—Patents)

(b) *Contract Clause (License).* The clause set forth below shall be included in every contract having as one of its purposes experimental, developmental, or research work which is to be performed within the United States, its possessions, or Puerto Rico, unless the clause set forth in 9–107.2(c) has been authorized in accordance with 9–107.1(d), or except as provided in 9–107.7 with respect to contracts on behalf of the National Aeronautics and Space Administration. See 16–809 for an approved form for optional use by contractors in reporting information required by paragraphs (c)(ii), (c)(iii), and (h) of the clause. In the administration of paragraph (e) of the clause, a request for conveyance of foreign rights to the Government is not required when the contractor does not file an application for patent in a foreign country under the conditions provided in that paragraph, unless the Government intends to apply for such patent.

Senator McCLELLAN. The next witness is Mr. Gudeman.
The committee will stand in recess for 18 minutes.
(A brief recess.)
Senator McCLELLAN. The committee will come to order.
Call the next witness.
Come around, Mr. Commissioner, with your group.

STATEMENT OF EDWARD GUDEMAN, UNDER SECRETARY OF COMMERCE; ACCOMPANIED BY DAVID L. LADD, COMMISIONER OF PATENTS

Senator McCLELLAN. Gentlemen, each of you identify yourself for the record, please.
Mr. Commissioner, please, sir.
Mr. LADD. David L. Ladd, Commissioner of Patents. And before the committee today also is Edward Gudeman, Under-Secretary of Commerce.
Senator McCLELLAN. Which one will testify?
Mr. GUDEMAN. I will testify.
Senator McCLELLAN. You will be the spokesman. All right, Mr. Gudeman.
You have a prepared statement you have submitted. Do you wish to read it?
The Chair, without objection, will permit you to read it into the record.
Mr. GUDEMAN. All right, sir.
Mr. Chairman and members of the subcommittee, thank you for this opportunity of appearing before you today to give you my views concerning S. 1084 and S. 1176, bills pending before this subcommittee. These bills have for their main purpose the establishment of a national policy for the acquisition and disposition of patents covering inventions arising out of Federal research and development contracts.
This Subcommittee on Patents, Trademarks, and Copyrights of the Committee on the Judiciary, and the Select Committee on Small Business, both of the U.S. Senate, by their investigations of the practices of the different Federal agencies in resolving questions concerning rights to property in federally financed discoveries, have contributed significantly to understanding the difficulties involved in determination of these property rights.
On the basis of number of Federal research and development contracts, it appears that the prevalent policy is to allow the contractor to keep title to inventions with a royalty-free license to the Federal Government for governmental purposes. These investigations have pointed up clearly objections which may be taken to this policy.
A major question raised is whether the public interest is served or protected by a policy which allows the contractor to exclude others for the term of the patent from making, using or selling the discovery covered by his patent claims when that discovery is financed by the Federal Government.
S. 1084 and S. 1176 would resolve this problem by requiring that the entire title in these properties go to the Federal Government. S. 1176 would provide further for issuance of royalty-free nonexclu-

first actually reduced to practice more than three months prior to the date of the report, and not listed on a prior interim report, or certifying that there are no such unreported Inventions; and

(iii) prior to final settlement of this contract, a final report listing all such Inventions including all those previously listed in interim reports.

(d) In connection with each Subject Invention referred to in (c)(i) above, the Contractor shall do the following:

(i) if the Contractor specifies that a United States patent application claiming such Invention will be filed, the Contractor shall file or cause to be filed such application in due form and time; however, if the Contractor, after having specified that such an application would be filed, decides not to file or cause to be filed said application, the Contractor shall so notify the Contracting Officer at the earliest practicable date and in any event not later than eight months after first publication, public use or sale.

(ii) if the Contractor specifies that a United States patent application claiming such Invention has not been filed and will not be filed (or having specified that such an application will be filed thereafter notifies the Contracting Officer to the contrary), the Contractor shall:

(A) inform the Contracting Officer in writing at the earliest practicable date of any publication of such invention made by or known to the Contractor or, where applicable, of any contemplated publication by the Contractor, stating the date and identity of such publication or contemplated publication; and

(B) convey to the Government Contractor's entire right, title, and interest in such Invention by delivering to the Contracting Officer upon written request such duly executed instruments (prepared by the Government) of assignment and application, and such other papers as are deemed necessary to vest in the Government the Contractor's right, title, and interest aforesaid, and the right to apply for and prosecute patent applications covering such Invention throughout the world, subject, however, to the rights of the Contractor in foreign applications as provided in (e) below, and subject further to the reservation of a nonexclusive and royalty-free license to the Contractor (and to his existing and future associated and affiliated companies, if any, within the corporate structure of which the Contractor is a part) which license shall be assignable to the successor of that part of the Contractor's business to which such Invention pertains;

(iii) the Contractor shall furnish promptly to the Contracting Officer on request an irrevocable power of attorney to inspect and make copies of each United States patent application filed by or on behalf of the Contractor covering any such Invention;

(iv) in the event the Contractor, or those other than the Government deriving rights from the Contractor, elects not to continue prosecution of any such United States patent application filed by or on behalf of the Contractor, the Contractor shall so notify the Contracting Officer not less than sixty days before the expiration of the response period and, upon written request, deliver to the Contracting Officer such duly executed instruments (prepared by the Government) as are deemed necessary to vest in the Government the Contractor's entire right, title, and interest in such Invention and the application, subject to the reservation as specified in (d)(ii) above; and

(v) the Contractor shall deliver to the Contracting Officer duly executed instruments fully confirmatory of any license rights herein agreed to be granted to the Government.

(e) The Contractor, or those other than the Government deriving rights from the Contractor, shall, as between the parties herein, have the exclusive right to file applications on Subject Inventions in each foreign country within:

(i) nine months from the date a corresponding United States application is filed;

(ii) six months from the date permission is granted to file foreign applications where such filing had been prohibited for security reasons; or

want to use our offices and contacts with the business community, including small business, to explore feasible steps which might be taken to assure adequate safeguards of the public interest.

Without circumscribing or prejudging in any way techniques which might be recommended in such discussions, illustrations of arrangements which might be considered could include (*a*) license in the United States for governmental purpose and title in the contractor with an agreement that licenses on a uniform, reasonable basis would be made available to others after a lead time of 2 or 3 years, and (*b*) title in the United States with an exclusive license in the contractor for a lead-time period after which licenses would be made available to others.

We would hope this effort would be productive of workable, acceptable provisions which serve the public interest.

In addition to the desire of the Department to help resolve this problem in a manner beneficial to Federal agencies, we are also anxious that every effort be made to market commercial applications because of the economic and employment benefits which ensue.

The Congress has contributed to the success of such an exploration of acceptable techniques by its demonstrated concern with the problem. We believe it would be wise to postpone specific congressional action pending efforts to determine what an alerted business community can and will do to help resolve this difficulty in the public interest.

Finally, I would like to comment on one provision of S. 1176, section 7, which would provide for collection and dissemination of scientific and technological information.

The attention of the members of this subcommittee is invited to the responsibility of the Secretary of Commerce under existing law—15 U.S.C. 1151–1157—to establish and maintain a clearinghouse for the collection and dissemination of scientific, technical, and engineering information. One aspect of this task includes dissemination to the scientific and industrial community of the results of Government research and information concerning available Government-owned patents. Abstracts are made of these patents, which are grouped by industrial subjects. On or about the first of May a new and updated listing of patents will be available.

Thank you.

Senator McClellan. Mr. Commissioner, do you wish to make any additional comments?

Mr. Ladd. Senator McClellan, I am not here to testify today on the merits of the bill as such.

The statement of the Department of Commerce, which has just been read by Secretary Gudeman, has been filed with the committee. My function at this time is solely to answer questions and offer some information about the Government Patent Board, the functions of the Chairman of which have been recently transferred to the Commissioner of Patents.

If you would prefer, Senator McClellan, I can hold this statement and hold myself available for your questions at a later time, if you would care to go into the substance of Secretary Gudeman's statement now.

Senator McClellan. You do have a prepared statement?

allowable charge or cost under this contract. Reports, instruments, and other information required to be furnished by a subcontractor to the Contracting Officer under the provisions of such a patent rights clause in a subcontract hereunder may, upon mutual consent of the Contractor and the subcontractor (or by direction of the Contracting Officer) be furnished to the Contractor for transmission to the Contracting Officer.

(h) The Contractor shall, at the earliest practicable date, notify the Contracting Officer in writing of any subcontract containing one or more patent rights clauses; furnish the Contracting Officer a copy of each of such clauses; and notify the Contracting Officer when such subcontract is completed. It is understood that with respect to any subcontract clause granting rights to the Government in Subject Inventions, the Government is a third party beneficiary; and the Contractor hereby assigns to the Government all the rights that the Contractor would have to enforce the subcontractor's obligations for the benefit of the Government with respect to Subject Inventions. If there are no subcontracts containing patent rights clauses, a negative report is required. The Contractor shall not be obligated to enforce the agreements of any subcontractor hereunder relating to the obligations of the subcontractor to the Government in regard to Subject Inventions.

(i) When the Contractor shows that he has been delayed in the performance of this contract by reason of the Contractor's inability to obtain, in accordance with the requirements of (g) above, the prescribed or other authorized suitable patent rights clause from a qualified subcontractor for any item or service required under this contract for which the Contractor himself does not have available facilities or qualified personnel, the Contractor's delivery dates shall be extended for a period of time equal to the duration of such delay. Upon request of the Contractor, the Contracting Officer shall determine to what exent, if any, an additional extension of the delivery dates and increase in contract prices based upon additional costs incurred by such delay are proper under the circumstances; and the contract shall be modified accordingly.

(j) The Contractor recognizes that the Government, or a foreign government with funds derived through the Mutual Security Program or otherwise through the United States Government, may contract for property or services with respect to which the vendor may be liable to the Contractor for royalties for the use of a Subject Invention on account of such a contract. The Contractor further recognizes that it is the policy of the Government not to pay in connection with its contracts, or to allow to be paid in connection with contracts made with funds derived through the Mutual Security Program or otherwise through the United States Government, charges for use of patents in which the Government holds a royalty-free license. In recognition of this policy, the Contractor agrees to participate in and make appropriate arrangements for the exclusion of such charges from such contracts or for the refund of amounts received by the Contractor with respect to any such charges not so excluded.

BALA-CYNWYD, PA., *June 19, 1961.*

MR. STEPHEN G. HAASER,
Chief Clerk, Senate Subcommittee on Patents, Trademarks, and Copyrights, Washington, D.C.

DEAR MR. HAASER: I wish to thank you for forwarding to me the draft of the transcript of my testimony of June 1 before Senator McClellan's Committee on Patents.

Following your suggestion, it is returned herewith with corrections. These should remove typographical errors, improve sentence structure, and more properly express my feelings. I trust that such corrections as I have made are the type you sought.

On reading the draft of my verbal testimony, I would like to amplify four points further.

(1) On page 811, in answer to Mr. Wright's question as to whether General Atronics operated at a profit, I should add that though operations showed a net loss for 1960, General Atronics had nonrecurring gains through the sale of stock, which caused the overall statement to be slightly in the black.

All of the Government agencies interested have been requested to submit suggestions concerning the regulations, and initial drafts are now under consideration by representatives of various agencies.

I might add that there is widespread feeling among the agencies—and this feeling is shared by the Patent Office—that the object of this Executive order, which was to achieve substantial uniformity in employee patent policy in these executive agencies, has been achieved.

One of the purposes of the study which is now being conducted is to determine whether it is necessary to continue a case-by-case review of these determinations in the agencies and to investigate the possibility of substituting for a case-by-case review a system of sampling or, in any event, a more general surveillance than a case-by-case review. Our inquiry in this direction, I might add, is prompted by this feeling that substantial uniformity has been achieved under the Executive order previously under the Chairman of the Government Patents Board and presently under the Patent Office.

Senator McClellan. Any questions, Senator Hart?

Senator Hart. No.

Senator McClellan. Mr. Counsel?

Mr. Wright. I have some questions, Mr. Chairman.

With respect to this case-by-case review, there is a little more involved than just achieving uniformity, isn't there? I am talking about the employees' inventions now.

Are you suggesting that you would like to eliminate these appeal privileges that they now have where they feel the agency has unjustly applied the policy?

Mr. Ladd. The only question, as I see it, Mr. Wright, is whether or not a case-by-case review is necessary in order to achieve the correct application of the Executive order, and the Commissioner is now responsible for seeing to it that the application is correct. And, secondly, to see whether or not a case-by-case review is necessary, to see that the application is correct, and that there is consistency among the agencies.

Now, insofar as appeals by Government employees dissatisfied with the determination below—and, of course, those appeals are taken in cases in which title is left entirely in the Government—I make no suggestion that those appeals would be cut off at all. I assume that they will continue.

Mr. Wright. I was directing my question to the employees' rights of review. Shouldn't they continue to have some means of review which will assure them that they get what they are entitled to?

Mr. Ladd. The answer to your question, Mr. Wright, I think is "Definitely, yes." The employee should have in every case, where he wants a review, a review. The number of cases, however, in which the employee appeals the decision of the agency is very small. That is not the vast number of cases that we are discussing, in which there is a routine review of the agency determination as to which neither the agency nor the employee has any complaint at all.

Mr. Wright. But perhaps I misunderstood you. I thought you were suggesting that there be, instead of, as there is now, an absolute right to review by the employee of the agency action, that you were going to substitute some kind of spot sampling for that right.

Mr. Ladd. I think I can clarify that very quickly, Mr. Wright, if you will permit me to try to restate it.

Likewise, the DOD patent policy inherently leads to an injustice to inventors, since no company is in a position to properly compensate an inventor for sale to the Government of subject matter comprehended by any patent on an invention to which the Government has obtained a royalty-free license. For example, in the specific case described in the preceding paragraph, General Atronics' policy to have inventors benefit directly has no chance to function with a loss on the contract and retention of no proprietary patent rights applicable to subsequent Government sales.

In summary, the struggle between the Government and much of industry over rights to patents without either party giving any just consideration to the normally rightful owner of each patent—the inventor—is one which is a tragic reflection of our social values. Some organizations, like General Atronics, are attempting to prevent inequity to the inventor to the best of their ability within the framework afforded by Government regulations, but they are frequently frustrated by these regulations.

Likewise, I'm sure the dedicated Government employees who administer these regulations and laws feel equal frustration in attempting to provide for proper justice to inventors employed by contractors, as well as by the Government.

Full correction of the inequity to inventors will restore incentive to where it belongs, to thereby most rapidly bring the benefits of invention into use by the Government, by industry, and by the public at large.

In fact, the trend in R. & D. conducted by the Government to have inventors work in Government laboratories in ever-increasing numbers makes it more necessary than ever that the Government also adopt for its own employees an arrangement to permit them to retain adequate equity in their property rights to their patentable inventions. Such would make it easier for the Government to attract first-rate inventive talent. It would also reduce the timelag in having new ideas put into use for the benefit of the public and would insure greatest use for the public benefit of inventions.

I wish to thank Senator McClellan for making my letter of June 8, 1961, a part of the record, and trust that this letter may also be included. I would be pleased to assist further the efforts of your committee by serving, for example, with a group of diverse specialists to make specific recommendations as to proposed legislation.

I again thank you for the opportunity afforded me to express my personal opinions on this very important subject matter.

Very truly yours,

DAVID E. SUNSTEIN.

Senator MCCLELLAN. Mr. Brown Morton, come around, sir.

Mr. Morton, identify yourself for the record, please.

STATEMENT OF W. BROWN MORTON, JR., CHAIRMAN, COMMITTEE ON GOVERNMENT PATENT POLICY, AMERICAN PATENT LAW ASSOCIATION, WASHINGTON, D.C.

Mr. MORTON. Mr. Chairman, I am W. Brown Morton, Jr. I live at Alexandria, Va., and I am a patent lawyer, a partner in a law firm with offices at New York and Washington.

For the year October 1960 to October 1961 I hold the office of chairman of the Committee on Government Patent Policy of the American Patent Law Association which has its headquarters here in Washington. In this capacity I have been authorized to make this statement by the board of managers of the association.

Senator MCCLELLAN. You have a prepared statement?

Mr. MORTON. Yes.

Senator MCCLELLAN. Would you like to submit it for the record and just highlight it in oral testimony?

Mr. MORTON. I think that would be desirable. As a matter of fact, Senator, the prepared statement that has been submitted already is fairly brief, consisting of some eight pages, and we are preparing an appendix to it which consists of a restatement of reasons which the

Mr. WRIGHT. Which would presumably provide an answer. The study has now been published, hasn't it? Have you seen it? Are you familiar with it?

Mr. GUDEMAN. I have not seen it myself. It has been reviewed with me, but I have not read it.

Mr. WRIGHT. Well, I think it is apparent to anybody who reads it that if you look at it, it hasn't resolved anything, has it?

Mr. GUDEMAN. I can't answer you, sir. I don't know whether such a meeting as we are proposing or your hearings will resolve anything either, but I think that that should be done before some conclusion is drawn.

Senator MCCLELLAN. Let me ask you this:

There is something that ought to be resolved? Do you agree with that?

Mr. GUDEMAN. Yes, sir.

Senator MCCLELLAN. What is it?

Mr. GUDEMAN. I think some stand must be taken.

Senator MCCLELLAN. On what?

Mr. GUDEMAN. On the ownership of patents.

Senator MCCLELLAN. On the ownership of patents. That is the basis?

Mr. GUDEMAN. That is the basis.

Senator MCCLELLAN. Either the Government owns it, or it takes a license to it. Is that correct?

Mr. GUDEMAN. I am not sure that either one of those statements will be the decision made.

Senator MCCLELLAN. I am not sure it will be the decision made, either, but I think you have got to start from one base or the other in order to find something.

Mr. GUDEMAN. Granted.

Senator MCCLELLAN. All right. So we have got to start.

Now you think there is a situation here that at least needs attention, either legislative attention or administrative attention?

Mr. GUDEMAN. I agree.

Senator MCCLELLAN. It shouldn't be left in the shape it is in now.

Mr. GUDEMAN. That is correct.

Senator MCCLELLAN. Something should be done.

Mr. GUDEMAN. Right.

Senator MCCLELLAN. How long do you think it is going to take you to hold these meetings and try to work out something before you would be able to come to a conclusion one way or the other that you had something worked out or that it is impossible to do it?

Mr. GUDEMAN. Well, Commissioner Ladd is setting up this meeting for sometime in June. The meeting will be either a 1- or a 2-day meeting, depending on the time required.

I don't want to sit here and say that a conclusion will come out of that meeting. I would be hopeful that we in the Department, from the results of that meeting, could take a position.

Senator MCCLELLAN. In other words, you are hopeful that after this conference—that is what I guess it really is, isn't it?

Mr. GUDEMAN. That is right.

Senator MCCLELLAN. After this conference you would be able to evaluate different opinions and suggestions that might be available to you there, weigh them and come to some fixed opinion about it from

The key to our proposed bill is flexibility against a prescribed norm—that is to say, a provision of statutory authority for agency heads to make specific contracts with respect to particular situations varying from all rights in an invention to the Government to no rights to the Government at all upon, but only upon, a specific finding of particular justification for variation from a statutory standard policy.

The norm that we propose is stated in section 2(b) of our bill—a worldwide, royalty-free license to the Government to use the invention for governmental purposes plus a grant of authority for the Government to grant licenses at a reasonable royalty to third parties if an existing demand for the invention is not being reasonably met by or through the patentee of the invention after any patent has been issued 3 years. An agency head finding based on prescribed criteria is necessary to justify a departure from this norm in particular cases.

Nor does our proposed bill limit the flexibility to the negotiation stage. One of the principal objections to a rigid bill such as S. 1084 is that it fails to take into account the essential characteristic of invention—unpredictability. Hence, a given invention, unforeseeable by definition, made in the course of performance of the best planned contract may turn out to be one in which the Government either has overreached or needs more than it has bargained for. Our proposed bill provides statutory authority for an agency head to waive, on terms, a contract provision found to demand too much from a contractor when all facts about a subsequently make invention are developed. However, it can happen that an actually made invention is of much more importance to the Government than the circumstances at the making of the contract would suggest. To take care of this case, our bill provides for a contract provision enabling the Government to acquire rights beyond the norm upon payment of just compensation. The determination of the amount of the compensation is to be administrative, subject to usual review. We hope that this provision will become the usual way for industry-government differences about license-versus-title problems to be resolved in the contract negotiating stages. That is to say, where the field of the research or development is directly related to the contractor's regular business, for example, so that the most qualified contractor is unwilling, for the price offered, to give more than the usual license, and where the Government agency can foresee a potential breakthrough as a possible, though uncertain, byproduct of successful completion of the contract's primary objective, section 4 of our proposed bill provides statutory approval of a contract provision by which the Government can obtain rights to any invention made beyond the automatic license upon payment of just compensation for the rights after the invention has been made and can be accurately evaluated. Section 4 further provides statutory guides as to the relevant factors to be weighed in making the administrative determination of what is just compensation in a particular case.

A novel feature of our proposed bill—novel in U.S. patent legislation, that is—is contained in section 5. It provides for a continuing interest of the Government in the commercial history of an invention in which the Government has acquired only the usual license right. The scheme is to allow the patentee 3 years of his present full exclusive right to the invention in which to get the invention into use and thereafter to permit any person to have a license at an administratively determined reasonable royalty who can show that there exists a demand for the invention which he can supply and which the patentee is not causing to be supplied. This is a variant of the compulsory working feature of many foreign patent laws, and should dispose of the great "suppression" bugaboo by meeting it headon.

There are many economic reasons why a blanket Government-take-title policy is unsound and likely to be self-defeating, in many cases, of an aim to get inventions made and put to use. Most of these reasons have been ably presented to this committee or other congressional committees already. We summarize our understanding of the most compelling of these in an appendix accompanying this statement and containing a short bibliography of material believed relevant. We would expect our oral testimony not to review the appendix material in the interest of conserving committee time.

The problem of contractor title versus Government title is difficult to resolve with mathematical nicety because it is nearly impossible, if not impossible, to develop precise and relevant data. This is because, like the related problems of evaluating a free market economy versus a Socialist one and of assessing the effect of a patent system on a free market economy, the Government contractor problem has to be solved without recourse to the scientific method. No-

position being taken we would like to get together with you before our own conference is ever convened.

Senator McCLELLAN. I don't think we ought to undertake to take rash action. I don't mean that.

Mr. GUDEMAN. No.

Senator McCLELLAN. But if some good might come out of a conference such as you are setting up, I am sure the Congress won't get to legislative action on this matter before that date. As soon as you have the conference and come to some conclusion, give us a report.

Mr. GUDEMAN. We will.

Senator McCLELLAN. Because I think this record is going to have to be studied before any of us can come up with the kind of legislation that it indicates is needed.

Mr. GUDEMAN. Correct.

Senator McCLELLAN. Very good.

Anything further?

Mr. WRIGHT. Just one question, Mr. Chairman, I wanted to ask Commissioner Ladd.

It isn't clear to me who now has responsibility for foreign filings on these Government employees' inventions where the Government—if and when the Government should decide not to waive its right, is your Office now supposed to file foreign applications?

Mr. LADD. No, Mr. Wright. The Patent Office does not now have that responsibility. It rests with the individual agencies.

This committee has within its files a statement from the Department of Commerce which was taken, I think, as a part of a general survey of patent practices and policies of the various Government agencies.

Mr. WRIGHT. Yes. You are referring to our published report on the policies of the Commerce Department?

Mr. LADD. I was not aware, Mr. Wright, that it had been published.

Mr. WRIGHT. There is one; yes.

Mr. LADD. In any event, the entire history for the responsibility of filing foreign patent applications, which I think initially went into the Government Patents Board, but, in any event, shortly found its way into the Department of Commerce and to the Office of Technical Services, the full history is given in that report. I have a copy of it here.

Mr. WRIGHT. I'm sorry. Mr. Dinkins reminds me I am in error. The report was submitted to you and returned to us, but it actually hasn't appeared in print yet.

I was in error in referring to it as a published report.

Mr. LADD. If you would like, I would be glad to make a copy of this available to the reporter, and you can make it a part of the record.

Mr. WRIGHT. If it is covered in the report, then I don't think there is any need to pursue it further here. But I didn't understand, from your standpoint, you would wish to engage in the prosecution of any applications anywhere as Commissioner of Patents.

Mr. LADD. The experience previously was that there was not sufficient interest in the prosecution of foreign applications based upon American applications to continue the program.

Mr. WRIGHT. No. The only question I had was if in any bill that should come out, anything should be done about this question of foreign rights, who in your judgment would be the proper part of the Government or agency to attempt to protect those rights if and when

right in his invention if he had the misfortune to be working in federally sponsored research.

Actually, since Federal research is on a tremendous and growing scale, it is fair to say that we are here considering not merely a matter of incidental Government patent policy, but a key part of the entire U.S. scheme for the encouragement of invention. Already a very large and ever-growing portion of our gross national product includes one or more inventions less than 20 years old. Westinghouse, for example, in 1960 set a goal for 1965 of doing 25 percent of its total business in the latter year in products not available in the former. This is not surprising when it is considered that about 90 percent of all the people who ever lived who received what we now call scientific training are still alive. We may expect the rate of invention to increase as the number of trained persons thus exposed to the problems that need to be solved by inventions increases. Thus we are not merely considering a peripheral matter of sound Federal contract policy, but the potential ownership of control over the bulk of our future economy. A free enterprise system means a system free of Government ownership; such a system will not be possible in the technologically certain-to-eventuate future if the Government owns and manipulates property rights in a large proportion of current inventions.

This association does not think that the present U.S. patent system, essentially today the same as it was in 1870, is perfectly adapted to present needs, or perfectly operated to harness the very inventions it has created, for the better promotion of the progress of the useful arts. This association does think that a patent system conferring private exclusive rights is the system best adapted to promote that progress. This association does think that the Senate bills threaten the very existence of the only patent system we have without offering any substitute to prevent a consequent loss of progress in invention. This association most respectfully urges that this subcommittee report favorably on the proposed bill drafted by the association's committee, as a measure fairly and sensibly meeting any immediate problems existing in the field of Government patent policy, and turn its attention to the problem of taking positive action to review, to streamline, to modernize, and to expand the U.S. patent system to make it the most effective possible vehicle for the promotion of invention in a free enterprise economy. This association pledges its wholehearted cooperation in such a positive program.

Senator McClellan. Now you may proceed and highlight your statement.

Mr. Morton. Yes, sir.

The American Patent Law Association is a national legal society with some 2,300 members who live in some 37 of the States of the Union and here in the District. It is not confined to those patent lawyers who represent just one aspect of the patent profession. It includes many patent people from the Government as well as from industry, many who are in private law firms such as I am, and many who are corporate employees.

I think it is a fair statement to say that it has the broadest representation of the patent profession of any of the societies that may appear here.

We have been interested in this subject since 1955 to the extent of having a select committee, a special committee on Government patent policy. I have been associated with the committee off and on since its inception. This year I have the honor to be chairman of that committee, which explains my presence here this morning.

We have gone beyond merely considering the two specific bills pending before this subcommittee. As to those two bills, our committee unanimously disapproves both of them.

I have also been authorized, and should state here, to report on behalf of the Patent Law Association of Chicago, to which I do not belong, that its board of managers has recently approved reports of its committee on Government relations to patents, also specifically disapproving the two pending bills before this committee.

practice of the invention may be granted, (5) the form of provision to be included in Government contracts to protect the Government's proprietary interest, and (6) awards to be made to persons on account of scientific, technical, or medical contributions of significant value to national defense, public health, or any program administered by a Government agency.

We understand that one of the primary objectives of the proposed legislation is to preserve for public use and benefit the inventions or discoveries which are made through public-financed research and development work and to avoid the windfalls which have sometimes accrued in the past to those engaged in such research and development work under contract with the Government. This is a commendable purpose and one with which we fully sympathize. There is no such problem, however, with respect to inventions made in connection with TVA's activities. TVA's policy on inventions, which was established many years ago pursuant to the provisions of the TVA Act, provides for ownership by TVA of all inventions made by its employees or contractors in the course of their services for TVA. This policy has been commended not only for its protection of the public investment in TVA's research and its fairness to TVA employees but also for its effectiveness as an aid in carrying out the TVA program. We believe that a system involving transfer of all authority and responsibility with respect to the disposition of inventions made as the result of TVA research and development from TVA to a central agency in Washington would be administratively unsound and would impair the conduct of TVA program activities of which the making and use of inventions are an integral part.

TVA conducts a program of research and development designed to discover new and better fertilizers and to find better and cheaper methods of fertilizer production. The ultimate objective, of course, is to make it possible for the farmers to fertilize their lands more effectively and economically. It seems evident that when new discoveries or improvements are made as the result of such research and development, TVA is in better position to determine how and on what terms they should be made available to the fertilizer industry than an agency in Washington with no responsibility for the program and presumably with no special interest or experience in it. TVA is also in a better position to determine whether any invention developed in the program is of such character or importance as to warrant seeking patent protection on it.

Putting the invention to productive and beneficial use, which is the ultimate objective, cannot be achieved simply by giving notice of the invention's existence to people or firms having a possible interest in it. The technical staff of TVA's Chemical Engineering Office spends a great deal of time and effort in acquainting people in the fertilizer industry with the developments made in TVA's laboratory and experimental plants. Some of this educational work is done through technical publications and trade journals, press releases, conferences or demonstrations; but a great part of it is done through correspondence with the fertilizer industry and through visits by industry representatives to TVA's chemical plants and laboratory at Muscle Shoals, Ala., where they view TVA's developments and discuss with TVA technicians the problems of practical industrial application. For example, in fiscal year 1960, nearly 800 persons having a technical interest in TVA's fertilizer research and developments visited our plants. We answered more than 1,300 direct written inquiries in this field during the same period.

TVA's inventions policy has been successful in getting the results of its fertilizer research and developmental work into use. This is demonstrated by the attached chart which shows the location of the many plants in the United States which have obtained licenses to use TVA developed processes or equipment. It also shows that as of July 1, 1960, a total of 221 licenses had been granted to 167 firms for use of such developments in 233 plants. Since World War II the average analysis of fertilizer produced in this country has increased from 21.7 percent to 30.2 percent available plant food. While TVA does not claim that this remarkable improvement in quality is due entirely to its activities, TVA's substantial contribution to the advance in fertilizer technology is evidenced by the fact that approximately two-thirds of the granular fertilizer made each year in the United States is produced under TVA licenses. Thus TVA's research and developmental work, of which the patenting and licensing of resulting inventions is an integral part, is helping TVA to achieve the objectives set out in the TVA Act of improving and cheapening the production of fertilizer for the benefit of the farmers. Assignment of the control and disposition of such inventions to another agency inevitably would hinder the accomplishment of these objectives.

be just compensation, and, as the previous witness indicated, just compensation may run from a theoretical zero up to quite a high sum, depending on facts as they exist after the invention is made and after the needs of the Government have developed, after the relationships of the contractor to the specific invention have become ascertainable.

This bill, as we have drawn it, seems to us to meet fairly the objections that have been raised by Members of the Congress who have been concerned with this problem, and also to meet fairly the objections which have been raised by various industry people. And while it doesn't address itself specifically to the problem of inventor incentive in the sense of incentive directed to the individual who has a creative idea, we think it is a great deal closer to what the previous witness had in mind than either of the pending bills.

The many reasons which have been advanced by others in opposition to an all-out Government-take-title policy, I have not put in the statement itself, but we have summarized what we think are the most compelling of them in an appendix to that statement, and I think sufficient prepared copies of that appendix will be delivered here this afternoon.

I should like to point out some of the thinking underlying our decision to go about solving this problem in the way we have. First, because the problem is a difficult one to develop with any mathematical nicety, it is very difficult to even decide what are relevant data.

A great deal has been said about factfinding but without much predefinition of what is relevant. In my view, it is very much like the related problem of trying to decide whether free-enterprise economy is really better than a socialist one. We all have convictions on this point.

I have heard, for example, the situation that has resulted since the 1917 revolution in Russia cited as proof of the efficacy of the Socialist system.

I think an equally strong—in fact, I think I would say a stronger—argument can be made out that the progress the Russians have made has been due to the size of the country and its immense natural resources, and I would undertake to venture the opinion that Russia would be even further ahead if it hadn't been saddled with a Socialist economy.

Senator McClellan. If it had not been what?

Mr. Morton. Had not been saddled with a Socialist economy. If they had had the good fortune in 1917 to have evolved something approximating our Constitution I dare say they would be better off now than they are.

So we can never solve this problem scientifically unless we had a time machine and could set Russia back to 1917 plus our Constitution and let them start over again, because there are too many variants.

I think that the same thing is true here. To really know in a scientificially valid manner whether invention is going to be promoted by giving title to the contractor, or promoted by giving title to the Government, we would have to have exactly comparable trial periods using each policy and that is the kind of thing you can't do because you can't reverse time. So we have to do the best we can by reasoning from past experience, and it is certainly our view that all past experience combines to indicate that a free market economy is superior to a Socialist

PLANTS LICENSED TO USE
TVA DEVELOPED PROCESSES
OR EQUIPMENT
CONTINUOUS AMMONIATOR
SUPERPHOSPHATE MIXER
LIQUID FERTILIZER PROCESSES
PHOSPHORUS AND PHOSPHORIC
ACID PROCESSES
OTHER PROCESSES OR EQUIPMENT
NUMBER OF COMPANIES LICENSED 167
TOTAL LICENSES 221
TOTALS
OTHER PROCESSES OR EQUIPMENT 7 7 -
PHOSPHORUS & PHOS. ACID PROCESSES 5 7 -
LIQUID FERTILIZER PROCESSES 43 33 -
SUPERPHOSPHATE MIXER 33 29 11
CONTINUOUS AMMONIATOR 145 90 21
NO. OF PLANTS LICENSED
NO. OF LICENSES ISSUED TO USE 135 18 2
NO. OF LICENSES ISSUED TO MFR. EQUIP. 32
OSE 7/1/60

done in the performance of an R. & D. agreement, that, ipso facto, that invention made by him while he is doing this work becomes the property of the Federal Government; he gets nothing for it. And I see no way, whether the matter is constitutional either by application of article I, section 8, clause 8, or by any other approach—of getting around the notion that both of these bills proceed in derogation of what I might call a right of natural law.

I think that natural law is an unpopular term in law schools these days, but it means to me, at least, something that seems so just that it comes up in everybody's legal system.

The result of having title to inventions vested in the Government as contemplated by either of the two bills that are now pending here must inevitably be to increase the holdings of the Federal Government to the point where it is going to be holding upward of 25 percent of all the patents.

Let me show, if I can, some reasons why this is of utmost significance to the entire economy.

Although the George Washington report has indicated that perhaps only 4 or 5 percent of patentable inventions or patented inventions are involved here; that is, 4 or 5 percent of inventions that are commercially exploited are involved here—I think we should recognize that we are at the beginning and not in midflight of growth of the invention rate.

I heard a very arresting statistic about a month ago in a symposium here in Washington. It is not surprising, this speaker pointed out, that inventions are growing and growing because about 90 percent of all the people that have ever lived in the world who have received what we would now call a scientific education are still alive. All of the Newtons, the Edisons, the Steinmetzes who have passed on are in the 10 percent. As a consequence of that, we may expect inventions to snowball as more and more people who are trained in recognizing problems in the field of invention become exposed to them and devise solutions.

We may expect that if the Government is putting up more than half the money, that it is going to get somewhere between a quarter and a half of all the inventions.

When you couple with that the fact that our gross national product includes a startling percentage of items of supply which could not have been obtained 20 years ago—and it is going to be increasingly so—I think in the drug industry the figure is even more arresting, but I was told that one of our largest electrical companies in 1960 posed for its research people the goal of devising so many new products that by 1965 25 percent of the volume of material sold by that company would have been items they didn't know how to make in 1960. So that these bills, Senator, look toward the obtainnig of title by the Government to the right to exclude all others from the manufacture of something that may conservatively be 25 percent of the gross national product at any time.

This is government in business with a vengeance, and we are not prepared to say that we regard with equanimity the move to turn this all over to the Government. Rather, we feel that our approach, which combines flexibility of negotiation and flexibility in the post-invention stage when it is most likely to be realistically based because people know what they are talking about, with the right for the

lations 650–663, 38 C.F.R. 1.650–663, which concern inventions by employees, would, of course, require amendment to reflect any procedural changes.

Since June 30, 1957, patent applications with respect to VA employees have been filed as follows:

Name of employee	Description	Filed	Status
Robert S. Green, et al	Device for marking X-ray negatives.	May 21, 1959	Issued May 10, 1960, No. 2936370.
Timothy Takaro	Blood vessel coupling device	June 23, 1959, No. 822396.	Pending.
Nathan F. Blau, et al	Chemical compound	Feb. 26, 1960, No. 11389.	Do.
Robert Leibner	Pipe cleaning and coating apparatus.	June 24, 1960, No. 38680.	Do.

With respect to inventions under research contracts, S. 1084 would require the Government to take title to inventions. Section 3(b) of S. 1176 would require the Government to take title or to make a dedication, unless excused by the Attorney General under section 10(a). We believe that some changes in a minority of our contracts would be necessary if these bills are enacted.

In the case of research contracts, the following patent applications have been filed since June 30, 1957:

Project	Inventors	Description	Filed	Status
Battelle Memorial Institute.	J. S. Abma, L. J. Mason, D. R. Rice.	Optophone reading machine for blind.	March 1960, No. 13799.	Allowed Mar. 27, 1961.
Mauch Research Laboratories, Inc.	H. A. Mauch	Reading machine for blind.	Sept. 11, 1957	Issued Oct. 6, 1959, No. 2907833.
Do	do	Scanning and translating apparatus.	June 28, 1960, No. 39653.	Pending.

The patent provisions in VA research contracts in prosthetics have been principally on two types of forms, usually referred to as the "short form" and the "long form." Under the short form, the Government is entitled to all inventions or discoveries. Under the long form, the contractor takes naked title in his name, but the Government is irrevocably entitled to designate recipients of royalty-free licenses and to require revocation. The contractor agrees to issue no other licenses.

Section 3(b) of S. 1176, if enacted, would require no change in our prosthetic contracts where the short form is now in force. The amount obligated under these prosthetic contracts for the current fiscal year is $239,213. These contracts at present are as follows:

Arizona Research Foundation	V1005P–9045
Battelle Memorial Institute	V1005M–1961
Dr. John Esslinger	V1005M–5278
Gamble & Gage	V1005M–5272
Haskins Laboratories, Inc	V1005M–1254
Haverford College	V1001M–1900
Houston Speech & Hearing Center	V1005M–1239
Mauch Laboratories, Inc	V1005M–1412
Do	V1005M–1943
Metfessel Laboratories	V1005P–5321
National Academy of Sciences	V1005M–1914
University of Southern California	V1005M–458

Section 3(b) would require a change, however, where the long form is in force. The approximate amount obligated under these contracts for the current fiscal year is $172,173. These contracts are now as follows:

Haskins Laboratories, Inc	V1005M–1253
New York University	V1005M–1917
Northwesetrn University	V1005M–1926
Do	V1005M–1079

system, that there is nothing about Government contracting which makes private patenting of Government-sponsored inventions by contractors peculiar in clogging dissemination. Rather, I think inventions made under Government contract, which are subject to the control of the contracting officer, may be more quickly disseminated than private inventions. At least the tendency of the contracts is to require the Government to receive periodic reports and to have the right to publish them. However, I am impressed that there may be a justifiable criticism aimed at the patent system as a whole in that respect.

Our bill does not address itself to the problem of information dissemination because we think that it belongs with others to a general revision of the patent laws, a revision aimed to streamline the patent laws and bring them up to date with the modern inventions that have been made under its aegis; for example, in data handling and other things. We have now got to get the patent system as a system to catch up with the devices that it has produced. Thus, this association most respectfully urges that this subcommittee report favorably on the proposed bill drafted by the association's committee as a measure of fairly and sensibly meeting any immediate problems existing in the field of Government patent policy and turn its attention to the problem of taking positive action to review, to streamline, to modernize, and to expand the U.S. patent system to make it the most effective possible vehicle for the promotion of inventions in a free economy.

This association pledges its wholehearted cooperation to such a positive program.

I may say we have taken one step that way. We have had a translation made of the proposals now pending in the Dutch Parliament for the revision of their patent laws, the only English translation of this proposal in existence.

Senator McCLELLAN. All right. Thank you very much.

The bill that you have suggested will receive study.

As I understand it, you acknowledge possibly that the Government has some equity in inventions that arise out of Government-financed research.

Mr. MORTON. It seems quite clear to me that in certain circumstances they do.

Senator McCLELLAN. The Government should have, or does have, an equity, some rights in those inventions?

Mr. MORTON. In certain of those inventions I think that the Government would have a clear right to all title interest.

Senator McCLELLAN. Might have all title whether the whole purpose of the research program was to find a way to do——

Mr. MORTON. Certainly.

Senator McCLELLAN. To do one specific thing.

Mr. MORTON. Certainly.

Senator McCLELLAN. And if the Government financed it, then the Government should own the title to that particular invention.

Mr. MORTON. Yes; precisely.

We feel that if the Government——

Senator McCLELLAN. In that same instance, how do you feel about the individual whose idea may have materialized into the invention? Should he surrender all that right?

Mr. MORTON. Well, Senator, the way I envisage it is this: if a situa-

STATEMENT OF MAX D. PAGLIN, GENERAL COUNSEL, FEDERAL COMMUNICATIONS COMMISSION

This statement is submitted on behalf of the Commission in order to present its views regarding S. 1084 and S. 1176, bills to establish a national policy with respect to patents growing out of the expenditure of Government funds.

Before turning to these bills, however, I think it would be helpful at the very beginning to set out the relation of patent matters to the Commission's functions.

With respect to common carriers subject to Commission regulation under title II of the Communications Act, section 218 provides as follows:

"SEC. 218. The Commission may inquire into the management of the business of all carriers subject to this Act, and shall keep itself informed as to the manner and method in which the same is conducted and as to technical developments and improvements in wire and radio communication and radio transmission of energy to the end that the benefits of new inventions and developments may be made available to the people of the United States. The Commission may obtain from such carriers and from persons directly or indirectly controlling or controlled by, or under direct or indirect common control with, such carriers full and complete information necessary to enable the Commission to perform the duties and carry out the objects for which it was created."

The Commisison has for many years required the principal common carriers, such as American Telephone & Telegraph Co., International Telephone & Telegraph Co., Radio Corp. of America, and Western Union to file semiannual patent information reports.

With respect to raido communications, section 303(e) of the Communications Act requires the Commission to—

"(e) Regulate the kind of apparatus to be used with respect to the external effects and the purity and sharpness of the emission from such station and from the apparatus therein."

In addition, section 303(g) of the Communications Act requires the Commission to—

"(g) Study new uses for radio, provide for experimental uses of frequencies, and generally encourage the larger and more effective use of radio in the public interest."

The primary function of the Commission is to regulate interstate and foreign commerce in communication by wire and radio so as to make available to the public a rapid, efficient, nationwide and worldwide wire and raido communication service with adequate facilities at reasonable charges.

To achieve this objective, the Commission from time to time either adopts new technical standards or changes existing technical standards on equipment used in providing such services. For the most part, in adopting those standards, the main concern of the Commission is with technical matters, rather than with the subsidiary question of whether particular patent holders might benefit through promulgation of those standards.

But this is not to say that patent matters are not important. For the Commission has recognized that under certain circumstances, dominant patent holders may become the primary beneficiaries of new or revised technical standards. In this sense, patent information can be, and is, a highly relevant factor in determining whether proposed technical standards should be adopted. For example, in this connection, the Commisison insisted on obtaining substantial patent information in the color television hearings in 1949–50 where there were several conflicting systems being prepared.

Similarly, in the current rulemaking proceedings for establishing standards to permit FM broadcast stations to transmit stereophonic programs on a multiplex basis, the Commission has requested the proponents of various systems to supply it with information as to their patents.

However, the difficult problem of whether some patent holder would be in a position of patent domination, must, in our view, remain subordinate to the duty and responsibility of the Commission to adopt technical standards which will result in the securing by the public of the best communication service obtainable.

Moreover, international agreements and treaties lay down basic standards for frequency tolerance and power requirements in international communication. As a signatory to such agreements, the Commisison must give effect to such requirements in promulgating its tecnhical standards.

Senator McCLELLAN. Thank you very much.

The committee will stand in recess until 2 o'clock.

(Whereupon, at 12 noon, the hearing was recessed until 2 p.m., this same day.)

AFTERNOON SESSION

Senator McCLELLAN. The committee will resume session.

All right, who is the next witness?

First, Mr. Morton, did you have anything else you wished to say? I thought you understood you were excused at noon.

Mr. MORTON. Thank you, Senator. I had nothing I wanted to say. I wanted to be sure that any questions you had asked me, I had answered.

Senator McCLELLAN. Very well. I think you covered the ground pretty well, particularly with respect to the bill you have offered for consideration. I am sure it merits our attention, and I appreciate it very much.

Mr. MORTON. Thank you.

Senator McCLELLAN. All right, the next witness.

Mr. Forman, will you come around, please, sir?

STATEMENT OF HOWARD I. FORMAN, PATENT ATTORNEY, PHILADELPHIA, PA.

Mr. FORMAN. Mr. Chairman.

Senator McCLELLAN. Be seated and identify yourself for the record, please.

Mr. FORMAN. Thank you, Senator.

My name is Howard I. Forman. I am an attorney. Patents are my specialty. I am located in Philadelphia, Pa.

I am also a lecturer at Temple University, in the Department of Political Science, where I give a course entitled "Federal Administrative Process."

By way of additional background which may be of interest, I have had about 12 years of experience as a patent attorney in charge of a field agency patents branch for Army Ordnance and, since then, have been associated with private industry in Philadelphia. For over 10 years, I pursued the study of public administration at the University of Pennsylvania, which culminated in my being granted the degrees of master of arts and doctor of philosophy. In the course of these two pursuits, patent practice and my study of public administration, I have become interested in the subject that you are considering today in these bills.

I have tried to analyze the problems that are before you from what I consider both points of view, that of a patent attorney and of a student of Government. My principal objective is to recommend constructively, in the public interest, positive legislation that might accomplish the end you are seeking and eliminate some of the objections that I find in both bills that are before this subcommittee today.

I have prepared a written statement which is quite lengthy and which you have. I definitely shall not read it today. I would like, however, to summarize for you some of the specific points, and conclude by calling attention to two bills which recently were introduced in the House, and which, in effect, would carry out the positive recommendation that I shall present here today. I have written quite

To the extent that this statement suggests that the Commission does not take into account, before adopting technical standards, the possible adverse effects which patent domination might have on the public interest, the Commission likewise feels this statement does not accurately reflect its firm determination to assure itself whenever necessary that its technical standards will serve the public interest and not merely the private interests of the patent holders.

Also, in this connection, let me make a final observation; namely, that the Commission knows of no case in which a potential Commission licensee has been unable to operate under our rules because of his inability to obtain a patent license or the use of patent equipment pursuant to a requirement of our rules, or any claim of exorbitant license fees.

Senator McCLELLAN. All right; the committee stands in recess until tomorrow at 10 o'clock.

(Whereupon, at 3:30 p.m., the hearing was recessed until 10 a.m., Thursday, June 1, 1961.)

1. Inventive productivity is one of our greatest national resources, but it is not unlimited. If, hypothetically, the genius of our country conceived of 1,000 patentable inventions each year, it is essential that we provide for the maximum utilization of those inventions to promote our Nation's welfare. If a sizable number of those inventions sit on the shelf, our economy suffers, our health and welfare and even our defenses may suffer, and the spur to further inventions which the promotion of the ideas of others usually provides will be relatively nonexistent. Today, with the Government subsidizing on the order of 60 percent or more of all research and development expenditures in this country, it is safe to estimate that some 600 of those 1,000 hypothetical inventions are at stake. Government officials have decried what has been termed "suppression" of patents by private industry, i.e., the failure to market worthwhile inventions for one reason or another. What will happen to those 600 patented inventions if the Government takes title to them and presumably issues free licenses to anyone who asks for one? I submit that, in the absence of the right of exclusivity afforded by ownership of the patent grant, most of those 600 inventions will go undeveloped and never be utilized to maximum advantage. If industry has sinned in the sense of "active suppression," the Government likewise would sin by what could be called passive suppression.

2. In some 12 years as a patent attorney employed by Army Ordnance, I became aware of the major problem it is to get many contractors to disclose inventions they may have made in the performance of a Government contract. Large staffs, and tremendous administrative problems, all very costly, must be expected in both the contractor's and the contracting officer's establishments. Even so, there are always doubts as to whether all reportable inventions were recognized as such, and if so whether they were properly reported. In figuring the alleged losses to the taxpayers by leaving rights to inventions with the contractor, those who have publicly maintained that such losses run into millions of dollars never take into consideration the costs which would be necessary to assure that the Government gets all the rights under a title-in-the-Government policy. My guess is that the administrative and other hidden costs would more than offset the alleged savings that the advocates of S. 1084 and S. 1176 have contended would be gained by the public.

3. Assuming that the Government takes title to all inventions arising out of contracts paid for at least partially by Government funds, is it planned to have the Government apply for (and prosecute) patents thereon? Who will do this? Is it contemplated that the Government will multiply its staffs of patent counsel and supporting personnel to handle this job? There is and has long been a serious shortage of experienced patent personnel; where will the Government get the large numbers it will need? What about the costs in handling all this tremendously increased workload? It is doubtful that the Government could prevail upon the contractor to tackle the job of preparing and prosecuting patent applications. But if it could so prevail, what assurance would there be that the contractor will put the same degree of effort into the prosecution of such cases when its staff is also busily engaged in working on the contractor's internally originated inventions to which the contractor keeps title?

4. The proverbial chance to make a million dollars is what makes many an inventor keep on inventing. Even if personal recognition is the drive in some instances, inventors do look for some pecuniary reward sooner or later. With Government contractors there will be no such potential. Payment for the contract is what they will get and no more. Under the circumstances—

(*a*) What's the incentive to make and improve, let alone disclose inventions?

(*b*) If the option exists with regard to the contractor's putting its best talent and facilities to work on its private projects as opposed to Government work, why work on the latter? Private work may lead to more than just payment for actual work done. As long as that potential exists, private projects will generally get preferential treatment. After all, there is a limit to the available brainpower and facilities, and the contractor will want to use them to its best advantage.

5. If the Government does not file applications for patent on inventions to which it takes title, but merely publishes them:

(*a*) Undoubtedly, a certain number of the inventions will be used. If there are certain "bugs" to be worked out, this may take a considerable amount of research and development. Only those will be exploited commercially which someone feels will lead to new inventions that can be pri-

GOVERNMENT PATENT POLICY

THURSDAY, JUNE 1, 1961

U.S. SENATE,
SUBCOMMITTEE ON PATENTS,
TRADEMARKS, AND COPYRIGHTS OF THE
COMMITTEE ON THE JUDICIARY,
Washington, D.C.

The subcommittee met, pursuant to recess, at 10:07 a.m., in room 2228, New Senate Office Building, Senator John L. McClellan presiding.

Present: Senator McClellan (presiding).

Staff members present: Robert L. Wright, chief counsel, Patents Subcommittee; Clarence Dinkins, assistant counsel; Herschel F. Clesner, assistant counsel; Thomas C. Brenna, investigator; and George S. Green, professional staff member, Committee on the Judiciary.

Senator MCCLELLAN. The committee will resume. Congressman Lanham, will you come up, please.

STATEMENT OF FRITZ G. LANHAM, REPRESENTING NATIONAL PATENT COUNCIL

Senator MCCLELLAN. Have a seat, sir.

Mr. LANHAM. Mr. Chairman, members of the subcommittee, I recall with pleasure, Mr. Chairman, our association as colleagues in the House of Representatives, and I am mindful of the significant and efficient service you have rendered to your State and Nation in each body of the Congress.

Senator MCCLELLAN. Thank you very much. I recall with pleasure, indeed, our associations, and you were one of those who took a freshman into your confidence, under your wing, and helped me get started as near right as it was possible, I assume.

Mr. LANHAM. Thank you, Mr. Chairman. My name is Fritz G. Lanham and my home city is Fort Worth, Tex. I represent the National Patent Council, a nonprofit organization devoted to the preservation, protection, and promotion of our American patent system, an original constitutional and fundamental institution of our Government since the very beginning of our Nation.

It was my privilege for the last 25 years of the 28 years I served in the Congress before my voluntary retirement, to be a member of the standing Committee on Patents, Trademarks, and Copyrights of the House of Representatives. What I learned in that broad experience of the transcendent importance of safeguarding our American patent system, which has contributed so outstandingly to our progress and prosperity, prompts me now to oppose vigorously the enactment of

tions he presented. I know that, in some quarters, our profession has been criticized as not having been constructive in its approach to the problem with which you are now concerned. I heard today, with deep appreciation, and I trust the Senator and the subcommittee's counsel did, too, the fact that important segments of the patent bar have come forward now with a constructive proposal, even a bill. I, too, as it happens, acting purely as an individual, based on my analysis resulting from at least 10 years' study, have come up with a bill which has the same objective in mind, namely, to advance the public interest.

Senator McCLELLAN. Is your bill a part of the material you submitted?

Mr. FORMAN. Yes, sir; in part I, in my final paragraph, I call attention to the bills, H.R. 6532, introduced by Mr. Green, of Pennsylvania, and a duplicate bill, H.R. 6548, introduced by Mr. Toll, of Pennsylvania, both now before the Committee on the Judiciary in the House.

Senator McCLELLAN. Those two bills may be made exhibits by reference, exhibits 1 and 2. We started with appendixes A and B here, and we shall make these exhibits 1 and 2 for reference only. They need not be printed in the record, but they may be identified and kept in the files for reference.

(The documents referred to may be found in the files of the subcommittee.)

Mr. FORMAN. Thank you, sir.

Now, with regard to my express statement for today, I feel that the bills that you have before you, S. 1084 and S. 1176, would, if adopted, not be in the best interests of the United States for a number of reasons. I shall discuss just three issues that I think are vitally concerned.

First of all, without going into all the explanations given by many of the people who have reported here before, and which the subcommittee staff has excellently analyzed in its several reports, I would like to describe what I think is the effect these bills would have on one of our greatest national resources; namely, inventions. To simplify the discussions, I will describe a hypothetical situation using relatively small, round numbers. Suppose that in any given year the maximum number of inventions which the inventive geniuses in this country were capable of producing was exactly 1,000.

Senator McCLELLAN. Will you explain that?

Mr. FORMAN. Let us hypothetically assume that the brains of this country could come up with a total of 1,000 patentable inventions every year. We now have the Government paying for approximately 60 percent of the research and development expenditures in the United States. Now, we may roughly correlate the number of dollars spent with the number of inventions which might come out of this research. I think it is reasonable, therefore, to assume that the fate of approximately 60 percent of these inventions, or 600 inventions out of the hypothetical 1,000 are originated each year, are at stake in the problem you are seeking to resolve.

In these trying times, Senator, it seems that every invention potentially might be important to our national interest from the point of view of our economy, national defense, health, welfare, and so forth. It is clearly the duty of the Congress as set forth in article I, section 8, of the Constitution, and being conscious of its responsibility to protect the public interest it undoubtedly is also the desire of the Congress

Even our modern dictionaries advise us that "to exclude" means "to shut out purposely; to debar." But some of the sponsors of S. 1176 call attention to the fact that science has progressed beyond the dreams of the Founding Fathers. That is evidently true, but those Founding Fathers knew and understood that Government in its functions had to be based upon sound and enduring principles that do not lose their force or applicability through changing conditions or circumstances.

In this regard, it is worthy of note that the amendments to the Constitution adopted since its ratification with the Bill of Rights, despite our great advance in science, have had to do merely with the machinery of our Government and have involved no modification of the fundamental principles upon which our Government was established. That is a wonderful and deserved tribute to the wisdom and prescience of those Founding Fathers. Those principles they adopted apply to all times and conditions and we have made progress as we have followed them.

So we do not need a new Constitution or a departure from its salutary provisions to solve the problems which confront us. In the same sense, the enduring and fundamental principles of the Bible, which was written long, long ago, are applicable to all times and conditions and we certainly do not need new ones.

From the standpoint of the use of patents for national defense, what more could the Government really need or properly desire than an irrevocable, nonexclusive, royalty-free license, leaving the commercial use for that limited time, now 17 years, to the inventors upon whom the Constitution confers that exclusive right?

Under the measure before you, not only could the Administrator of the proposed new and dictatorial organization, in violation of the constitutional provision, confiscate the patents of the true discoverers, but without let or hindrance he could turn them over for commercial use and without any consideration whatsoever to any person of his choice. Just where in the Constitution is such unjustified confiscation and transfer of title to patents authorized?

But the all-powerful Administrator by the terms of the bill before you could salve his conscience for such unwarranted usurpation of the property of others by seeking to appease the true owners of the patents and their proprietary rights with the offer of some award the Administrator would determine for the confiscation of the constitutional commercial rights of the real owners. Also the Administrator would be empowered by this bill to delegate his assumed authority to the heads of various governmental agencies. Can you imagine any greater conglomeration of confusion concerning the administration of other people's patents than such provisions of this bill would create? The power conferred upon the Administrator as proposed by this bill would be broad and practically unlimited. I cannot believe that the praiseworthy accomplishments of the Founding Fathers are thus to be repudiated.

But the proponents of this bill insist that, for all the spurious rights they claim, the Federal Government has contributed funds through contracts or otherwise that may in some way have led in part to some patentable discoveries. Now, you gentlemen well know that through various appropriations the Federal Government contributes funds to enterprises almost without number.

Senator McCLELLAN. Mr. Forman, at this point may I ask, is there not quite frequently a factor of cost of applying the invention so that, although the Government takes it and has it, and it is available, the cost that would be involved in making it applicable and making use of it would be such that those who might use it would hesitate to do so unless they got an exclusive right to so use it? I do not know that I stated it——

Mr. FORMAN. I think I understand it, sir.

Senator McCLELLAN. Here are all of my competitors. I am in business, and there is a patent up there that has been developed in some defense work. I would like to have it, but I know that I am going to have to invest so many thousands of dollars, X thousands of dollars, after I get it, to get it working, apply it to my business, to my production. I could afford, maybe, to do that if I could get that from the Government exclusively. But if I do it without the benefit of such an exclusive right, if I spend that much money and then my competitor over here says, well, I shall have to do that in self-defense, if he is going to do it, we go on down the line and I have actually not gained a great deal of advantage, have I?

Mr. FORMAN. No. You would neutralize any effect or any benefit you might have obtained if you did have an exclusive right.

Senator McCLELLAN. I am not arguing that that is the way to do it. I just used that as a case of illustration, and I can imagine—I do not say I know—instances where a fellow would say, I would like to use that patent but if I do it, it is free to everybody, and if I make that investment actually, I probably would not gain much. My competitors have the same advantage.

Mr. FORMAN. I see the Senator understands the operations of the American patent system thoroughly.

Senator McCLELLAN. I do not; I do not. All I know is, if you go out and do something, it is a good idea to be practical and not theorize too much on what is possible and whether you can do it.

Mr. FORMAN. I think the Senator makes a good point about being practical, because I think that should be the main object here. We all should be practical, and I think that the commonsense solutions I am trying to advocate are, if anything, very practical.

I said there are three issues I wish to present before you today. Still discussing my first point, you have got to make the choice between leaving inventions with the contractor or taking title in the name of the Government. Until now, you have got two propositions on opposite sides of the scales. On the one side is the argument that since the Government made a contribution of some sort, either all or part of the contract sum, it should take title in the name of the people. On the other side of this scale you have the argument that in most cases you will end up with an invention that nobody wants because they lack the thing you mentioned, Senator, the right to operate exclusively. That is, nobody will want to invest sums that might be necessary to develop new plants, and so forth—I need not explain all that because you know the arguments which have been advanced on that score.

But when the question comes up and you have got to weigh these two factors, which is the more important? Is it the fact that we might be able to save some extra cost to the taxpayers because we have not given one of the contractors what looks like an extra advantage?

Mr. LANHAM. If the trend thus suggested should be given full sway, this Federal Inventions Administration may become able to take over the Patent Office and make that fundamental governmental institution merely superfluous surplusage and entirely unnecessary. Is that another purpose of this legislative proposal? Are we to sponsor such an iconoclastic course?

And now, in the third place, I wish to accentuate the destructive effect the enactment of this bill would have upon the creative genius of this country in the search for inventive discoveries that would promote our progress.

I quote from the title of S. 1176 one of the suggested purposes of this proposed nondescript Federal Inventions Administration: "to encourage the contribution to the United States of inventions of significant value for national defense, public health, or any national scientific program." In my judgment, that is one thing that the enactment of this measure certainly would not do.

Enactment of S. 1176 would nullify the incentive of the very inventors who have done so much for the progress and prosperity of America and of others upon whom we could hopefully depend in these critical times. Many, if not most, of our basic discoveries have come from relatively humble citizens of our country whose natural stimulating hope has been to help themselves as well as their Nation.

Before proceeding to the suggested provisions to put a stop to the research and investigations of such benefactors, first let me call attention by way of example to experiences of one or two of them, though many could be enumerated. We will all agree that the aviation industry is one of the greatest America has made possible. And who primarily devoted themselves to the necessary labors to make actual this significant accomplishment? The answer is the Wright brothers. They worked diligently as others laughed at this supposedly foolish attempt to bring the fabled flying carpet to fact.

Several years ago, at the request of my friend and colleague, the Honorable Lindsay Warren, I spoke on Aviation Day at the first of those annual meetings and pageants in North Carolina, which are historic in character. There I met and talked with the telegraph operator who sent out the news of the first successful flight of the Wright brothers. He told me that fewer than half a dozen of the leading newspapers of the United States printed that momentous news item, but that many editors either telephoned or wired to ask what was the matter with that drunk telegrapher.

Thomas Edison was called a dullard by his schoolteacher, but he lived to make such marvelous contributions to the advancement of science that the whole world celebrated the centennial anniversary of his birth. Starting as a little fellow and with meager funds, he told his wife that he hoped he could sell his patent for an early invention for $2,000. A representative of a large industrial organization came to see him and offered him $20,000 for it. Incredulously he shouted "20,000." Thereupon the industrialist, misunderstanding his meaning, said, "Well, we'll give you $30,000, but that is our limit."

Think of the many thousands of jobs and the enormous public revenue the Wright brothers and Thomas Edison alone have contributed to our progress. And we like to believe that, with proper encouragement, the future will provide their counterparts in various fields of worthy achievement.

That is my positive approach to this problem. I shall come back to it later.

I would like to go on, if I may, to the other two main points that I have indicated in my statement. The second one concerns the fact that there are administrative problems which I fear have been completely overlooked. I have not heard or seen them mentioned in previous testimony or in the various subcommittee reports—in fact, anything I have read anywhere—and I would like to describe what I think are some very important ones.

It has been said by some proponents of these bills that the way things now go, the Government is giving away several millions of dollars in valuable patent rights.

Well, I question the accuracy of the figure, but nevertheless, let us assume that there is merit to the point that there are some very valuable patent rights that Government contractors are getting out of their contracts. These valuable rights, according to this allegation, were made possible by the expenditure of tax funds, and the question, therefore, is whether it is proper to leave them with the contractor.

Apparently, though, nobody is giving consideration as to what will happen if you enact these two bills that you are thinking about today, insofar as the problems of administering them and the cost thereof are concerned. Shouldn't we balance those costs against these "give-away" costs, as they have been described?

I submit that the administrative costs might equal and even outweight the other costs so that the net result would be a tremendous loss to the taxpayers.

I would like to explore this point a little bit.

In the first place, I can remember well in my experience with the Government as a patent counsel how difficult it was to get reports of inventions from contractors. They generally had a very serious problem in trying to evaluate their work to determine whether inventions were made, and whether they were made in the course of the Government contract. The Government's representatives always were concerned with determining whether all inventions that may have been made in the performance of the contract were, in fact, reported. Remember, this situation existed under regulations whereby a royalty-free license was all that the contractor was in almost every case required to give the Government. One can readily imagine how much more difficult this situation would be if the contractor was not allowed to keep title, but had to convey it to the Government. There certainly would be far less inducement for the contractor to report all such inventions.

Operating under the relatively liberal Armed Services Procurement Regulation, I can recall the many problems we had in getting invention reports. A followup had to be made of most contracts. Determinations had to be made as to whether inventions were or were not conceived, and whether the Government should get title or not. Practically no one cared what was to be done with the inventions thereafter. This took quite a number of people to staff not only central agencies in Washington, but field agencies from coast to coast. A tremendous number of man-hours has to be spent in ferreting out the information. We were never quite sure whether the reports we did get were thorough and complete, not because there was any attempt to conceal, although this was always a possibility, but more

STATEMENT OF JOHN W. ANDERSON, PRESIDENT, NATIONAL PATENT COUNCIL, AS PRESENTED BY FRITZ G. LANHAM

Mr. LANHAM. For nearly 50 years I have been active in the manufacture and distribution of mechanical products. Throughout that period I have been active in State and national associations of manufacturers. The U.S. patent on my first invention was issued to me in 1903. I have since had pending in the Patent Office at almost all times one or more patent applications on my inventions. I have had issued to me from time to time patents on various types of inventions—some of which have come into wide distribution and are used as essential equipment today on military and civilian automobiles, trucks, aircraft, warships, submarines, tanks, and so forth, in most civilized countries of the world. Many U.S. and foreign patents are pending today on my inventions applicable to both military and civilian uses.

I was cofounder and served as an officer and director of Automotive Council for War Production of Detroit throughout World War II. I was chairman of its military replacement parts governing board. I served on committees throughout World War II in an advisory capacity to OPA and WPB. I was president of Motor & Equipment Manufacturers Association during 3 consecutive years of World War II and have been for many years chairman of its policy committee. I am a member of the Society of Automotive Engineers. In those and other capacities I have enjoyed unusual opportunity for study of products, policies, procedures, and problems of manufacturers, from largest to smallest, particularly as related to patents.

I have worked closely with many men devoted to invention and research. I have been instrumental in marketing many products embodying patented invention. Today my manufacturing company operates three separately conducted creative and developmental departments. I am familiar with the incentives that induce men to long, and often sacrificial, creative effort—from the point of recognition of the need for an invention through to its discovery and thereafter its usually costly development into form suitable for distribution to the public.

Mr. Anderson, after having made some forceful statements about the Atomic Energy Act, the patent provisions of which he opposed, and which I, as a matter of fact, opposed in the House of Representatives when that bill was pending, then proceeds:

Who can feel pride that we later duplicated this handcuffing operation in the field of astronautics and space development? And who can be expected later to point with pride to any ancestor who now contributes anything to delay in correcting this suicidal condition and in restoring our patent system to its time-honored function in advancing our civilian economy—without which advancement we cannot be strong for defense.

A faltering civilian economy can provide no sound source of strength for military operations. Therefore, our hope for security lies as much in the cohesive and propulsive forces of our civilian economy as it does in our progress in the arts of military defense.

The really tragic aspect of this entire problem is that it may soon be too late to repair damage to our national security consequential to the legislative error, as affecting our patent system, injected under

it is going to mean something. Now, I ask you to consider what would you do if you are the contractor. On the one hand you have an obligation to prepare these facts, maybe even rough out an application, the net result of which is you are just going to give it over to the public domain and that is the end of it. On the other hand, you are faced with your private operations, and you have the natural desire to try to get the best patent protection you can on your fully privately invested developments. Logically speaking, I ask the question, on which one are you going to put your best people and your best efforts? Commonsense is going to suggest that even though a company lays down a policy that they are to be handled equally, with instructions that a Government case is to receive the very best treatment, somewhere along the different levels of an organization, somebody may do just the opposite. Someone is going to say, let us rush through this Government job and get back on our private work, because inventions arising out of the latter situation mean much more to us in the long run?

I would like to go on now to my third point. This has to do with the assignment of personnel brain power and material facilities in the contractor's operations. Suppose a contractor takes a contract under arrangements whereby any inventions he makes have to be assigned to the Government. At the same time, he is still carrying on his private business, trying not only to make new developments to solve a given problem, but hopefully, that each such invention will beget another new idea that will lead to another invention, the sum total of which might give him a better position in his private activities. Suppose you are the contract supervisor, and you have a choice to make between putting Mr. X on one job, Mr. Y on the other, and you know that Mr. X is superior in ability to Mr. Y. Would you not normally tend to put X on the private job since he is the more likely to make new inventions, and if so this might give your company greater rewards than just the amount it gets for performing a particular contract?

I suggest that this is what might happen, and if it does happen you will be defeating the major purpose of your bills. While you are trying to save a few dollars in inventions rights, or derivative benefits, you are not getting the best you can out of your contract operation. In other words, you will be defeating the very thing that the Government agencies are going out under contract to get; namely, the best possible manpower, and the best possible solutions they can find for R. & D. problems in the shortest possible time.

One more thing. On the question of cost, there is one point I neglected to mention before. You might ask, how do we know that we are going to have a greater expense in trying to operate under a system where the Government takes title, maybe not in every case, but which calls for the balancing of the equities, as one of the bills proposes? There are only two experiences I know of that we can refer to, and I think they are both in point.

One is the British system, where I think there is now recorded evidence to indicate that they find it more costly to operate a system of that sort than they ever expected and, as a result, it probably costs more than what they gain out of that program.

Our Government should be satisfied to acquire only "an irrevocable, nonexclusive, royalty-free license to practice or cause to be practiced by or for the U.S. Government for its uses only, any such invention, improvement, or discovery" as may be made in the performance of any Government contract.

Only then will our phenomenal performance in other fields of applied power and, by thus enlisting the practiced creative muscle of our diligent people, restore America's strength for survival.

Even a little later may be too late.

I thank you, Mr. Chairman, and members of the subcommittee, for your courtesy in hearing me.

(The complete statement of Mr. Anderson is as follows:)

STATEMENT OF JOHN W. ANDERSON, PRESIDENT, NATIONAL PATENT COUNCIL

My name is John W. Anderson. My residence is 578 Broadway, Gary, Ind.

REQUESTED IDENTIFICATION

I am founder and president of the Anderson Co., Gary, Ind., manufacturers, since 1918, of patented automotive equipment. I am also president of National Patent Council, a nonprofit, educational organization of smaller manufacturers, inventors, researchers, and other professional groups devoted to the field of science and invention. NPC is dedicated to improvement of public understanding and appreciation of the U.S. patent system as the prime force motivating our American incentive economy.

For nearly 50 years I have been active in the manuafacture and distribution of mechanical products. Throughout that period I have been active in State and national associations of manufacturers. The U.S. patent on my first invention was issued to me in 1903. I have since had pending in the Patent Office at almost all times one or more patent applications on my inventions. I have had issued to me from time to time patents on various types of inventions—some of which have come into wide distribution and are used as essential equipment today on military and civilian automobiles, trucks, aircraft, warships, submarines, tanks, etc., in most civilized countries of the world. Many United States and foreign patents are pending today on my inventions applicable to both military and civilian uses.

I was cofounder and served as an officer and director of Automotive Council for War Production of Detroit throughout World War II. I was chairman of its Military Replacement Parts Governing Board. I served on committees throughout World War II in an advisory capacity to OPA and WPB. I was president of Motor & Equipment Manufacturers Association during 3 consecutive years of World War II and have been for many years chairman of its policy committee. I am a member of the Society of Automotive Engineers. In those and other capacities I have enjoyed unusual opportunity for study of products, policies, procedures, and problems of manufacturers, from largest to smallest, particularly as related to patents.

I have worked closely with many men devoted to invention and research. I have been instrumental in marketing many products embodying patented invention. Today my manufacturing company operates three separately conducted creative and developmental departments. I am familiar with the incentives that induce men to long, and often sacrificial creative efforts—from the point of recognition of the need for an invention through to its discovery and thereafter its usually costly development into form suitable for distribution to the public.

STATEMENT

May we suggest most respectfully that the references herein made reflect no desire to bring condemnation to any particular person or persons in Government. The clarity with which events have fixed responsibility is the product of original error, emphasized against a backdrop of fullest warning.

While the national aeronautics and space bill of 1958 was pending before the Senate and House conferees, as president of National Patent Council, I ad-

Now, coming back to my specific proposal, look how we could dispose of so many problems that have arisen, both in these bills that you have before the subcommittee at this time, and in some of the other things that you have been considering.

If you adopt the philosophy that your primary purpose is to carry forward the constitutional provision, to promote the progress of the arts and sciences, you will have no trouble in deciding which is the best solution to your problem. If you accept the proposition that the best and only well-proven way to effect such promotion is under the patent system, then you must give the contractor the inducement of an exclusive right to practice the inventions for a limited time. It is a secondary consideration that the contractor will, in some cases, get some special advantage. If there is concern over the buildup of too much concentration of power in some companies, don't blame it on the fact that they acquired patent rights under Government contracts. If this is wrong, change the procurement policies and practices so as to distribute contracts more widely. If there is concern over the misuse of patents by companies that acquire large numbers of them, such a change could eliminate that problem. If not, application of the antitrust laws will. But in no case is there a need to destroy the incentives that only patents will provide.

Well, now, you should weigh the fact that there is theoretically taken away from the public at large some advantage that might be given a dollar value. You should weigh it against the possibility that, by leaving the rights with the contractor in the first instance, the public interest will be much better served. By having an administrative setup whereby the inventions will be followed up, as I have outlined previously, and seeing to it that under the compulsory working provision the inventions are fed into the public stream, the Nation stands to benefit. Inventions arising out of Government contracts will have a good chance of being actually converted into something useful—a new plant, a new product, a new process—for the exclusive patent right will be the inducement to the contractor to do this and to invest his own funds. This will not cost the Government a penny, and it will serve to get the inventions into public use.

This is the important thing; far more important, I submit, than merely questioning what happens to the extra privilege some contractors might get out of these contracts.

I would like also to mention something which is not in the proposal that I have described in part III (app. B). It is a provision that was proposed by the Congressmen who submitted the two bill I have mentioned before. It is identified as section 6 in both bills.

It is a rather interesting innovation, to my way of thinking. I frankly cannot speak on either side of the question at the moment, because I have not had the opportunity to explore it too deeply. This section 6 calls for an awards program, which would reward—it speaks of cash awards—inventors who work on Government contracts.

If I may digress momentarily, the mechanics of the program called for in these bills are very simple. Thinking in terms of economy of administrative expense, this is what is called for under these bills. There is established a new office headed by an Administrator. He would be in the Department of Commerce, responsible to the Secretary. He would have a very small office, as I visualize it, probably fewer than 20 people. His sole job would be to see that two things

WHEN RUSSIA GRINNED SLYLY

Having handcuffed American inventive incentive, as the Atomic Energy Act has done, Russia of course had every reason never to agree to international control of atomic energy or to internal inspections. She of course preferred to leave our self-applied handcuffs in place—to help her outdistance us in the race for atomic supremacy. We all know the tragic results of our having thus been so seriously misled.

Who can feel pride that we later duplicated this handcuffing operation in the field of astronautics and space development? And who can be expected later to point with pride to any ancestor who now contributes anything to delay in correcting this suicidal condition and in restoring our patent system to its time-honored function in advancing our civilian economy—without which advancement we cannot be strong for defense.

A faltering civilian economy can provide no sound source of strength for military operations. Therefore, our hope for security lies as much in the cohesive and propulsive forces of our civilian economy as it does in our progress in the arts of military defense.

The really tragic aspect of this entire problem is that it may soon be too late to repair damage to our national security consequential to the legislative error, as affecting out patent system, injected under such impelling pressures, into both the Atomic Energy Act and the Space Act—each herein discussed.

Each of these acts, by its constrictive patent provisions handcuffs traditional propulsive incentives that have given to America her constant drive toward greatness. How sad that our Congress forgot, or was persuaded to ignore, the vital fact that the fountainhead of propulsive incentive in America is our patent system.

ARROGANCE OR STUPIDITY?

And who can feel pride in contemplation of the all-too-obvious fact that the entire bureaucratic maneuver toward the establishment of a huge governmental cartel in U.S. patents flies arrogantly, and stupidly, into the face of our Constitution?

In fact the entire theory offered to justify our presumption of governmental right to own patents is based upon an unsupportable concept of constitutional law. Why otherwise could it be that no governmental agency has ever dared assert its presumed rights to any U.S. patent, in any manner that would expose such assertion to review by our U.S. judiciary—a judiciary historically established to prevent dissipation of the invested power of the U.S. Constitution to promote our greatness as a nation

Who in America can look with anything but fear upon this outstanding example of the arrogant contempt of some segments of our bureaucracy for any constitutional concept that would retard their drive for absolute controls. Now we see how such contempt has brought us—with all our traditions—to the threat of overnight annihilation as a nation, as a race, and as a civilization.

EARLIER DISCOVERIES OF GREAT NATURAL POWERS HAVE SERVED US WELL

At an earlier point in our history the power of steam to perform work for man was revealed. This was followed by discovery of the still mysterious power of electricity—and later of the power of internal combustion. In each of the three great discoveries, the disturbing threat of a limitless new force excited many people. There were varying speculations as to how such power might influence the fortunes of the human race.

Our patent system provided incentive to creative people to find new ways to apply these three great forces to the service of our Nation. Such incentive induced diligent, hopeful men to create various forms of the steam engine and of apparatus by which the power of steam thus could be successfully applied to many important tasks. Those same incentives impelled our citizens to create a host of ways to apply the power of electricity to our growing needs. Thus electricity gave us our telegraph, our telephone, our radio, our television. It contributed in many ways to the adaptation of steampower to new uses. Without electricity, our waterfalls, and our internal combustion engines, could not have advanced so significantly in our service. All of these revolutionary developments were encouraged by absence of arbitrary restraints upon the inventor and the manufacturer—in our free economy.

But suppose that, as these great discoveries came along, we had been possessed already of a bureaucracy able to imagine it saw in each of them power of such

STATEMENT OF CHARLES I. DERR, VICE PRESIDENT, MACHINERY AND ALLIED PRODUCTS INSTITUTE; ACCOMPANIED BY WILLIAM J. HEALEY, STAFF COUNSEL, MACHINERY AND ALLIED PRODUCTS INSTITUTE

Mr. DERR. I ask the Chair's permission to have one of my associates join me.

Senator MCCLELLAN. State your name for the record and also your associate's name, please sir.

Mr. DERR. Charles I. Derr and this is William J. Healey, who is staff counsel of the institute. The organization which we represent is a national organization of capital goods and allied products manufacturers. I should say that with the chairman's permission, I will simply highlight my statement and ask leave that the full statement be included in the record.

Senator MCCLELLAN. The full statement may be printed in the record at this point. The Chair will appreciate your highlighting it.

We have, I believe, two other witnesses besides you to hear this afternoon and I was hoping we could conclude about 4 o'clock, but you proceed now and highlight your statement.

(The statement referred to follows:)

STATEMENT OF THE MACHINERY AND ALLIED PRODUCTS INSTITUTE PRESENTED BY CHARLES I. DERR, VICE PRESIDENT

Mr. Chairman and gentlemen of the committee, we appreciate the opportunity of appearing before the Patents, Trademarks, and Copyrights Subcommittee to state the views of the Machinery and Allied Products Institute and its affiliate organization, the Council for Technological Advancement, on S. 1084 and S. 1176 now pending before the subcommittee.

A word about the Machinery and Allied Products Institute is in order. The institute is a national organization of capital goods and allied product manufacturers. These companies are primarily manufacturers of commercial products and the great majority have little or no Government business. Although only a minority of our member companies are directly involved in Government contract work, the membership does include manufacturers of certain items which are indispensable to our national defense effort. Capital goods manufacturers might properly be called engineering companies; as such, they are characteristically small- or medium-sized companies whose livelihood depends upon the continuing excellence of their research and development work and the protection afforded the results of such work through our traditional patent system.

It should be noted that capital goods and allied product manufacturers, for the most part, finance their own research and development work, and in undertaking such activity for the Government, bring to such tasks an immense background of privately developed know-how.

Because of the importance of patent rights to capital goods manufacturers, the institute has for a considerable number of years been deeply interested in this and related questions. As a matter of fact, a little more than a year ago it conducted here in Washington a 2-day conference of Government and industry representatives for a discussion of the patent rights question and the closely related problem of acquisition of proprietary know-how under Government contract. Insofar as patent rights under Government contracts are concerned, the institute has two principal interests: First, the protection of contractors' rights and, second, the adequacy of incentives for Government contractors to insure that the public interest is served by the participation of the best contractors.

As the chairman has said in his statement of April 18, the main problem here "is to find some objective definition of the public interest in these patent rights that will tell a Government agency when to let a contractor take title to these patents, and when not to." Obviously, the public interest in this matter has a number of aspects. For example, there is the question of whether or not the

intimate experience, facts confirming the widespread and growing fear, growing now even in atomic and space agencies of Government, that even a little later may be too late to shed our atomic handcuffs. Confirming, from a former post inside Government, the constricting power of the "handcuffs" we mention, Major Lent said:

"As a result, many manufacturers today simply and rigorously refuse to do business with our Government. They have not and do not intend ever to accept a Government research and development contract and most are reluctant to accept purchase orders from Government prime contractors which specify even minor changes in their standard product requiring engineering work and resulting special drawings. The resulting loss to our national defense effort in inventiveness and creativity is utterly incalculable."

Major Lent, later in his powerful article, said:

"Obviously there exist enormous economic opportunities for the measurement industry. But we know that under the law and current defense agencies administrative interpretations the 'breakthroughs in the state of the art' so urgently demanded by General Yates, which may cost the inventor anywhere from thousands to millions of dollars in development, will, upon acceptance, become the property of the Government with full legal authority to award their quantity reduction and profit to one of his competitors; or, as flagrantly happens, to a company not even currently in the instrumentation field.

"Faced with this dilemma, we must either deliberately sacrifice our brains and our talents on a horserace we know is fixed in advance, or with equal deliberation simply avoid the risk and withhold of our creativity from this critical need. The first course of action is becoming increasingly sheer economic stupidity; the latter course of action is unpatriotic to the edge of figurative treason.

"The culprit in this impasse is clearly the Congress of the United States. The massive breakthrough in the protective barrier of the patent grant was the Atomic Energy Act, which was spawned in a day of frightening awe of atomic weapons compounded by the most rigorous secrecy ever shrouding a subject. Now I am certainly not going to argue that our citizens should be free to manufacture nuclear weapons of their own patented inventions in their backyard workshops, nor that the U.S. Government does not have an overriding interest in nuclear weapons developments wherever they might occur. But it is this unique act, created for one of the most highly specialized purposes in the history of the Congress, that is increasingly the model for equally assumptive patent clauses in other enabling legislation and executive and administrative orders. The pattern now well developed in this area displays the perhaps innocent, but nevertheless, thoughtless zeal of the bureaucrat for garnering into Government title virtually everything in sight."

In 1952 National Patent Council clearly predicted these sad results. Major Lent made clear in his article why no such predictions were heeded by Congress. Your committee can learn, I believe, if it desires, that there are many competent manufacturers in this country today who avoid, like a plague, any suggestion that they become involved in any research and development in cooperation with our Government.

WHY FLOUT OUR FOUNDING FATHERS?

Why not act vigorously to restore to our country, in full force, the power for propulsion by incentive to create and produce, with which power our Founding Fathers invested our Congress through that provision of our Constitution which says:

"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;"

Can we risk ignoring longer our grievous error in stifling inventive incentive? And can we ignore its impending consequences? Can we hazard further the forfeiting of the freedom of all our people—indeed our hope of life itself—by backing one whit further into the open jaws of our most savage enemy?

These dangers—now painfully apparent—were dealt with at length in an address I delivered on March 11, 1949, more than 12 years ago, to the Dayton Patent Law Association, Dayton, Ohio, from which address I quote as follows:

"(1) This council questions most seriously the desirability of the U.S. Government's acquiring and maintaining in foreign countries patent protection on any inventions whatsoever.

SOME GUIDELINES IN FRAMING PATENT POLICY

We have already alluded to a number of broad objectives involved in the disposition of patent rights to inventions resulting from Government-financed research and development. Since, as we suggested, these objectives are not necessarily consistent one with the other, any legislative recommendations resulting from these hearings must necessarily seek an accommodation of the conflicts between these objectives and a balancing of their relative weights in view of the total public interest. As possible guidelines for the achievement of such an accommodation and as an introduction to our general statement on the proposals now before the subcommittee, we suggest the following:

1. Our Government's system of research and development—and the disposition of patent rights resulting therefrom—must make a maximum contribution to the defense of the United States. In still broader terms the system should be designed to effectuate promptly and fully the increase and diffusion of human knowledge, these being essential preconditions to technological advancement.

2. Government procurement patent policy should preserve and, if possible, encourage private research—both business and individual—to pursue scientific and technical inquiries of potential benefit to Government and to the community at large.

3. Government procurement patent policy should encourage the prompt and efficient utilization for peaceful purposes of new technology developed under Government-sponsored research and development.

4. Government procurement patent policy should seek the placement of Government research and development work with the best qualified firms without reference to size.

5. Insofar as possible, Government procurement patent policy should avoid the disruption of normal Government-industry relations.

6. Government procurement patent policy should be so framed and administered as to avoid Government control over rapidly developing new technologies.

A REVIEW OF THE ASSUMPTIONS UNDERLYING THE PRESENT PROPOSALS

An examination of past studies in the field and prior testimony offered at this hearing indicates that these bills are based on a tightly interwoven series of conclusions or assumptions. Certain of these assumptions are legal, some economic, some social, some technological. And it seems to us we can best determine the nature of the problem to which they are addressed, and the efficacy of the solutions proposed, by examining the soundness of these underlying premises. Our statement of each assumption and examination of its validity appears below.

1. *The Government should get what it pays for.*—No one can disagree with the proposition that the Government ought to get what it pays for. But just what does the Government pay for in this instance?

We suggest that it pays for the performance of research and development work and that any invention which may result is, in the great majority of cases, a largely fortuitous event which was not contemplated and not bargained for, at the time of contract execution.

Speaking for the Department of Defense, which accounts for the major share of the Government's research and development spending, Mr. Bannerman stated the matter succinctly in his testimony before this subcommittee: "We are not seeking patentable inventions, the likelihood of their occurrence is unpredictable and whether they do or do not work is actually irrelevant so long as our development goals are achieved or surpassed. Patentable inventions are thus byproducts of development and our principal concern with them is that these inventions be freely available to us and to our other contractors for use in future Government work." Thus, the prime objective of Department of Defense research and development procurement is the development of new or improved military weapons systems. It is not the conception of inventions or the acquisition of patent rights to such inventions.

It may well be that in certain research and development contracts let by civilian agencies of the Government the end product sought by the contractual agreement is some new product or device or formula or process fully developed for civilian use. The contracting parties may have intended that successful performance of the contract would result in a commercially exploitable end product. One possible key to the solution of this problem now confronting the

Appendix A appended hereto, is an excerpt from my statement of March 11, 1949, to Dayton Patent Law Association, previously mentioned herein. That excerpt offers unassailable documentation making it clear that Government agencies, one after another, arbitrarily set up rigorous conditions by which the citizen who applies for a license, under a patent presumed to be owned by Government, is required to accept a license (if indeed he can get one at all) that may be revoked arbitrarily by Government—that may require the citizen to contract to transmit to Government his confidential commercial technical information and know-how—or may impose other forbidding conditions.

Our file of these revealing replies by various Government agencies is available for your examination.

TO STIFLE INVENTIVE INCENTIVE IS TO DESTROY OUR NATION

The patent provisions proposed in S. 1084 and S. 1176 substantially lessen the normal incentive to invent and to exploit patented inventions.

When Government, as to vital areas of defense, deliberately withdraws from the citizen time-honored incentives to create our means for defense, how can Government express surprise that by stifling those time-honored incentives in the field of production for civilian uses it has seriously impaired the capacity of our civilian economy to support our military agencies?

No nation entering war with a backward and befuddled civilian economy has thereby improved in any way its chances for victory.

The tenaciously preserved German patent system—that made Germany's civilian economy so strong in its domestic and international trade before World War II—is now functioning freely, and has been a strong factor in making West Germany potentially so strong for defense.

Let us open wide the fountainheads of creative incentive in America, a Nation upon which so much of the responsibility for defense of our Western civilization is presumed to rest.

One wonders from whence comes such will, and skill, to divorce such power so completely from the source that creates it. Certainly our Constitution contemplated no such incentive-stifling confiscation of property as is proposed in S. 1176 and S. 1084.

Our Government should be satisfied to acquire only "an irrevocable, nonexclusive, royalty-free license to practice or cause to be practiced by or for the U.S. Government for its uses only, any such invention, improvement, or discovery" as may be made in the performance of any Government contract.

Only then will our phenomenal performance in other fields of applied power and—by thus enlisting the practiced creative muscle of our diligent people—restore America's strength for survival.

Even a little later may be too late.

APPENDIX A. EXCERPT FROM AN ADDRESS BY JOHN W. ANDERSON, PRESIDENT, NATIONAL PATENT COUNCIL

Delivered March 11, 1949, to Dayton Patent Law Association, Dayton, Ohio

SAUCE FOR THE GANDER—WHAT FOR THE GOOSE?

One argument of the planners against such legislation is that it is unnecessary because nonexclusive licenses are issued to all comers under patents owned by Government. Superficially that seems real nice of Government. However, upon inquiries recently directed to various governmental agencies it was discovered that those agencies feel impelled to give conclusive effect to their own judgments in the matter of determining who shall have a license and under what conditions. For example, there was addressed, under date of January 24, 1949, to various governmental agencies the following letter:

"Will you please advise what steps should be taken to obtain a license, right to use, and other details under one or more of the U.S. patents in which your Department is listed as the owner thereof."

Among replies received to the above letter were the following:

The Navy Department, Office of Naval Research, replied on February 4. Their letter contains the following significant statement:

"To enable this office to determine whether a royalty-free license may be properly granted it is requested that the applicant for license furnish the following information:

"(*a*) What benefits to the public are expected to accrue if the license is granted

such impelling pressures, into both the Atomic Energy Act and the Space Act—each herein discussed.

Each of these acts, by its constrictive patent provisions handcuffs traditional propulsive incentives that have given to America her constant drive toward greatness. Tow sad that our Congress forgot, or was persuaded to ignore, the vital fact that the fountainhead of propulsive incentive in America is our patent system.

ARROGANCE—OR STUPIDITY?

And who can feel pride in contemplation of the all too obvious fact that the entire bureaucratic maneuver toward the establishment of a huge governmental cartel in U.S. patents flies arrogantly, and stupidly, into the face of our Constitution?

In fact the entire theory offered to justify our presumption of governmental right to own patents is based upon an unsupportable concept of constitutional law. Why otherwise could it be that no governmental agency has ever dared assert its presumed rights to any U.S. patent in any manner that would expose such assertion to review by our U.S. judiciary—a judiciary historically established to prevent dissipation of the invested power of the U.S. Constitution to promote our greatness as a nation?

Who in America can look with anything but fear upon this outstanding example of the arrogant contempt of some segments of our bureaucracy for any constitutional concept that would retard their drive for absolute controls. Now we see how such contempt has brought us—with all our traditions—to the threat of overnight annihilation as a nation, as a race, and as a civilization.

And in conclusion, just a very significant statement that Mr. Anderson makes with reference to stifling inventive incentive.

To do so, he contends, is to destroy our Nation.

The patent provisions proposed in S. 1084 and S. 1176 substantially lessen the normal incentive to invent and to exploit patented inventions.

When Government, as to vital areas of defense, deliberately withdraws from the citizen time-honored incentives to create our means for defense, how can Government express surprise that by stifling those time-honored incentives in the field of production for civilian uses it has seriously impaired the capacity of our civilian economy to support our military agencies?

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Let us open wide the fountainheads of creative incentive in America, a nation upon which so much of the responsibility for defense of our Western civilization is presumed to rest.

One wonders from whence comes such will, and skill, to divorce such power so completely from the source that creates it. Certainly, our Constitution contemplated no such incentive-stifling confiscation of property as is proposed in S. 1176 and S. 1084.

Mr. LANHAM. Yes, but bearing in mind, of course, that we make such expenditures for many lines of work where we do not require such return.

Senator MCCLELLAN. I noted that, that you point out where we make many investments of the Federal Government, for instance, to have farmers stabilize their prices, and so forth, and yet we take nothing from them, we take no marketing rights from them.

Mr. LANHAM. And also those are matters of contract though the contract may not be written.

Senator MCCLELLAN. I understand. But your contention is that even though the Government may wholly finance a research project, and from that, discoveries are made, inventions are made that are patentable, the Government should not take more than just a royalty-free license to use it?

Mr. LANHAM. In the first place, the Government needs nothing more and, in the second place, that idea that is patentable does not arise in the Government; it arises in the mind of some individual that the Constitution seeks to protect.

Senator MCCLELLAN. I understand. The only thing that can be said is the Government does provide the money that gives him employment and the opportunity.

Mr. LANHAM. Well, to some extent, perhaps for some patentable inventions. But that theory and practice, I think, runs through all of our Federal Government.

Senator MCCLELLAN. You raise another very serious question, and that is the constitutionality of some of this legislation. I have tried to retain a profound respect and reverence for our Constitution——

Mr. LANHAM. I realize that, Mr. Chairman.

Senator MCCLELLAN. And I sometimes think there are among us those who, as you indicate in your statement, feel that whenever the Constitution interferes, we simply circumvent it and go head. I do not quite agree with that. I had not thought about the unconstitutionality of this legislation, but I understand the position you are taking, that the Constitution invests that title in the discovery and in the inventor.

Mr. LANHAM. The Constitution specifically provides the power of Congress with reference to patentable discoveries, and gives that exclusive right in those discoveries for a limited time to the individual.

Now, the fact that things are being centralized now in Government and that they are going to take the patents of these people away from them if the Government can use them, or some Administrator thinks he could use them, there is no reason in the world for those who can help, like those who have helped our Government, to be inspired to engage gratuitously in any helpful, creative service.

Senator MCCLELLAN. There would be this question.

Of course, I think the Government could, in time of national emergency, confiscate a patent to its own use.

Mr. Lanham. Well, there are provisions now in the law by which the Government can use anybody's patent and the redress on the part of the owner of the patent infringed would be in the Court of Claims.

Senator MCCLELLAN. That would be true, but again, I do not know that the Government, even in times of emergency, has any right to, in effect, confiscate title to a patent and thus make it available con-

Now, then, I might agree with you or anyone else on many, many exceptions and many qualifications to that. But to write legislation you have got to start with a base, and I am trying to figure out which base to start with.

All right, go ahead.

Mr. JORDAN. Well, this is all we have, Mr. Chairman.

There are some members of our staff here from the Public Buildings Service of General Services and our Defense Materials Services. We will be pleased to answer any questions which you may have.

Senator MCCLELLAN. You pretty well then set out in the letters the position of the agency?

Mr. JORDAN. Yes, sir.

Senator MCCLELLAN. Very well.

Any questions, Senator Hart?

Senator HART. Mr. Chairman, I was interested in your comments just a moment ago as to the starting point, or call it what you will.

Based upon your experience in a wide variety of property disposition matters, can you conceive that Congress could write a law which would establish the basic principle that title would be in the Government except, and hope to be able to spell out the exceptions? Or would you suggest we think of asserting the general proposition in the statute and then, as this Long bill does, create a Federal Inventions Bureau or something like that, assuming the constitutionality of it, simply stating the proposition that basically the rule should be that title should be in the Government but this agency should consider and then list generally half a dozen of these items that you mentioned, the extent of contributions, background of the private developer and so on?

As between those two which approach do you think would offer the greater promise in terms of workable legislation?

Mr. MACOMBER. I would think, Senator, that any legislation would have to be written in extremely general terms, laying down guidelines rather than attempting to set out specific exceptions, and with provision for some kind of a centralized review perhaps rather than centralized administration.

Senator HART. I understand you then to suggest that you think it unlikely that we could draft a law which we could permit each executive agency to seek to apply. Rather, we should visualize a law which sets out the general proposition, let the agency make a determination and then have some separate and, I presume, new agency make a final appraisal as to the wisdom and the propriety of the agency decision under the general statute?

Mr. MACOMBER. I have been thinking along that line. Senator, yes, that that would be the most practical way to handle this very difficult and controversial subject. Whether it should be a new agency, thereby creating one more agency, theoretically at least reporting directly to the President, or whether there is some existing agency that would be sufficiently divorced from the controversy to perform that function I am not sure, and also I would think that it should be on a postreview basis, at least should be tried that way in order to avoid these delays in channeling every single transaction in advance to this central agency.

Senator HART. Thank you.

Thank you, Mr. Chairman.

As to past activities, I have spent about 14 or 15 years with what might be classified as big business, partially in factory work and partially in research work. I spent 1 year as a one-man consultant, and 5 years as president and chairman of the board of a small business concern devoting at least 80 percent of its efforts to research and development work for the benefit of the Government.

That concern now has about 80 employees, of whom about 30 are scientists and engineers who are highly creative.

I am speaking more from the standpoint of the above as a background than as representing views that would be indicative of any one of those affiliations.

I am speaking as a citizen who feels that the country is in a state of danger from many sources, and that any law similar to the proposals of S. 1084 and S. 1176 would increase the danger to the country, both as to its economy—that is, its economic welfare—and its international posture.

I feel that laws and their administration should be designed to encourage invention and the bringing of inventions into public use. That, as I understand it, was the original intent of the patent system that was established.

Senator McCLELLAN. Do you feel that these bills, if enacted, even with what might be expected in the way of modifications and provisos and so forth, during the course of their being legislatively processed, do you feel that they would curb or diminish the incentive of individual inventors such as you to pursue their profession or pursue their projects of invention and discovery?

Mr. SUNSTEIN. I do; very much so.

Mr. McCLELLAN. Why?

I appreciate having somebody that is just a practical citizen—I mean with some practical experience in the field—come in and tell us from the standpoint of that practical knowledge that they have and the observations they have made, rather than as to theories.

Now, you have the background of practical experience as an inventor, as a businessman, and as a promoter or distributor of inventions to get them into public use and public benefit. Now, speaking from that background, just tell us why you think this would tend to destroy the incentive of the inventor?

Mr. SUNSTEIN. Fine. I shall attempt to do so. If I am not clear, it is due to my inability to communicate and not due to any lack of firmness of my conviction.

One of the questions that needs to be answered, first, is how inventions get put to public use.

Central administration, I do not think, can be the answer to that, and I shall give reasons. One, when an inventor conceives an idea, he generally has an unfriendly and often hostile environment around him for nurturing that idea. He has conceived something that is generally out in front of what his coworkers are thinking at the time. He may be working in a commercial organization whose other members are interested in marketing their present products, or in which there is invested capital in present products, so that recovery of income from those is more important than nurturing a new idea.

There are other professional men around him who see many problems with his new idea and sometimes for justifiable causes. The inventor, in general, needs encouragement in one way or another to

6. GOVERNMENT BUDGETS SHOULD BE DEVOTED TO THEIR PRIMARY OBJECTIVES

In reviewing the matter of Government ownership of inventions and patents, it must be recognized that the acquiring of such rights is costly due to the time and effort required to receive, store, and process the information, and for the prosecution of patent applications if this course is adopted. It should be seriously questioned whether appropriations made by Congress for purposes of defense, space exploration, agricultural improvement, or other purposes should be diverted from their primary objectives to the acquisition of patents. This becomes particularly pertinent since there is little or no evidence that the Government actually uses inventions owned by it. Under these circumstances it would seem that a royalty-free license to the Government would in most instances give the Government all the right to use that it needs, while at the same time being less costly to the Government than patent ownership. If in addition the benefits of commercialization can be extended to the Government and the public alike, this is of further benefit and cost savings to the Government.

7. THE GOVERNMENT DOES NOT USE PATENTS

In considering the development of Government patent policy and incurring of associated heavy costs, it is certainly appropriate to inquire into the use made of patents by the Government. During my 15 years with Arthur D. Little, Inc., many industrial clients of the company have developed, produced, and offered to the public items and processes covered by inventions developed for them by Arthur D. Little, Inc. During this same time I have been intimately associated with, and for many years was directly responsible for, the Government contracts of the company. In this period a considerable number of inventions have been disclosed to the Government and patents applied for. At no time have I observed any instance in which the Government has made affirmative use of any of the inventions.

8. THE GOVERNMENT SHOULD NOT ENTER THE FIELD OF PATENT EXPLOITATION

It is proposed under bill S. 1176 to provide for a Government establishment devoted to the exploitation of patents. Surely such a step should be avoided, if possible. Government concern should concentrate on primary objectives—defense, space exploration, agricultural improvement, and the like—which private enterprise cannot undertake. Commercial exploitation of inventions in the normal manner should surely be left to private enterprise which exists for this purpose. Among other considerations it is not desirable that the Government directly or indirectly engage in competition with its citizens in commercial undertakings. Just as Government agencies are more experienced and competent in the fields of their activity—government—private enterprise is more expert in its area—commercial exploitation—with which it is in constant contact. Of the many demands for Federal expenditure, surely this is one which could and should be avoided.

9. NEW ENGLAND DEMONSTRATES EFFECTIVENESS OF PATENTS IN CREATING BOTH GOVERNMENT AND PUBLIC BENEFITS

The general points made above are aptly illustrated in the experience of New England. New England, because of its extensive educational facilities, has demonstrated a particular aptitude for attracting and nurturing inventive talent. As a result, the New England scene is dotted with organizations which owe their origin or present success to inventions and patents. Many organizations might be cited. The following few are selected as illustrative:

Scully Signal Co., Melrose, Mass.

This company, now celebrating its 25th anniversary, owed its origin to the invention and patent protection of a "vent signal" applied to the inlet of oil tank storage systems. For example, the home oil tank with this signal attached to the oil inlet can be filled from outside the house with adequate knowledge of the degree of fullness of the tank. The sound of the whistle produced as the air is displaced from the tank by the inflowing oil tells the level of the oil in the tank. Income derived from this invention has been plowed back into the business which now employs a staff of 100. Its product is extensively used throughout the country.

Government contracts with industry, would perpetuate this inequity, would strengthen it rather than diminish it and would, in fact, make it law, as far as I can see, to require as a condition of employment that inventors agree to divest themselves of their inventions prior to their having made any invention and prior to any evaluation having been made of that invention.

I think that with incentive placed upon the inventors and/or the organizations in which they work, there is then the possibility of gathering together the capital and the talent necessary for development and marketing of ideas which otherwise could not be provided—that is, this incentive exists by the title to the patent vesting in the inventor (or his assignee, if taken with the intent of rewarding him proportionate to the utility of the invention).

In particular, in conducting research and development work for the benefit of the Government, the Government, like industry, is full of many men who can say no to a new idea. There are very few people who can say yes—that is, if you look at our wonderful Defense Department and other wonderful agencies of the Government, you still find very few people who are in a position of authority and also in possession of comprehension of a new idea, who are in a position to say yes, let us go ahead and develop it. There are many who are in a positon to veto, and in order to get a new idea started, one has to sell in parallel many people, each of whom is in a position to say no before a general consensus is arrived at that yes, one should go ahead.

The contracts which the Government makes with industry right now provide no consideration to the contractor for the Government getting the rights they already receive, to the best of my knowledge; that is, even under the Department of Defense policies, the Government gets a royalty-free right to certain inventions, and, for that royalty-free right, it pays nothing.

It typically, on research and development contracts as presently administered, does not pay the full cost of the development work. A cost-plus-fixed-fee contract is normally expected to pay the cost but, as administered, it frequently results in disallowances of things which are actual costs of doing business, which may cause the contractor to lose money on research and development contracts, and much of industry right now takes research and development contracts solely with the intention of subsequently getting production contracts based on ideas in which they may have a lead position by virtue of their early developmental work and early skills that are established. But they generally do not make profits on research and development contracts in an amount sufficient to permit them to grow in a healthy state.

Senator McCLELLAN. Universities usually make profit on it; do they not?

Mr. SUNSTEIN. I do not think universities make profits. Universities sometimes have a fee associated with contracts.

Senator McCLELLAN. They sustain no loss.

Mr. SUNSTEIN. That I do not know. I cannot speak for the universities. They may sustain no loss. In some cases, I think they may feel that they are sustaining a financial loss for their work; they frequently benefit in other ways.

Senator McCLELLAN. I do not know, I am just asking the question. I know they very much seek to get these contracts and arrange-

Mr. HOLST. That is correct. Whether we like it or not, it seems to me that is a necessary policy.

Senator MCCLELLAN. I see.

Mr. HOLST. This is contemplated by the idea of a license to use for governmental purposes.

Senator MCCLELLAN. Some licenses the Government purchases for its own use. Does the license to which you refer apply to any competitor of the original inventor?

Mr. HOLST. Yes. Of course, there is always a question of foreground and background rights, but within the normal language of whatever inventions have been created at Government expense, the Government should have the right to turn to second sources of supply. Our discussion is based on the assumption that the Government has this right.

Now, it also seems to me that the objectives of the Government will best be served, both the Government agency and the general public, if inventions that may grow out of Government work can be given the widest possible public use. This point is not obvious, and I would like to expand on it a bit. And, if you wish, later on, and if time permits, I will be glad to cite companies and specific examples, but let me first make the point.

An invention and a patent is not in itself of any real value unless it is put to use. It does not do the inventor any good, nor the Government, nor the public. It only becomes useful when it is put to good use.

If an invention is put to good use, this creates jobs for employees; it creates items and services which the public can enjoy and benefit from. It also produces tax revenue to both the local community and the State in which the organizations exist and to the Federal Government at large.

None of this will be achieved unless the patent is put to use. Merely getting a paper right, or making a paper right available to the public, will not create any of these benefits. The benefits will only happen if the patents, if the inventions, are put into widespread use. Incidentally, if you get into volume use, the organization which makes successful use of inventions will continue to make improvements and create facilities and build a know-how relating to this use.

There are many examples of this kind, but if you wish, I shall pass on to my points, and then I presume you will question me as you wish.

Now, since I am advocating a policy of as wide as possible private use of patents, I think it is proper to ask whether or not private use of patents, create monopolies or promotes secrecy. The answer is both yes and no, but mostly no.

A patent is a limited monopoly for a limited period of time. It is limited not only in time, but also to the specific disclosure of the patent. The disclosure must be such, if the patent is to be valid, that it can be understood by competitors even during the life of the patent, and certainly can be practiced by the competitors upon the expiration of the patent. But not only is a patent limited in time, it is very strictly limited to what is novel in the disclosure.

Senator MCCLELLAN. May I interrupt to make this observation, with which I am sure you will agree. Even during the life of the protection of the patent, it is exposed, and thus is known, the process

Under present regulations, even in the Department of Defense, the contractor would have to assign to the Government a royalty-free right for its use of the invention, which was not even conceived under the contract, if it was first reduced to practice under the contract. So the contractor then faces this dilemma. He has on his staff people who may make inventions, and these inventions are taken around to the Government and maybe, if all goes well, the cascade of people who can say no finally agree that this invention or this idea will be useful, and it would be worth while for the Government to have the contractor make for the Government a model to see if the invention is indeed worth while for the Government. So a contract is let on which the contractor may make or lose money. If it is a fixed-price contract, he runs the risk of losing large sums of money. If it is a cost-plus-fixed-fee contract, he inherently gets into the fact that not all of his costs that he feels are costs necessary to doing business are allowed, such as paying interest on loans and many other things.

He finds then that he may end up with his research and development work costing him money. He has given the Government a royalty-free right for use of the invention; the Government after that may seek bids from bidders for production of the idea if it is worth while, and he may find himself just among the other bidders trying to compete with the lowest dollar to bring invention into use for the Government.

Now, the contractor most likely to get the production contract at the lowest dollar, in many instances, is the one who makes mistakes in bidding and does not realize all the pitfalls in carrying the contract further. So the Government, for delivery of equipment, through the procurement practice of going to the lowest bidder on material of high technical content, is frequently the loser through not getting good work performed on a timely basis, requiring in some instances the low bidder to be bailed out of his dilemma through contract changes, or face contract default and nondelivery. And the person who knows most about the subject, namely, the contractor or the group of people who carried the idea forth through its model phase, may have realistically bid a higher value, and been left out of obtaining any useful return for having fathered the concept.

So the contractor carrying on research and development work for the Government is in the dilemma of finding he should, to justify economically his carrying on this development work, build up his production potential. Yet, to build it up, he is in a very difficult situation.

Well, new industry has sprung continuously from very small and humble beginnings of small business. It still does. The aluminum industry is based on an invention of a graduate student, I believe, who had a patent on how to make aluminum from a very common ore. Vulcanized rubber, which has made the automotive industry what it is, instead of automobiles riding on steel wheels, like railroad trains, has come about through the patent situation. Radio industrial growth is, in large measure, based on patents. The television industry went far through inventions prior to the war to bring about a rather complete knowledge of video circuits and things which were applied during the war to radar.

This country would have been in vastly worse shape in its attacks against submarines, and England in its defense against bombers, if

condition established for a waiver are not met, however, then the Government would take title in accordance with section 3 of the bill

Whether the bill would in operation effect a substantial change depends on the interpretations which would be applied in practice to the waiver provisions as contrasted to the policies currently in effect during contract negotiations. At present, account is taken of the contractor's investment in the field by way of laboratory and plant facilities, personnel, and past work in the subject matter under investigation, and his current position. If it is felt that the Government is essentially drawing on the contractor's past fund of knowledge, training and experience, then title is generally left with the contractor with a royalty-free license to the Government, and a license at reasonable royalties to the public. If, however, the background contribution of the contractor is minor, title should be and is taken by the Government.

AVAILABILITY OF INVENTIONS TO THE PUBLIC

In general, all inventions which are assigned to the Government arising out of work done by or for the Department are available to the public under the Department's patent licensing regulations (43 CFR 6). These provide essentially that a royalty-free, nonexclusive, nontransferable license will be issued to property qualified applicants. The licensees may be required to submit annual reports and may be required to cross-license.

In the desalination of water, in inventions where title is left with the contractor, the Government receives a royalty-free, nonexclusive, irrevocable license and the contractor is required to issue licenses to applicants at a reasonable royalty. This insures that a monopoly situation will not develop and that the invention will be made available without restrictions to local government agencies, processors, producers, and the general public.

As regards coal research, no research and development contracts have been awarded as yet. The act setting up the Office of Coal Research (74 Stat. 336) provides that:

"SEC. 6. No research shall be carried out, contracted for, sponsored, cosponsored, or authorized under authority of this Act, unless all information, uses, products, processes, patents, and other developments resulting from such research will (with such exceptions and limitations, if any, as the Secretary may find to be necessary in the interest of national defense) be available to the general public. * * *"

Either having the Government take title, or compulsory licensing, by requiring the contractor to issue licenses at a reasonable royalty meets the statutory requirement that any patents arising out of research paid for by the Government be available to the general public.

In those cases where title to any invention made pursuant to a contract will be left with the contractor, the Government will obtain a royalty-free nonexclusive, irrevocable license, and the contractor will agree to issue licenses to the public at reasonable royalties.

Other aspects of coal research are carried out by the Bureau of Mines. The Government takes title to all inventions made by Bureau employees which are within the scope of their assigned duties. Regarding fisheries, almost all research is carried out by the Fish and Wildlife Service employees. Some work in fish oils is being carried on by university laboratories for Fish and Wildlife Service, but all inventions are required to be assigned to the Government. In two important fields, sea lamprey control and animal damage control, large-scale chemical screening programs are carried out, which raise peculiar patent problems.

Chemical companies supply the compounds voluntarily and free of charge to Fish and Wildlife Service for testing. If the compound is new and is found to be useful, then under the patent law, title to the patent covering the chemical per se is in the supplier, while title to the method of using it for animal control purposes may be with the Government or the supplier depending on who conceived the invention. The agreement with Fish and Wildlife Service provides for cross-licensing between the Government and the supplier. If the Government has title to the use patent it will of course issue licenses to all applicants under the Department's licensing provisions. However, if title to the patent is with the supplier, the Government has a royalty-free nonexclusive, nontransferable license thereunder.

Mr. WRIGHT. I have a few questions, Mr. Chairman.

I think you neglected, Mr. Sunstein, to tell us the name of this business you have and the nature of the business that you are in.

Mr. SUNSTEIN. I shall be glad to. The name of the company is General Atronics Corp.

The business we are in is four fields, principally—perhaps five. We do much work in the field of radar, particularly in improvements to radar that we feel will enhance its capabilities very significantly over that now available. We do much work in the field of underwater surveillance for submarines and communications between submarines.

We do work in the field of long-range communications under very adverse circumstances. We have done a lot of work in the field of counter-countermeasures in the field of enemy jamming.

We do work in the field of materials handling for providing more automatic methods of handling goods, which improve reliability of getting the goods shipped where they should be, or increase plant capacity.

We do work in the field of medical electronics. We were instrumental in getting heart pacers employed. This was a couple of years ago.

We are quite active in the field of improving education and training through reinforced incremental learning techniques, which appear to give a significant reduction in learning time.

We are doing this with an extremely small staff, extremely creative, coming up with ideas that are beginning to be recognized.

Mr. WRIGHT. I think you said 80 percent of your business was with the Government. You were referring to the Defense Department there?

Mr. SUNSTEIN. Yes; either as prime or subcontractors to the Defense Department.

Mr. WRIGHT. Is the work you do straight research and development, or do you also make procurement items?

Mr. SUNSTEIN. We make some items that might be called procurement items but we have not sold those yet to the Government. We do predominantly what might be called research and development.

Mr. WRIGHT. You are doing that at a profit, are you?

Mr. SUNSTEIN. Our first 4 years were at a profit; our fifth year was at a substantial operating loss.

Mr. WRIGHT. You mentioned that you have an incentive plan for your employees who made inventions. Can you tell us a little more about what the nature of this reward is that you provide to your employees?

As I understood, you said you have a committee that evaluates the invention after it is made, but it is not clear to me what happens then.

Do you pay the employee a percentage of what this committee decides the invention is worth, or what does he actually get?

Mr. SUNSTEIN. Well, we have several incentive plans. The incentive plan with regard to inventions is one by which the employee-inventor will share in any benefits accruing to the company from assignment of his inventions in what we trust to be an equitable way.

Specifically, for example, if our company licenses others in inventions to which it has obtained title from inventors, we now expect to pay the inventor 20 percent of the royalties which we receive from

of most value for the discussion. Please feel free to interrupt as you wish.

Senator McClellan. Very well.

Your prepared statement may be published in the record in full at this point.

(The statement referred to follows:)

STATEMENT BY HELGE HOLST, TREASURER, ARTHUR D. LITTLE, INC., ON BEHALF OF THE NEW ENGLAND COUNCIL

1. INTRODUCTION

New England, with its highly developed industries and great dependence on research and development, is vitally affected by the ownership and use of patents. New England is also extensively engaged in research and development for the Government. Because many of New England's industries have sprung from and are based on patents, the effect of ownership and use of patents is particularly clear in this region. Many New England organizations bring to their work for the Government, as will be illustrated by examples, an extensive background and competence of tremendous benefit to the Government. This likewise has a bearing on Government patent policy.

The New England Council is dedicated to the welfare of New England, its people, and its institutions. The council believes New England to be vitally affected by the ownership and use of patents. Because it considers that New England's experience can assist the subcommittee in its deliberations on patent policy, it is pleased to participate in these hearings.

It is the purpose of this testimony to bring to the attention of the committee the results of careful thought and observation over many years of contact with patents as they are developed and used by industry, and as we have noted their development under contracts with the Federal Government. This experience extends from 1935 when I was a member of the legal department of Lever Bros. Co., particularly concerned with patents and new product development and exploitation. It has continued during the last 15 years during which I have been associated with Arthur D. Little, Inc., in several capacities concerned with both commercial and Government research and development.

2. PATENTS VALUABLE TO THE PRIVATE OWNER AND THE PUBLIC

First-rate developments and product improvements are of great importance to commercial organizations in their competition to offer superior service to the public. With intensification of competition through foreign competition and the acceleration of product obsolescence through technological progress, the continuous flow of new and improved products and processes has become increasingly essential to survival. Accordingly, throughout my experience it has been abundantly clear, on the basis of many examples, that patents covering new developments comprise very valuable industrial property and constitute an almost indispensable basis for starting new enterprises. Particularly in the case of small business because of the high cost of new development and their introduction to public use, without patents or some assurance of restriction on the activities of competitors for at least a period of a few years, it is difficult—if not impossible—to secure public financing for new developments.

The costs and risks involved in making new developments and carrying them through to commercialization and then launching the new products and processes are very substantial. If the processes and products can be immediately copied by competitors who have not experienced the heavy costs of technical development and market creation, this produces such unfair and unequal competition that the originator of the new concept is certain to lose. Under these circumstances the rate of introduction of innovations would be much reduced. Patents constitute a means of affording limited protection which inherently contains two safeguards of the public interest: (1) The period of exclusivity is limited; (2) the protection is given only in exchange for adequate disclosure in such form that on the expiration of the patent period the invention can be practiced by others. The result of the existence of this limited protection has been the simultaneous rapid development of the patent system and the introduction of new products and processes into industrial and commercial practice with consequent benefits to the public in the form of a wider variety of constantly improving products.

Mr. SUNSTEIN. On initial inspection, to someone not familiar with the plan, it would appear to make sense. But after looking at it, it makes no sense at all with respect to nearly all inventions that might be concerned with the contract, because, first—I started to say earlier, I started to delineate earlier, the different conditions under which an invention might be related to a contract.

One condition would be if the invention is conceived prior to any contract, then a contract obtained based on that invention.

Mr. WRIGHT. He was referring to situations where, in the course of R. & D., patents arose which would give the contractor control over it and enable him to exclude others from making the end item.

That kind of situation is all he was talking about, if I remember correctly, and he said in those instances he had no difficulty in convincing contractors that it was an equitable deal if the development proved successful, that they would agree to reimburse the Government for the R. & D. expenditures to the extent that they were actually able to profit from these inventions that were produced.

Mr. SUNSTEIN. Well, again, there are two thoughts I want to make there, one having to do first with this problem of an invention conceived prior to a contract and reduced to practice under a contract period.

For in that case I believe it is even true with the FAA, although I am not certain, that that would be an invention to which the FAA would feel entitled, and for which they would expect royalties subsequently, even though it was conceived not under contract.

Now, there are other cases when an inventor, working on a contract, may conceive an idea which he does not even use in the delivered item. For one reason or another, it is not used. Under those circumstances, again, under most contracting with the Government, the Government would get a royalty-free right to that invention, even though it is not an item they received delivery on.

Mr. WRIGHT. It is a fact, is it not, that in contracts with the Defense Department there are instances where, even if you have filed an application for an invention, or gone that far in reduction to practice, even though you have not produced it in fact in the sense of making it a practicable item to use, under those circumstances, the Department may take no rights.

Are you familiar with that part of the regulation?

Mr. SUNSTEIN. I am, I believe, quite familiar with that part, and it is quite contrary to what you say. The Defense Department does take a royalty-free right to inventions for which a patent has been filed prior to the contract award if, under the contract, it is first actually reduced to practice.

Mr. WRIGHT. I take it you, in your experience, have always given them a royalty-free license, is that right, on anything that was reduced to practice under any of the contracts?

Mr. SUNSTEIN. Yes, we have, in order to conduct any business with the Department of Defense, complied entirely with their regulations, which are standard for this.

Mr. WRIGHT. Do you think that is unjust, or there is something unfair about your being required to give them a royalty-free license to inventions that are reduced to practice, pursuant to the contract as a result of expenditure of this contract money?

already made a substantial contribution; but in all such cases the Government should obtain at least a free license under the resulting inventions and should prohibit their suppression or the assessment of unreasonable charges for their use by others." [Emphasis added.]

In essence this is the Department of the Interior's policy. However, the bill goes beyond inventions arising out of Government-financed research and development, and includes inventions made in the performance of any contract with the Government. According to the bill, the United States gets title to any invention made in the performance of "* * * any obligation arising from any contract or lease executed * * * by * * * the United States."

If a lessee of a Government-owned building covenants to keep it in repair, and in so doing invents a new method for patching walls, according to the bill his invention must be assigned to the Government. Such a result would be highly undesirable, and it illustrates the large area of uncertainty that would be created in Government contracts. To avoid any ambiguity as to the obligations which would give the Government title, the bill should be limited to inventions arising out of research and development bearing a direct relation to a contract, lease executed, or grant made by or on behalf of the United States.

In summation, it is believed that this bill is too inflexible, both as to the Department's employees, and with contractors, lessees, and grantees, in requiring assignment of inventions to the Government under all circumstances. As to the Department's employees, the current departmental regulations which give the employees title in certain cases, have served satisfactorily for many years. Some leeway should be permitted in the case of contractors, to take care of emergency situations, or cases where it would be inequitable for the Government to take title.

S. 1176

This bill is a comprehensive piece of legislation touching substantially all aspects of proprietary rights in inventions in which the Government has an interest. It covers the rights of inventors, establishment of a Federal Invention Administration, provides for the orderly administration of Government-owned patents, the dissemination of information relating to inventions, licensing protection of the Government's rights to inventions, waiver of Government rights uder certain conditions, gives the requirements for the provisions in Government contracts, leases, and grants, and sets up awards for inventive contributions. In the main, the bill fills a longfelt need to make the Government's patent policies more uniform, to require in general an assignment of title to the Government, and to give centralized administration to the large pool of Government-owned patents. Under wise administration, in accordance with the licensing provisions of the bill (sec. 8), more Government patents should enter the bloodstream of industry than do at present, and should yield some financial return to the Treasury at the same time.

The main criticism that is made is to that portion dealing with the rights of Government employee (sec. 3 (a)). This states that "The United States shall have exclusive right and title to any invention made by any officer or employee of the United States or any executive agency if—

> "(1) The invention was made in the performance by such officer or employee of duties which he was employed or assigned to perform, and was made during working hours or with a contribution by the Government of (A) the use of Government facilities, equipment, materials, or funds, (B) information in which the Government had a proprietary interest, or (C) the services of any other officer or employee of the Government during working hours; or
>
> "(2) The officer or employee who made such invention was employed or assigned to perform research, development, or exploration work and the invention is directly related to the work he was employed or assigned to perform or was made within the scope of the duties of his employment."

Insofar as the invention is made by an employee who is employed to invent, or is engaged in research and development, it is clear that title to any invention made by him in the line of his duties should go to the Government. However, where an invention is made by an employee not engaged in research and development, to require an assignment in all instances may work serious inequities. Where the Government's contribution is minor relative to the employee's, title should be left with him subject to a license to the Government.

The provisions for waiver in section 10 of the bill seemingly do not cover employee's rights. From the general tenor of section 11, it would appear that

Senator McCLELLAN. Just state it. Write your letter. Cite your case and then give the explanation and your objections to the practice, what you think are the impositions that may apply or what constitutes an injustice.

Mr. SUNSTEIN. I will be glad to.

Senator McCLELLAN. An injustice to the inventor.

Very well. Anything further?

Thank you very much.

Mr. SUNSTEIN. Thank you.

Senator McCLELLAN. You may submit that letter at your earliest convenience.

Mr. SUNSTEIN. Thank you.

(The matter referred to follows:)

GENERAL ATRONICS CORP.,
Bala-Cynwyd, Pa., June 8, 1961.

Hon. JOHN L. McCLELLAN,
U.S. Senate,
Washington, D.C.

DEAR SENATOR McCLELLAN: I want to thank you for the opportunity you provided me in presenting my views on patents relating to research and development work conducted for the benefit of the Government.

On reflection after giving my verbal testimony, it occurred to me that there were several points that I omitted, which shortcoming I shall attempt to correct along with answering the question you asked me to look up, when I receive the copy of the transcript of my testimony. This Mr. Haaser advised would be forwarded to me for corrections.

The following four points, though, should be of interest now:

1. There appears to be confusion as to all circumstances under which the Government now receives rights to inventions. To clarify this point, I am enclosing a copy of section 9-107.2(b)[1] of ASPR (the Armed Services Procurement Regulation), under which the Government now does get a royalty-free right to inventions even though they were conceived not under contract, so long as they are reduced to practice under the contract. The Government also gets under present DOD regulations a royalty-free license for its use of any ideas conceived by an employee of the contractor on inventions relating to the work performed by the contractor, even though these concepts may not be needed or used in the delivered equipment; i.e., if they be incidental to it. In either case, the inventor usually receives nothing for the removal of his innate rights to his invention, and the contractor gets nothing for the transfer to the Government of royalty-free rights.

2. A further point that I did not touch on, is that inventors will conceive ideas both relating to their work and not relating to their work, even when there is no incentive for it, so long as they are not distracted from invention through the course of other duties, but these inventions conceived stand little chance of getting used for the benefit of the public, unless useful incentive is reserved to the inventor or to private hands. The case cited by Rabinow on June 1 of his magnetic clutch not being used much in this country because all parties here have royalty-free rights, whereas in Europe, usage is great with private ownership of rights, is a clear example showing that free rights for all removes the invention from use by anyone. To carry this point further, even though Rabinow as an inventor formerly employed by the Government feels that the Government should get title to U.S. patents on Government employee inventions relating to their work for the Government, it is apparent that Rabinow concurs that this is not the course of action which leads to the public getting most benefit from the invention.

3. A related point which came up in later testimony, of June 1, is with regard to the relatively small number of patents issuing per dollar expenditure by the Government on research and development work compared to the relatively larger number created in industrial research and development work. A very significant reason why the Government gets rights in only about 12 percent or so of the patents that are issued, whereas its contractor's

[1] With pertinent parts italicized.

in patents for exclusive use. We believe that there are occasions when the granting of exclusive licenses would aid in the commercial development of certain patented inventions to the ultimate benefit of the public.

Section 12 authorizes awards to any person who has made a contribution of significant value to any program administered by any executive agency. The programs administered by the Department of Agriculture are comprehensive and the bill opens the door to voluminous requests for awards. We feel that administration of such a provision would be impracticable. We would have no objection to this section if it was limited to include only contributions in which the Government has the proprietary rights.

As you have requested, we have prepared an appraisal of the portion of the report of Dr. Roy C. Newton which relates to the patent policies of the Department. We will be pleased to file this with the committee.

Mr. Chairman, this concludes my statement.

Senator McCLELLAN. Now, Mr. Maclay, if you will, you may proceed to summarize your statement.

Mr. MACLAY. You have asked that we discuss with you the patent practices followed by the Department of Agriculture, and to express the views of the Department with respect to (1) the probable effects of S. 1084 and S. 1176 on its operations, and (2) the section dealing with the patent rights contained in a report of Dr. Roy C. Newton of October 14, 1960, to the Secretary of Agriculture on "Utilization Research in the Department of Agriculture—An Appraisal of Present Program, Staff, and Facilities."

Research activities of the Department of Agriculture and of activities sponsored by the Department from which inventions result extend over five principal areas; namely, (1) research by Department employees, (2) research carried on by private and public organizations and institutions under Research and Marketing Act contracts, (3) research by State agricultural experiment stations financed in part by Federal grant funds, (4) research carried out with public or private institutions under cooperative agreements, and (5) research under foreign agricultural research grants in accordance with Public Law 480, 83d Congress, as amended.

The statutes authorizing researches in these areas and the Department's manner of handling inventions resulting from such researches are provided in my formal statement. Each area will be discussed as related to sections of S. 1176.

Senator McCLELLAN. May I inquire, do you have a copy of this summary available?

Mr. MACLAY. Yes.

Senator McCLELLAN. May we have it. We don't have a copy of that.

Mr. MACLAY. The provisions of S. 1084 in general are encompassed in S. 1176, a more comprehensive bill. We will therefore discuss certain sections of S. 1176 which have a bearing on the Department's operations. Our remarks are equally applicable to the related parts of S. 1084.

The criteria set forth in S. 1176 under section 3(a) for acquiring title to inventions made by employees appears to be essentially a restatement of the court law founded on the implications arising out of a contract of employment or from the job assignment in absence of an express contract disposing of the title rights. The criteria accord essentially with the practice which has been followed by the Department of Agriculture for many years, including operation under Executive Order 10096 as modified by Executive Order 10930 of March 27,

PATENT RIGHTS (LICENSE) (JAN. 1961)

(a) As used in this clause, the following terms shall have the meanings set forth below:

(i) The term *"Subject Invention" means any invention,* improvement, or discovery (whether or not patentable) *conceived or first actually reduced to practice either—*

(A) *in the performance* of the experimental, developmental, or research work called for or required *under this contract;* or

(B) in the performance of any experimental, developmental, or research work relating to the subject matter of this contract which was done upon an understanding in writing that a contract would be awarded;

provided, that the term "Subject Invention" shall not include any invention which is specifically identified and listed in the Schedule for the purpose of excluding it from the license granted by this clause.

(ii) The term "Technical Personnel" means any person employed by or working under contract with the Contractor (other than a subcontractor whose responsibilities with respect to rights accruing to the Government in inventions arising under subcontracts are set forth in (g), (h), and (i) below) who, by reason of the nature of his duties in connection with the performance of this contract, would reasonably be expected to make inventions.

(iii) The terms "subcontract" and "subcontractor" mean any subcontract or subcontractor of the Contractor, and any lower-tier subcontract or subcontractor under this contract.

(b) (1) *The Contractor agrees to* and does hereby *grant to the Government an irrevocable, nonexclusive, nontransferable, and royalty-free license to practice,* and cause to be practiced by or for the United States Government, throughout the world, *each Subject Invention* in the manufacture, use, and disposition according to law, of any article or material, and in the use of any method. Such license includes the practice of Subject Invention in the manufacture, use, and disposition of any article or material, in the use of any method, or in the performance of any service acquired by or for the Government or with funds derived through the Mutual Security Program of the Government or otherwise through the Government. No license granted herein shall convey any right to the Government to manufacture, have manumactured, or use any Subject Invention for the purpose of providing services or supplies to the general public in competition with the Contractor or the Contractor's commercial licensees in the licensed fields; but *provided,* however, that the restriction of this sentence shall not be applicable in respect to any services or supplies which the Government has heretofore or may hereafter provide as a governmental function pertaining to the general public health, safety, or welfare.

(2) With respect to:

(i) any Subject Invention made by other than Technical Personnel;

(ii) any Subject Invention conceived prior to, but first actually reduced to practice in the course of, any of the experimental, developmental, or research work specified in (a) (i) above; and

(iii) the practice of any Subject Invention in foreign countries;

the obligation of the Contractor to grant a license as provided in (b) (1) above, to convey title as provided in (d) (ii) (B) or (d) (iv) below, and to convey foreign rights as provided in (e) below, shall be limited to the extent of the Contractor's right to grant the same without incurring any obligation to pay royalties or other compensation to others solely on account of said grant. Nothing contained in the Patent Rights clause shall be deemed to grant any license under any invention other than a Subject Invetio.

(c) The Contractor shall furnish to the Contracting Officer the following information and reports concerning Subject Inventions which reasonably appear to be patentable:

(i) a written disclosure promptly after conception or first actual reduction to practice of each such Invention together with a written statement specifying whether or not a United States patent application claiming the Invention has been or will be filed by or on behalf of the Contractor;

(ii) interim reports at least every twelve months, commencing with the date of this contract, each listing all such Inventions conceived or

rights to the inventions have been left to the States for disposal in accordance with the policy or laws of the States.

Senator McCLELLAN. They have been very few, haven't they?

Mr. MACLAY. I would not know how many. I suppose a few. Most of this work is basic research rather than applied.

Senator McCLELLAN. There have been none of them of any great commercial value?

Mr. MACLAY. Well, I suppose there have been some of considerable value.

Senator McCLELLAN. I say of commercial value.

Mr. MACLAY. Any return probably goes back to the States.

Senator McCLELLAN. All right.

Mr. MACLAY. Section 3(b) would change this practice. The Department recommends retention of present policy as regards Federal grant funds under the Hatch Act to State agricultural experiment stations, namely, that proprietary rights to inventions made by State employees whose research may have been financed in part by Federal funds be disposed of in accordance with the policy of or laws of the respective States.

Senator McCLELLAN. Would you say you don't need a change?

Mr. MACLAY. That is correct.

Senator McCLELLAN. That section 3(b) as it is now would make a change?

Mr. MACLAY. Yes.

Senator McCLELLAN. That change, you say, is not desirable?

Mr. MACLAY. That is correct.

Relative to inventions resulting from research grants to foreign institutions under Public Law 480, it is the practice of the Department to acquire the proprietary rights to any U.S. patents which may be obtained, and to acquire a worldwide license for governmental purposes. The foreign patent rights are, however, left to the disposition of the foreign grantees.

These provisions were developed at the inception of the program at the insistence of grantees and foreign governments. This feeling was strong in many countries. In a number, grants are made to institutions that are instrumentalities of foreign governments.

It is highly doubtful that legislation or regulations in these countries would permit such institutions to enter into agreements which would not protect patent rights for the foreign institution or government. Section 3(b) would change this practice. The Department recommends continuation of allowing foreign patent rights be retained by foreign grantees for inventions developed under Public Law 480.

Senator McCLELLAN. As I understand it now, for instance, we grant in our foreign spending program technical assistance. We provide funds for some college or some laboratory in a foreign country to do research, and out of that comes a discovery or an invention. The present policy is we let that country have it?

Mr. MACLAY. The Department of Agriculture reserves the U.S. patent rights.

Senator McCLELLAN. We take it for the United States only?

Mr. MACLAY. That is correct.

(iii) such longer period as may be approved by the Contracting Officer. The Contractor shall, upon written request of the Contracting Officer convey to the Government the Contractor's entire right, title, and interests in each Subject Invention in each foreign country in which an application has not been filed within the time above specified, subject to the reservation of a nonexclusive and royalty-free license to the Contractor together with the right of the Contractor to grant sublicenses, which license and right shall be assignable to the successor of the Contractor's business to which the Subject Invention pertains.

(f) If the Contractor fails to deliver to the Contracting Officer the interim report required by (c)(ii) above, or fails to furnish the written disclosures for all Subject Inventions required by (c)(i) above shown to be due in accordance with any interim report delivered under (c)(ii) or otherwise known to be unreported, there shall be withheld from payment until the Contractor shall have corrected such failures either ten percent (10%) of the amount of this contract, as from time to time amended, or five thousand dollars ($5,000), whichever is less. After payment of eighty percent (80%) of the amount of this contract, as from time to time amended, payment shall be withheld until a reserve of either ten percent (10%) of such amount, or five thousand dollars ($5,000), whichever is less shall have been set aside, such reserve or balance thereof to be retained until the Contractor shall have furnished to the Contracting Officer:

(i) the final report required by (c)(iii) above;

(ii) written disclosures for all Subject Inventions required by (c)(i) above which are shown to be due in accordance with interim reports delivered under (c)(ii) above, or in accordance with such final reports, or are otherwise known to be unreported; and

(iii) the information as to any subcontractor required by (h) below.

The maximum amount which may be withheld under this paragraph (f) shall not exceed ten percent (10%) of the amount of this contract or five thousand dollars ($5,000), whichever is less, and no amount shall be withheld under this paragraph (f) when the amount specified by this paragraph (f) is being withheld under other provisions of this contract. The withholding of any amount or subsequent payment thereof to the Contractor shall not be construed as a waiver of any rights accruing to the Government under this contract. This paragraph (f) shall not be construed as requiring the Contractor to withhold any amounts from a subcontractor to enforce compliance with the patent provision of a subcontract.

(g) The Contractor shall exert all reasonable effort in negotiating for the inclusion of a patent rights clause containing all the provisions of this Patent Rights clause except provisions (f) and (i) in any subcontract hereunder of three thousand dollars ($3,000) or more having experimental, developmental, or research work as one of its purposes. In the event of refusal by a subcontractor to accept such a patent rights clause, the Contractor shall not proceed with the subcontract without written authorization of the Contracting Officer or unless there has been a waiver of the requirement as hereinafter provided. The Contractor, if unable to comply with the requirement that such a patent rights clause be included in a subcontract after exerting all reasonable effort to do so, may submit to the Contracting Officer a written request for waiver or modification of such requirement. If, within thirty-five (35) days after the receipt of such request, the Contracting Officer does not mail or otherwise furnish the Contractor written denial of such request or notification that the Government requests the Contractor's cooperation with the Government, which the Contractor agrees to provide, in negotiating with the subcontractor for the acceptance of a suitable patent rights clause, the requirement shall be deemed to have been waived by the Contracting Officer as to all patent rights provisions with respect to Subject Inventions, except such provisions, if any, relating to the production or utilization of special nuclear material or atomic energy. Such request shall specifically state that the Contractor has used all reasonable effort to comply with said requirement and shall cite the waiver provision herein above set forth. The Contractor is not required, when negotiating with a subcontractor, to obtain in behalf of the Government any rights in Subject Inventions other than as provided herein. However, the Contractor is not precluded from separately negotiating with a subcontractor for rights in Subject Inventions for the Contractor's own behalf, but any costs so incurred shall not be considered as an

This Department has long considered it desirable that the Government agencies have authority to issue exclusive licenses or otherwise dispose of its interest in patents for exclusive use. We believe that there are occasions when the granting of exclusive licenses would aid in the commercial development of certain patented inventions to the ultimate benefit of the public.

Section 12 authorizes awards to any person who has made a contribution of significant value to any program administered by any executive agency. The programs administered by the Department of Agriculture are comprehensive and the bill opens the door to voluminous requests for awards. We feel that administration of such a provision would be impracticable. We would have no objection to this section if it was limited to include only contributions in which the Government has the proprietary rights.

As you have requested, we have prepared an appraisal of the portion of the report of Dr. Roy C. Newton which relates to the patent policies of the Department. We will be pleased to file this with the committee.

Mr. Chairman, this concludes my statement.

Senator McClellan. The appraisal of the report of Dr. Newton may be printed in the body of the record immediately following this witness' testimony.

Counsel, do you have any questions?

Senator Hart, do you have any questions?

Senator Hart. No; thank you, Mr. Chairman.

Senator McClellan. All right, Mr. Counsel, any questions?

Mr. Wright. I would like to ask Dr. Maclay about this report of Dr. Newton.

First, can you tell us who Dr. Newton is?

Mr. Maclay. Dr. Newton is a former vice president and director of research at Swift & Co. He retired from that organization a couple of years ago, and was requested by, at that time, Secretary of Agriculture Benson to make a study of the utilization research part of the agriculture research administration as to its effectiveness, and so forth.

Mr. Wright. What was the occasion for asking him to make a report? Do you recall?

Mr. Maclay. I think it came back to a number of bills during the last 5 years that have been introduced in the Congress to greatly expand the utilization research phases of agricultural research in the Department. The Secretary wished an independent appraisal by an outside competent individual of just how our research was operating, whether it was effective, whether or not we had a good staff.

Mr. Wright. One of the things he examined was this question of whether or not you might get better utilization of your inventions if you were able to license them exclusively, was it not?

Mr. Maclay. That is correct.

Mr. Wright. And can you tell us just briefly what his conclusion was?

Mr. Maclay. Industry has on numerous occasions, indicated that it would not take up certain developments made in the Department of Agriculture because they were not able to have exclusive rights. Dr. Newton, when he came in to make this survey, was very definitely of that opinion. But, as he states in the report, after he asked some leading questions of various industry people, he got the impression that

(2) In answer to questions asked by Mr. Wright on pages 814 and 815 relative to the FAA patent procedures, I said in the middle of page 815 there were two thoughts I had on this policy, but only mentioned one before the subject shifted to different matter at the top of page 816.

The second thought I had wished to express is that the administration required to satisfy the royalty payments under this policy would be burdensome to the contractor, particularly in that this recovery by the Government is required for years after the end of the contract and may even continue after the expiration of any patent coverage which the contractor might obtain.

The policy calls for a royalty to be paid to the Government not only on patentable subject matter, but also on any products derived from those developed for the benefit of the Government under contract. This last feature is not only unjust, but might lead to considerable confusion in interpretation, under which royalties might have to be paid to the Government on a variety of things other than the exact apparatus developed for the Government. The contractor would also find himself paying royalties to the Government for ideas conceived not under contract, if the contract is based on such ideas.

(3) Mr. Wright's question at the top of page 816 about DOD regulations, I now see must have referred to the exceptions granted by ASPR to the normal royalty-free rights which the Department of Defense gets on all "subject" inventions.

Though ASPR does provide for certain exceptions to the Government getting a royalty-free right on all subject inventions, the circumstances in which such exceptions are granted under ASPR do not in any material way alter the statements that I made, particularly with regard to inventions conceived not under contract when first actually reduced to practice in the performance of the contract.

The circumstances outlined in ASPR under which an exception might be granted are so burdensome to the contractor that, in reality, he can scarcely hope to qualify for an exception. This is especially true for small businesses whose resources for precontract work, on which the exceptions are primarily based, are severely limited.

If a contractor were to attempt to operate outside of ASPR, namely, taking exception to the royalty-free right in any manner other than the exceptions delineated in ASPR, then, in all likelihood he would find that he could no longer do business with the Department of Defense. In fact, contractors frequently find that just wishing to operate under the exceptions allowed in ASPR delays precontract negotiations timewise to the point where it jeopardizes getting any contract at all.

(4) As to the question asked by Mr. Wright and then by Senator McClellan near the tops of pages 817 and 820 with regard to instances in which General Atronics feels injustices have occurred through having to grant royalty-free licenses under ASPR, I can state that just being required under ASPR to grant the Government a royalty-free license on ideas conceived not on the contract is in itself an injustice for reasons stated in my testimony on June 1, and for the further reason that costs of obtaining and maintaining patents on these inventions is a substantial one, not directly borne by the Government.

In addition to the Government getting a royalty-free right for an invention which is conceived not under contract, the actual reduction to practice of the invention under a contract is one on which the contractor has a small profit at most, or he may experience a loss. The contractor is thus frequently not in a position to benefit sufficiently from the sale of the reduction to practice of the invention for the benefit of the Government to enable bringing the invention into use for the benefit of the Government or the public.

One clear instance of this was contract AF 19(604)-5218. In this case the contract called for delivery of apparatus based on an invention conceived by General Atronics personnel before anyone in the Government had even thought of the contract. General Atronics finally emerged from the performance of this contract with a substantial financial loss and with the Government holding at least royalty-free rights to any patents which might result on the invention. This was through no fault of anyone in the Government, or at General Atronics, but only a result of dedicated people following established policy.

Senator McCLELLAN. All right, gentlemen. Which one will be the spokesman for the agency?

Mr. JORDAN. I will be.

Senator McCLELLAN. All right.

Mr. Jordan, do you have a prepared statement?

Mr. JORDAN. No, sir; we do not have a prepared statement, Mr. Chairman.

Senator McCLELLAN. All right.

Are you for or against the bills?

Mr. JORDAN. I might explain, Mr. Chairman, that we have addressed to the committee three letters over the signature of Mr. John Moore, the Administrator of General Services. These letters were addressed to you, and the first one that I would like to mention, if I may, and just introduce these for the record, was April 20, transmitting the views of General Services Administration on S. 1084; and April 21, transmitting our views on S. 1176; and on May 16, 1961, a further letter commenting upon specific inquiries which had been addressed to us concerning the effect of private ownership of patent rights upon our ability to dispose of plants which had become surplus to the needs of the Government, and some other matters.

Senator McCLELLAN. These letters, copies of which will be furnished the reporter, will be printed in the record in full at this point in the order of their date.

(The letters referred to follow:)

GENERAL SERVICES ADMINISTRATION,
Washington, D.C., April 20, 1961.

Hon. JOHN L. McCLELLAN,
Chairman, Subcommittee on Patents, Trademarks, and Copyrights, Committee on the Judiciary, U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: The views of the General Services Administration have been requested on S. 1084, 87th Congress, a bill to establish a national policy for the acquisition and disposition of patents upon inventions made chiefly through the expenditure of public funds.

This bill provides that the United States shall have exclusive right and title to any invention made by any person in the performance of any obligation arising from any contract or lease executed or grant made by or on behalf of the United States. The bill further provides that an invention resulting from a research contract or grant financed by the United States shall be patented in the name of the United States only, and that no patent on such invention shall be issued, assigned, or otherwise transferred to anyone as compensation under any such contract or grant.

GSA does not favor enactment of S. 1084. It is believed that the policy expressed in the bill does not provide the flexibility generally desirable in negotiating contracts required to meet the research and development programs of the Government and further, that enactment would deter normal and desirable efforts of supply contractors to achieve product improvement during the period of performance of a Government contract.

While GSA does not make research grants or carry on extensive research and development programs, we have followed, with minor exception, the license concept in the relatively few research contracts awarded in recent years. Based on our limited experience, we feel that there are situations where insistence upon a "title acquisition" policy may disrupt vital research and development programs. On the other hand, we recognize that there are programs which may reasonably be viewed as not only justifying but requiring acquisition by the United States of right and title to an invention resulting from research financed with public funds. Accordingly, it is our view that a rigid national policy is not desirable.

We believe that agencies utilizing the license policy might well give consideration to a plan for recoupment through royalties of public funds invested where a research contractor acquires title to an invention which is subsequently exploited commercially. However, we are not certain that this approach in every

association and my committee endorse, but they are matters which you have heard before.

We have just attempted to restate reasons which we feel justify our position.

Senator McCLELLAN. I notice there is attached to your statement a proposed bill.

Mr. MORTON. In response to a suggestion which I believe came from you, Senator, we have endeavored to take a positive approach to the situation to which this committee is addressing itself.

Senator McCLELLAN. Do you wish to read your prepared statement?

Mr. MORTON. I will highlight it rather than read the whole thing.

Senator McCLELLAN. Very well.

The prepared statement will be printed in the record at this point in full. The bill, the suggested bill or proposed bill, may be printed in the appendix of the record with proper reference to it.

Mr. MORTON. Thank you, sir.

(The statement referred to follows; the bill referred to appears on p. 57f of the appendix.)

PREPARED STATEMENT OF W. BROWN MORTON, JR., CHAIRMAN, COMMITTEE ON GOVERNMENT PATENT POLICY, AMERICAN PATENT LAW ASSOCIATION, WASHINGTON, D.C.

My name is W. Brown Morton, Jr. I live at Alexandria, Va., and am a partner in a law firm having offices at New York and Washington whose practice is largely in the field of patents and related matters. For the year October 1960 to October 1961, I hold the office of chairman of the Committee on Government Patent Policy of the American Patent Law Association which has its headquarters here in Washington. In this capacity, I have been authorized to make this statement by the board of managers of the association.

The American Patent Law Association is a national legal society composed of some 2,300 members living in 37 of the States of the Union and in the District of Columbia. These members are lawyers drawn from all phases of the practice of patent and related law, private and corporate, industry and government, courtroom and office. This association has very properly concerned itself with the patent policies of the Federal Government, because with ever-increasing participation of that Government in the actual conduct of research, those policies can have a profound influence on the overall making and putting to use of inventions in this country.

The American Patent Law Association has had a special committee on Government patent policy since January 1955. The present committee which I have the honor to head consists of 69 members drawn from the same broad basis in the patent profession as is the membership of the association itself. The work of the committee goes beyond the special subject of this hearing, which I conceive to be the advisability of enacting either S. 1084 or S. 1176. Thus, during the present year no less than 15 different subcommittees have addressed themselves to 15 different, though to some degree overlapping, aspects of overall Government patent policy. Our committee unanimously disapproves both S. 1084 and S. 1176. I have also been specially authorized to report, on behalf of the Patent Law Association of Chicago, that its board of managers has recently approved reports of its committee on government relations to patents specifically disapproving S. 1084 and S. 1176.

On the broad subject of this hearing, namely, the soundest policy to prescribe for the allocation of property rights to inventions made in the performance of research and development contracts financed by the Federal Government, in line with the suggestion of Senator McClellan, we are presenting a positive proposal in the form of a draft bill, a copy of which accompanies this statement. This proposed bill has been overwhelmingly approved by the Government Patent Policy Committee of the American Patent Law Association. The board of managers of the association has asked me to present this bill to you, and has approved this statement, in principle, of the reasons why our bill represents a better all-around solution of the problem before you than either the Long bill, S. 1176, or your chairman's bill, S. 1084.

STATEMENT OF W. D. MACLAY, ASSISTANT ADMINISTRATOR, AGRICULTURAL RESEARCH SERVICE; ACCOMPANIED BY S. P. LEJKO, ASSISTANT TO THE ADMINISTRATOR, AGRICULTURAL RESEARCH SERVICE; AND T. A. SEEGRIST, OFFICE OF THE GENERAL COUNSEL, U.S. DEPARTMENT OF AGRICULTURE

Mr. MACLAY. Mr. Chairman and members of the committee, I am W. D. Maclay, Assistant Administrator, Agricultural Research Service. My associates are S. P. Lejko, assistant to the Administrator for Legislation and Special Assignments, Agricultural Research Service, and Mr. T. A. Seegrist, Office of the General Counsel of the Department.

Senator MCCLELLAN. Very good.

Now you have a prepared statement here of some 11 pages, I believe. Can you summarize your statement——

Off the record for a moment.

(Discussion off the record.)

Senator MCCLELLAN. The Chair directs that the prepared statement of the witness Mr. Maclay be printed in full in the record at this point.

(The prepared statement of Mr. Maclay follows:)

STATEMENT OF W. D. MACLAY, ASSISTANT ADMINISTRATOR, AGRICULTURAL RESEARCH SERVICE, U.S. DEPARTMENT OF AGRICULTURE

Mr. Chairman and members of the committee, you have asked that we discuss with you the patent practices followed by the Department of Agriculture and to express the views of the Department with respect to (1) the probable effects of S. 1084 and S. 1176 on its operations; and (2) the section dealing with the patent rights contained in a report of Dr. Roy C. Newton, October 14, 1960, to the Secertary of Agriculture on "Utilization Research U.S. Department of Agriculture—An Appraisal of Present Program, Staff and Facilities."

Information on the patent practices followed by this Department was furnished to the committee staff. I will summarize on the patent practices followed by this Department.

The research activities of the Department of Agriculture and of activities sponsored by the Department from which inventions result extend over five principal areas, namely: (1) Research by Department employees; (2) research carried on by private and public organizations and institutions under Research and Marketing Act contracts; (3) research by State agricultural experiment stations financed in part by Federal grant funds; (4) research carried out with public or private institutions under cooperative agreements; and (5) research under foreign agricultural research grants in accordance with Public Law 480, 83d Congress, as amended.

These principal areas are carried out under the authority of a number of statutes. The principal ones are: (*a*) The Department's organic act of 1862; (*b*) the Agricultural Experiment Stations Acts starting in 1887 and reenacted in 1955; (*c*) a number of sections of the McSweeny-McNary Act of 1928; (*d*) section 1 of the Soil Conservation and Domestic Allotment Act of 1935; (*e*) the Bankhead-Jones Research Act of 1935, as amended by title 1 of the Research and Marketing Act of 1946; (*f*) section 202 of the Agricultural Adjustment Act of 1938; (*g*) title 2 of the Research and Marketing Act of 1946; (*h*) sections 104(a) and 104(k) of the Agricultural Trade Development and Assistance Act of 1954.

The first area relates to inventions which result from research by Department employees. The Department is operating under Executive Order 10096 and Administrative Order No. 5, dated April 26, 1951 (16 Federal Register 3927) in determining ownership of the domestic patent rights of inventions made by its employees. As we understand the Executive order and the interpretations which have been given it, ownership of the employee inventions is determined by criteria which accords essentially with the common law or court rules derived

acceptable controlled experiments are possible in this field, and we must simply reason as best we may deductively from the lessons of history. It can be argued that Russia's progress is a glowing tribute to the efficacy of socialism. It can equally be argued that Russia's progress is the result of its size and abundant natural resources and would have been far more spectacular if it had been made under a free market system.

Until we are able to reverse time and run off Russia's history after 1917 without socialism, we can never have a truly scientific answer. It can be argued that the United States would have grown even more in the field of the useful arts if it had not had a patent system at all. Since we cannot turn the clock back to 1789 and try again without one, we can only reason from experience. In my judgment the overwhelming weight of experience favors both the free market economy and the patent system as an adjunct thereof. In my further judgment, in most cases a policy permitting a contractor to retain title to inventions made in the performance of Government research and development contracts in the absence of specific circumstances shown to exist in a particular case is also shown by the overwhelming weight of experience to be the best way of justly caring for the equities of the contractor, the legitimate needs of Government, and the long-range public interest.

Since there are certain threats of abuse, more potential than actual, in a policy that would always give title to the contractor, the Congress should legislate criteria under which the Executive can administer a reasonably predictable, flexible, but not capricious policy on what is, basically, the equitable approach. This treating of each case as it comes up on its own facts and under preestablished guiding principles is peculiarly appropriate to the just disposition of rights to inventions, because by definition an invention is a new thing—unknowable in advance. We believe that our proposed bill meets the requirements of sound policy in this area and that neither S. 1084 nor S. 1176 do.

Soviet Russia is said to be devising special incentives to spur accomplishment. We should do nothing in this country to further reduce incentive to anyone Government contractors included. Barbara Ward, a well-known British economist and author, writing in the New York Times magazine for January 1, 1961, says that prestige is founded in three basic elements—power, excellence, and creative innovation. The patent incentive is useful to enhance all three. The economic soundness of U.S. industry—which is private industry—and hence the national welfare is improved by retention of title by contractors. Any policy which destroys or hinders incentive is, in our opinion, against the public interest.

Expansion of the gross national product at a greater rate than the historic average of 3 percent has been stated to be a desirable, if not necessary, objective. This expansion to be truly fruitful must be not only quantitative, but qualitative. This means innovation, not sterile copying. Preferably it means substantial innovation which is another way of saying invention. Organized research backed by maximum incentives to invest and produce can easily accomplish the recommended goals. Any weakening of incentives, the patent incentives included, must significantly slow down advance in this direction.

It is said that over half of the research dollars now spent in the United States originate in the Federal Government. We may expect a substantial number of patentable inventions to be made in connection with the federally sponsored portion of this research. This is true even though a research worker is not necessarily an inventor and much research is not even directed toward invention. Especially Government research may be into broad problems, for example, to borrow a definition from a Soviet patent law, leading to "discoveries," defined as "the establishment of hitherto unknown objective laws, properties, or phenomena of the material and unpatentable world." And to use another Soviet definition, an "invention" is, by contrast "any essentially new solution of a technical problem, where a positive result is achieved" and they are patentable.

It is significant that the Soviets recognize a right private in an inventor to his invention regardless of the fact that he makes the invention in the field of his employment, including the right to transmit his invention to his heirs, and in most cases the right to patent it and assign the patent, though substantially all Soviet citizens who make inventions in fact assign them to their Government for just compensation, determined after the event on criteria prescribed by statute, receiving not a patent, but a so-called author's certificate, identical in format to a patent. The Senate bills now before this subcommittee would establish a policy of depriving an inventor without compensation of all possibility of private

they will try to beat him to it. It is doubtful therefore if this policy is a serious handicap to the commercialization of new developments by utilization research.

"The second of these complaints about the patent policy is the reversion of ownership of foreign rights to the inventor inasmuch as the invention was paid for by public funds. In several cases which have come to our attention the inventor has negotiated for sale of his foreign rights before such rights had actually come to him. The dissatisfaction, of course, came from those firms which did not even have a chance to bid on these foreign patent rights. That this is inherent in the patent policy will be seen if we take the following points into consideration:

"1. Foreign patent applications must be filed within 1 year of filing date in the United States.

"2. Most inventors do not have the finances to file in all foreign countries.

"3. The inventor does not know which countries to file in until he knows what company is interested in the patent and in what countries that company does business.

"4. With a lapse of 6 months before the inventor owns these foreign rights this leaves only 6 months to negotiate, sell, and file on the inventions. This is not enough time; so the inventor often does the negotiating before he owns the rights.

"The laboratory employees consider this reversion of ownership an added incentive to good development work.

"This writer would recommend against inventor-ownership of foreign rights for two reasons:

"1. These rights were accumulated at public expense, and any financial return should accrue to the public. If it is not practical for the Government to negotiate the sale of these rights by competitive bids, then they should be allowed to lapse so that all persons will have equal opportunity to use them.

"2. When developments are made by a team of scientists working together it is often impossible to determine who are the actual inventors. If a few members of the team get substantial returns from the invention, it will lead to dissatisfaction of the others and destroy teamwork. It will lead to secrecy among the workers when there should be free exchange of ideas to make the most rapid progress. Furthermore, it could lead to the selection of projects having large economic possibilities in foreign countries but little or no possibility of using agricultural commodities of this country."

Our experiences in the last few years, and the recommendations of the Newton report, indicate that it is desirable for the Government to acquire the foreign patent rights along with the domestic patent rights in the invention of our employees. Therefore, we would favor enactment of legislation similar to that of section 3(a) of S. 1176, which provides for worldwide acquisition of the rights.

We are presently operating under the provisions of Government-wide Executive Order 9865 and administrative order No. 6. In the absence of legislative change, we would be glad to cooperate with the other Government agencies in obtaining such changes in the orders as would secure for the Government the foreign patent rights.

Senator McCLELLAN. All right, call the next witness. Mr. Cohen. Mr. Cohen, identify yourself for the record, please, sir.

STATEMENT OF ERNEST S. COHEN, ASSISTANT SOLICITOR, BRANCH OF PATENTS, OFFICE OF THE SOLICITOR, DEPARTMENT OF THE INTERIOR

Mr. COHEN. Mr. Chairman, members of the committee, I am Ernest S. Cohen, Assistant Solicitor, Branch of Patents, Office of the Solicitor in the Department of the Interior.

The contents of this statement were submitted——

Senator McCLELLAN. I don't know whether that mike is working or not. Please speak a little louder.

Mr. COHEN. I have prepared a summary of my statement which I would prefer to read.

On the broad subject then of the hearing, which I conceive to be an examination of the soundest policy for prescribing for the allocation of property rights to inventions made in the performance of research and development contracts financed by the Federal Government, we have drafted a proposed bill, and that proposed bill is attached to the statement.

Senator McCLELLAN. The Chair has already ordered disposition of the bill.

Mr. MORTON. Yes.

Senator McCLELLAN. All right.

Mr. MORTON. The key to this bill is a flexible policy against a prescribed norm. That is to say that it provides statutory authority for agency heads to make specific contracts with respect to particular situations which vary from all rights in subject inventions vesting in the Government over to no rights in the Government at all, but only if the agency in question makes a specific finding that there exists a particular justification for variation from the statutory standard policy.

The statutory standard policy we have in mind is set out in section 2(b) of the proposed bill and constitutes the familiar worldwide royalty-free license to the Government to use the invention concerned for governmental purposes plus—and this is an important plus, Senator—a grant to the Government of authority for the Government to grant licenses at reasonable royalties to third parties if an existing demand for the invention is not being reasonably met by or through the patentee of the invetnion after any patent has been issued for 3 years.

That proviso, which is set forth in section 5 of the bill in detail, is, in essence, a procedure for compulsory working of inventions in which the Government has had some part. It is intended to meet head-on criticisms which have been directed toward the so-called suppression of inventions by means of contractors' patents.

I may point out that such provisions for compulsory working are novel in the patent laws of the United States but are by no means novel in patent laws of our fellow Western countries.

Now, we also have in mind that perhaps the best key to a successful Government patent policy in this difficult field is flexibility, especially in the negotiation stage; that there are undoubtedly situations where the Government knows what it wants, asks for it, the contractor agrees to supply it, and the Government thus has all the rights that are necessary for it to carry out its stated objectives.

There are many other situations in which the Government not only doesn't know what it wants in the sense of what rights it wants in inventions, but can't know by definition because an invention, by definition, is unknown before it is made. Accordingly, the scheme we have set up is to encourage—not to require, but to encourage, as set forth in section 4—the inclusion in these research and development contracts of a provision whereby the Government may, by an administrative procedure after the invention is made, upon payment of just compensation, acquire such additional rights as the then existing and, I might say, then for the first time fully revealed, situation justifies.

In order that the administrators may have guidance, there is set forth in that section the statutory criteria for determining what would

State agricultural experiment stations at an average of 4 to 1 ratio of Federal funds. The research conducted at these stations is with State personnel rather than Federal personnel. Therefore, it would become difficult to determine if an invention resulted from the use of Federal or State funds.

The fourth area will deal with cooperative agreements with public and private institutions. The disposition of patent rights in cooperative agreements is made according to the following provisions: "Any invention resulting from this cooperative work and made jointly by an employee or employees of the U.S. Department of Agriculture and a cooperator or an employee or employees of the cooperator shall be fully disclosed either by publication or by patenting in the United States and any such patent shall either be dedicated to the free use of the people in the territory of the United States or be assigned to the United States of America in the discretion of said Department and the said Department shall have an option to acquire the foreign patent rights in the invention for any particular foreign country, said option to expire in the event that the Government fails to cause an application to be filed in any such country on behalf of the Government, or determines not to seek a patent in such country within 6 months after the filing of an application for a U.S. patent on the invention. Any invention made independently by an employee or employees of the U.S. Department of Agriculture or by the cooperator or an employee or employees of the cooperator shall be disposed of in accordance with the policy of the U.S. Department of Agriculture or the cooperator, respectively."

The volume of inventions arising from work done under cooperative agreements is relatively small. Patents on such inventions would be of concern to us only in the event an employee of this Department was an inventor. The disposition of the patent rights in that case and the licensing of any patents obtained would be handled in the same manner as all other employee inventions.

The fifth area deals wtih foreign agricultural research grants in accordance with the Public Law 480 program. Our regulations provide the following: "The public shall be granted all benefits in the United States of America of any patentable results of all research and investigations conducted under this grant, through dedication, assignment to the Secretary of Agriculture, United States of America, publication, or such other means as may be determined by the Director. Rights to patentable results in countries other than the United States of America shall be in accordance with the policy of the grantee, provided that an irrevocable, nontransferable, and royalty-free license to practice such invention throughout the world be issued to the U.S. Government."

At this point, Mr. Chairman, I would like to talk briefly on the bills which are before the committee. The provisions of S. 1084 in general are encompassed in S. 1176, a more comprehensive bill. We will, therefore, discuss certain sections of S. 1176 which have a bearing on the Department's operations. Our remarks are equally applicable to the related parts of S. 1084.

The criteria set forth in S. 1176, under section 3(a) for acquiring title to inventions made by employees appears to be essentially a restatement of the court law founded on the implications arising out of a contract of employment or from the job assignment in absence of an express contract disposing of the title rights. The criteria accords essentially with the practice which has been followed by the Department of Agriculture for many years, including operation under Executive Order 10096, as related to acquiring title to the domestic patents. It is believed legislative adoption of criteria according to section 3(a) would have little effect on the present practice of the Department with respect to domestic patents.

Relative to the foreign rights, the Department has been following the practice prescribed by Administrative Order No. 6 under which an option to the foreign rights is acquired. In all instances the options have expired in 6 months after filing of a U.S. application and the employee-inventors have thus retained the foreign rights. Since section 3(a) provides for the Government to acquire the worldwide title its adoption would change the Department's practice with respect to foreign patents. We would have no objection to this change.

Section 3(b) relates to acquisition by the Government of title rights in inventions resulting from contracts, leases, or grants. Under this provision, the worldwide title rights to inventions arising out of such Government-sponsored activities would be obtained by the Government, subject to such waivers and exceptions as are provided for in sections 10 and 11 of the bill.

Research of this Department, other than that by employees, is primarily sponsored by contracts under the Research and Marketing Act of 1946, by

economy and that a patent system is an essential and highly desirable part of a free market economy.

I may just point out that Holland, for example, having a free market economy and having some dissatisfaction in the latter years of the 19th century with its patent system, abolished it for a period of 8 or 10 years, but they went back to it. That is the nearest sort of thing I know of to an experiment.

I am talking here about the merits of a patent system as a whole because it is our considered view that, in view of the fact that something over half of the R. & D. money spent in this country has origins in the Federal Government, that we cannot divorce this Government policy problem from the overall problem of the desirability of a patent system.

Soviet Russia has a patent system. In contrast with the two bills pending here today, Senator, Soviet Russia provides for the right to inventions to remain with the inventor and to be transmittable by the ordinary rules of inheritance. They have an elaborate system for making patents accord with their Socialist economy by not requiring but strongly encouraging Soviet citizens to dedicate their patents to the Government. Even when they do that, they get a right, an individual right, to a reasonable royalty.

It is surprising how parallel the terms of the Soviet patent law are with ours except for the one feature of not letting Soviet citizens, not encouraging, I should say, Soviet citizens to own rights to exclude. The reason is obvious. You can't start a business, and it would be a worthless anomaly that would give you the right to exclude the only customer, the Government.

In contrast with that—and this may touch on a point which Mr. Lanham made—it seems to us that both bills pending before the Senate today ignore the individual right of the inventor altogether and talk in terms which I think were not unfairly described this morning as confiscation.

I don't think we need attempt to elucidate matters of constitutional law here. I am not sure my views on constitutional law would be very relevant, but certainly it is natural law—it was the common law, and it is today the common law of the United States—that an inventor has all right to his invention up until the time he discloses it. And the purpose of the patent statute is to permit and encourage him to disclose and exploit his idea without loss of control over it by virtue of the disclosure. It is, in short, to discard resort to the common law principle of trade secrets.

That being so, and the Soviet Union, on the one hand, recognizing the individual inheritable right of an inventor in his invention, the French, I believe, taking the point of view that it is a sort of right of man, and, indeed, in the related copyright field preventing artists from divesting themselves, making that right inalienable; it is quite anomalous, I feel, for these two bills to talk about the act of invention under any circumstances automatically creating a title in the United States. Both the bills seem to me to raise grave doubt of whether they are not taking property without compensation.

That is to say we have an inventor who makes no specific contract with the Government; he is just working in an organization; he may or may not have a contract with his employer. But both bills contemplate that if the work on which he is assigned by his employer is

D. Statements and letters submitted for record:

Government to get either more or less than a prescribed norm when due administrative action is taken, will solve both problems. That is, the problem of the Government not getting for the taxpayer what it set out to get, and, secondly, the problem of industry losing a major part of its incentive to assist the Government in these programs.

Now this leads us, because I say that the specific government contract problem involves the application of the patent system to such a large portion of the economy, to the position that we can't ignore problems of the patent system as a whole.

This association does not think that the present patent system is perfection. It has been in substantially the same form since 1870. We do think that a patent system conferring private exclusive rights is the system best adapted to promote the progress of useful arts in a free economy.

I would like to call this subcommittee's attention to the very interesting fact that the British Government, only last year, in July of 1960, having appointed a body similar to this from Parliament to investigate the matter of plant breeders' rights, reached the conclusion in a published report which was brought to my attention by a lawyer friend from England—I would like to read it. The committee concluded:

> We have examined the plant breeders' rights from three aspects—equity, benefit to agriculture and horticulture, and international reciprocity. We have reached the conclusion that on all these grounds there is a good case for making arrangements which would enable a breeder to obtain some additional financial return on a new variety of plant.
>
> Being satisfied on the merits of the case, we went on to examine the practicability of making provision for this purpose, in the light of United Kingdom conditions and of experience in foreign countries which operate plant breeders' rights schemes.
>
> We considered three possible methods: a system of subsidies for private plant breeders; a system of awards for meritorious plant breeding work; and a system of granting personal rights to the plant breeder.
>
> We are satisfied that for this country the third method is at once the most practicable and the most likely to achieve the objects which we have in view. This means conferring on plant breeders the right to protect new varieties of plants from uncontrolled exploitation by other people.

They go on then to a specific bill which contains some of the same provisions for assuring against suppression while retaining exclusive rights to the diligent originator that are contained in the association's proposed bill submitted to you today.

It seems to me that that is a most impressive tribute to the effectiveness of a patent system and that we should endeavor in this important area of inventions arising from Government expenditure to preserve as much of the characteristic nature of a patent system with respect to those inventions as the needs of the Government permit. It is with that in view that we drew our bill.

I may say further with respect to a reform of the patent system—and I might add one of the matters raised in connection with Government patent policy which has impressed me most as requiring some attention in the general law was originally brought to my attention by Senator Long of Louisiana, in particular by his concern about the speed with which information may be disseminated and with the problem of whether patenting by contractors acts as a clog on that process.

It appears to us that any criticism of patenting by Government contractors is a criticism equally aimed at the generalities of a patent

Mr. HOLST. The problems of the Department of Defense or the space agency, landing a man on the moon or whatever it may be. That is the first objective, and the patent policy should be consistent with that objective.

Senator MCCLELLAN. Each agency should determine how it can best get its problems solved the quickest.

Mr. HOLST. That is right.

Senator MCCLELLAN. That is number one in the policy.

Mr. HOLST. That is correct.

Senator MCCLELLAN. All right.

Mr. HOLST. And it seems to me that to do that the policies under which the Government operates should attract the most competent and most experienced contractors to work on the Government's problems. And the policies must likewise secure for the Government agency which is placing the contract the right to use the results of the contract work.

Senator MCCLELLAN. Just that agency or all agencies?

Mr. HOLST. I am coming to that.

I mean the Government as a whole should get the right to use the results of contract research. But I think it must be recognized that the public benefit should also be taken into account, and the public interest may not be served by exactly the same policy that a specific agency might wish for its own right.

Senator MCCLELLAN. All right. Now I am trying to follow you. The first objective should be to get the results you want the quickest?

Mr. HOLST. That is right.

Senator MCCLELLAN. No. 1. No. 2 is what?

Mr. HOLST. Get the most competent individuals that can be enlisted to work on those problems.

Senator MCCLELLAN. That can be taken for granted almost.

Mr. HOLST. That is right.

Senator MCCLELLAN. No. 3 then?

Mr. HOLST. No. 3 is to secure to the Government the right to use the results of the contract work.

Senator MCCLELLAN. No. 3. I think we can take that for granted, if we pay for it. We ought to get the right to use it.

No. 4?

Mr. HOLST. No. 4, which is not so obvious, secures the widest possible benefit to the public?

Senator MCCLELLAN. No. 4. After the Government gets what it needs, after it gets its first objective, after it accomplishes that——

Mr. HOLST. Yes.

Senator MCCLELLAN (continuing). The next consideration should be how can the Government provide for this to best serve the public interest?

Mr. HOLST. That is correct.

Senator MCCLELLAN. Very well, I understand you now.

Mr. HOLST. If we agree on those objectives, it seems to me that we should then consider how can these objectives best be achieved. And I would say that first comes enlisting the most able contractors, the ones with the most obvious talent in their organization. But, second, contractors with prior experience that is as close as possible to what the problem deals with. This is significant because the organization with the most pertinent experience may also have com-

tion exists where the Government has said we asked for this contract for the purpose, let us say, of developing the manufacture of drinkable water out of sea water, this is obviously an area for great Government interest, and it is an area so big that nobody else can handle it. Everyone working on that program would have advance notice—if I may say so, my views are somewhat on the due process side—I say there the inventor knows what he is doing; he is working on the program. Of course, he understands the area in which he is working for the benefit of the Government. On the other hand, these bills as drawn, it seems to me, fail to take this notice concept into account, sweep in many peripheral inventions nobody contemplates that the Government was paying for, quite unjustly.

Senator McCLELLAN. In other words, the pending bills are too broad, too comprehensive?

Mr. MORTON. I would say so.

Senator McCLELLAN. You recognize there is an equity and it ought to be dealt with?

Mr. MORTON. That is right.

Senator McCLELLAN. But not in a broad sweep take?

Mr. MORTON. Not in a shotgun fashion, sir, I would say.

Senator McCLELLAN. That was the signal that the Senate is in session, and we can't sit while the Senate is in session.

Do you have a brief question, Mr. Counsel? We will proceed for a moment if you do.

Mr. WRIGHT. Yes.

The question I have is:

It is true, is it not, that your bill would actually give contractors a better position or more rights with respect to disposition of these patents, inventions that come out of R. & D. contracts than even Defense policy does now?

Mr. MORTON. I would say if negotiated between the negotiator for the Government and the contractor, it might. But there is no requirement. I think if you read the bill closely you will see that flexibility is indicated, and also that the matter, Mr. Wright, is, in our view, taken care of by where we provide for just compensation, we set down statutory standards which would enable just compensation to be, practically speaking, zero.

Mr. WRIGHT. One of the things you do is collect money here for giving a license whereas now the Department or the Government gets royalty free.

Mr. MORTON. Oh, no, sir; we don't. 2(c) sets as the standard norm the present policy plus a right for compulsory license or compulsory working. It also provides that there is the possibility that if a given contractor says, "Look, we have got a lot of background rights. We won't deal on that basis" and the negotiator says "I don't think problems are going to eventuate in the reality of performance of this agreement" they can agree "Let's not argue now; let us put in this just compensation provision; and that will enable us after an actual invention is made for the Government to take it and pay for what it is found to be worth or for the Government to say it has no interest in it.

Mr. WRIGHT. It speaks for itself.

Mr. MORTON. Yes, I think so.

Mr. WRIGHT. What it provides, it provides.

low temperature research being carried on in the United States depended on this equipment. It is fair to say in addition that personnel trained on this work have carried a major responsibility for the development of techniques for the loading of the Nation's liquid fuel rockets.

Peter Gray Corp., 286 Third Street, Cambridge, Mass.

This small business produces a patented spark plug cover that is used on virtually all outboard boat motors and on chain saws and similar appliances. The cover prevents grounding of the engine by water rained or splashed on the engine block. The safety and reliability of the engines is correspondingly improved.

We are personally familiar with the development and finacing of this product and can testify that exploitation would have been impossible without the limited protection of patent coverage.

The Kontro Co., North Main Street, Petersham, Mass.

With a highly qualified but small staff this company designs extremely efficient high-speed vacuum separators for processing pharmaceutical, food, and chemical products. The equipment permits a degree of purity and separation not previously possible. Its equipment is finding wide acceptance in this country and the free world.

Patent protection has been essential from the outset. Not only has it justified the establishment of the company but it now comprises its only protection from larger U.S. and foreign organizations in the field. In this instance, as usual, the patented process comprises an improvement over prior methods, thereby conferring benefits on user, the general public, owners, employees, and Government.

Cryovac Corp. (division of Grace Chemicals), Cambridge, Mass.

This company produces a variety of wrap materials, the most important of which is a clear plastic bag in which poultry products are packaged for storage and freezing. It is proper to say that without this product the quality and preservation of much "fresh" frozen food would be very poor. This type of container by permitting a close airtight fit to irregularly shaped products permits vacuum packing with resulting freedom from oxidation, dehydration, and contamination.

Cryovac has depended for its development and continuous improvement on the existence of patent protection. Because of such limited protection it has been able to make the investments necessary to offer a constantly better and more extensive service. The results have benefited the public, the company's owners and employees, and the governments of the several communities where its plants and outlets are located, as well as contributing to Federal taxes and the preservation of military food supplies.

10. GOVERNMENT'S INTEREST SERVED BY ENLISTING ORGANIZATIONS WITH DEVELOPED STAFF AND BACKGROUND

A point which should not be overlooked in developing a Government patent policy is the importance to the Government of being able to anlist the most competent organizations on Government assignments. Since military and space developments frequently require for their solution the highest levels of skill, they pose extremely difficult and indeed pioneering problems. Since such developments are both urgent and involve very large expenditures, it is particularly important that the Government have the benefit of organizations whose staff and facilities are already equipped to deal, as closely as possible, with the fields of technology or economics involved in the Government assignments.

Competence of the type sought for difficult Government work is most likely to be found in organizatitons already working in the field, or in areas closely approximating the field of interest to the Government. It is exactly such organizations which have existing, applicable know-how or facilities, or are in the best position to develop the required new knowledge with a minimum of time and cost to the Government in becoming educated in the area. This prior competence, it should be noted, has been developed without expense to the Government and results in further savings to the Government. It must be recognized that a Government policy requiring the surrender of know-how or patent results resulting from the use of such an organization's staff or facilities jeopardizes the organization's established business and is likely to deter it from offering to assist in Government assignments. Under a policy of taking only royalty-free

extensively about the problem you are considering and my recommendations for its solution. Attached to my prepared statement, as two appendixes, are some of my previous publications on this subject.

Senator McCLELLAN. I see you have two appendixes here. One is an article you wrote for some magazine, is that right?

Mr. FORMAN. That article is entitled "Wanted: A Definitive Government Patent Policy." It appeared in the winter, 1959 issue of the Journal of Research and Education of the Patent, Trademark and Copyright Foundation of the George Washington University.

Senator McCLELLAN. Here is what I am trying to do, Mr. Forman. I would like to place in the appendix that part that you submit here as articles that you have prepared or lectures you have given, and so forth. And then you have here, apparently, a 4- or 5-page statement that you have prepared for this occasion, as your testimony here, am I correct?

Mr. FORMAN. That is correct, sir. And there is another Appendix A. I would like to explain its purpose and suggest——

Senator McCLELLAN. Well, let me get the record straight now, and then we shall get started on the explaining.

Mr. FORMAN. Very good, sir.

Senator McCLELLAN. I want to make part II (or appendix A) a part of the appendix of these hearings, and that will apply also to part III (or appendix B). Now, they may be printed as appendixes in the record.

Now, then, you have a prepared statement for today. Do you wish to read that, or do you wish to have it inserted in the record at this point and then highlight it?

(Parts II and III referred to appear in the appendix commencing on p. 580.)

Mr. FORMAN. I would appreciate your insertion of part I, the statement prepared especially for this hearing, together with its appendixes parts II and III. Today, I will primarily explain what I have set forth in part I.

Senator McCLELLAN. Very good. Part I of the statement submitted by the witness will be printed in the record at this point.

(The statement referred to is as follows:)

STATEMENT OF HOWARD I. FORMAN, PATENT ATTORNEY, AND LECTURER ON FEDERAL ADMINISTRATIVE PROCESS, TEMPLE UNIVERSITY, PHILADELPHIA, PA.

My statement consists of three parts:

(1) Comments specially prepared for hearings of Senate Judiciary Committee's Subcommittee on Patents, Trademarks, and Copyrights held on June 1, 1961.

(2) Appendix A consisting of a reproduction of a statement I made on March 3, 1958, in hearings before Subcommittee No. 3 of the Committee on the Judiciary, House of Representatives (85th Cong., 2d sess.), on House Joint Resolution 454, "to establish a policy for the determination of rights of the Government and its employees in inventions made by such employees and to set forth criteria to be used in making such determinations."

(3) Appendix B consisting of a reproduction of an article I had published in the winter 1959 issue of the George Washington University Foundation's Patent, Trademark, and Copyright Journal of Research and Education, entitled "Wanted: A Definitive Government Patent Policy."

PART I

If enacted into law, the present bills before the Senate Subcommittee on Patents, Trademarks, and Copyrights, namely S. 1084 and S. 1176, will not be in

Patents, disclosures, patent applications

Contractor	Item	Patent application No.	Patent application date	Patent No.	Date patent granted
Reed Research	Article handling & sorting apparatus.	478,694		(1)	
	Optical photoelectric sensor	460,385	Oct. 5, 1954		
	Drum culler	508,069			
		508,105	(2)		
	Mail input	683,284	Sept. 11, 1957	2,961,085	Nov. 22, 1960
	Vacuum belt shingler	696,393	Nov. 11, 1957	2,905,309	Sept. 22, 1959
	Output letter feeder	684,800	Sept. 18, 1957	2,941,654	June 21, 1960
	Feeder and multiples eliminator.			2,941,653	Do.
	Automatic mail canceling apparatus.	686,529	Oct. 26, 1957		
	do	700,860	Dec. 5, 1957	2,928,337	Mar. 15, 1960
	Time changing mechanism	700,861	do	2,911,279	Nov. 3, 1959
	Mail handling apparatus	724,646	Mar. 22, 1958		
Emerson	do	732,330	May 1, 1958		
	do			2,929,490	Mar. 22, 1960
	Stamp detection sensing system.	(3)			
	Mail packet dressing equipment.	(3)			
	Top edge dressing device	(3)			
	Constant force stacker	(3)			
	Key ejector	705,861	Dec. 30, 1957		
	Chute gaging belt arrangement.	705,872	do		
	Mail culling equipment	706,118	do		
	Letter movement device	(4)			
	Pneumatic conveyor	(5)			
	Pneumatic stacking device	(5)			
	Air jet gating system	(5)			
	Envelope feeding mechanism.	(5)			
	Mail conveying device	786,134	Jan. 12, 1959		
	Code element shifting device	800,891	Mar. 20, 1959		
	Binary coded track means	827,066	July 14, 1959		
	Endless conveyor	844,476	Oct. 5, 1959		
Pitney-Bowes	Mail handling apparatus	850,180	Nov. 2, 1959		
	Decelerating device	4,800	Jan. 26, 1960		
	Document handling apparatus.	58,666	Sept. 27, 1960		
	Mail handling mechanism	665,336	June 12, 1957		
	Mail stacking device		July 11, 1957	2,926,910	
	Letter feeding device	682,346	Sept. 6, 1957		
	Mail canceling device		Jan. 14, 1957	2,887,951	
Burroughs	Training device, keyboard	13,320	Mar. 7, 1960		
Intelligent Machines Research.	Hi-speed character sensing equipment.	(6)			
	Time interval marking device.	622,981	Nov. 19, 1956		
Nuclear Chicago	Information, coding and sensing.	800,554	Mar. 19, 1959		
ITT	Message compression	(7)			
ITT (PB Sub)	Envelope letter	(7)			
	Opening envelope letter and presenting it.	(7)			
	Refolding sheet	(7)			
	Mechanical coding and sorting device.	644,017	Mar. 3, 1957	2,901,089	Aug. 25, 1959
	Differential pressure envelope printer.	719,133	Mar. 4, 1957	2,901,969	Sept. 1, 1959
	Mail stacker	719,081	do	2,904,335	Sept. 15, 1959
	Code printing and sorting station.	721,131	Mar. 13, 1958	2,912,925	Nov. 17, 1959
	Single letter feeding device	810,941	May 4, 1959		
Rabinow	Optical systems	665,763	June 14, 1957		
	Photoelectrical keyboard	810,940	May 4, 1959		
	Magnetic recording on pieces of mail.	810,760	do		
	Article sorter		May 5, 1960		
	Code converter		(8)		
	Drum inserter		May 24, 1960		
	Combined vacuum pickup and printer.		(8)		
	Rotary code wheel setter		May 24, 1960		
Food Machinery	Machine for sorting mail	(3)			
Aerojet General	Parcel sorting system	SN 4322	Jan. 25, 1959		
	Chute for same	(6)			
	Electromechanical memory for same.	(9)			

[1] Has been allowed.
[2] No title reported.
[3] None to be filed.
[4] Application filed; no number reported.
[5] Not patentable.
[6] Publicly disclosed.
[7] Patentability not yet determined.
[8] June 1960.
[9] Application being prepared.

vately patented or which will be difficult to copy. If it would be easy to copy after all the "bugs" were eliminated, very few would be willing to invest large sums for such development work and then let imitators come along and undersell them.

(b) If the Government does not file, and people use the disclosures from reports, etc., without their developing inventions which they could patent themselves, there would be no incentive to try and invent or discover new improvements. The Government has given people the means to make a commercial item, so most people will stop there. Without inducing them to do further research and development on their own (e.g., to "get around" a patent which someone else owns), their progress would stagnate.

(1) The problem is to get people with research and development facilities to work on improvements to inventions which they or others make.

(2) The problem is to get people without such facilities to try and lawfully circumvent patents owned by others.

6. The foregoing summarizes just a few of the reasons why I believe that the Government's taking of title to patents, as proposed by S. 1084 and S. 1176, would not be in the best interests of the public. Rather than go on to state more criticisms of the proposed legislation, I would prefer to submit a constructive proposal. I advocate a solution to the problem which I believe is far more in the public interest than those bills, and more consistent with the principles which Congress should follow as laid down in article I, section 8, of the Constitution. My proposal would tend to develop more inventions, enhance their utilization in the public interest, and save the taxpayers far more money than any solution to the problem heretofore devised. It would call for a minimum of staffing by the Government and by the contractor. It would end the passive suppression of patents described above, and substitute for it a live program for encouraging the use of our inventions in the national interests. I believe that my proposal is equitable to all parties of interest, and has a greater chance of general public acceptance than do either S. 1084 or S. 1176. It would solve problems existent in Government for over 80 years along reasonable, straightforward lines, following a uniform, definitive patent policy which would apply to every invention and every inventor (or his assignee) involved in any way with Government-sponsored research and development.

7. My proposal is fully spelled out in appendix B. A one-page abstract at the beginning thereof tells briefly what the proposal is about.

8. The essence of my proposal has been embodied in two bills now before the Committee on the Judiciary of the House of Representatives. One is H.R. 6532 which was introduced by Mr. Green, of Pennsylvania; a duplicate bill, H.R. 6548, was introduced by Mr. Toll, of Pennsylvania. Both bills contain additional provisions which Congressmen Toll and Green favored including therein. Nevertheless, I believe that those bills, at least in principle, represent the potential solution to the problem now before the Senate Subcommittee on Patents, etc. I urge that counterparts to those bills be introduced in the Senate and considered by the Subcommittee on Patents, Trademarks, and Copyrights as soon as possible with a view to the possible adoption thereof either as is or in some slightly modified form. Those bills seek to protect our Nation's interest by putting primary emphasis on the preservation and utilization of the inventions which arise out of Government contracts; not the present emphasis on "who gets what rights to how much and why should this be so." While this fiddling is going on, history repeats: Another Rome is burning. The potential utilization of our inventive productivity—at least about 60 percent of it—stands ready to go up in smoke. I am confident that the Senators of our United States will not stand idly by as the Roman Senate did in its time of great decision. Now is the time to encourage and direct the inventive productiveness of our Nation's genius by utilizing our patent system to maximum advantage as I have proposed in appendix B (and as indicated in the Green and Toll bills mentioned above).

Senator McCLELLAN. Now, Mr. Forman, you may proceed to highlight it and supplement it as you desire.

Mr. FORMAN. Thank you, Senator.

I would like first to comment on my gratification, as a member of the patent profession and of the association represented by Mr. Morton who preceded me here today, of the position and recommenda-

sive licenses under such a federally owned patent. Contractors generally opopse this policy and contend that contracts would cost our Government more under such a policy.

The experience of the National Aeronautics and Space Administration, under a statute which is clearly directed toward title in the Federal Government, led that agency to seek modification of that statute to allow more discretionary authority in the disposition of these property rights.

The fact that many contractors with which NASA deals also deal with the military organizations, which do not have such statutory directions favoring title in the Government, undoubtedly makes the problem of negotiation more difficult for NASA. Nevertheless, from consideration of NASA testimony before the Select Committee on Small Business, it appears that other factors might very well result in the same quest by NASA for more freedom in its contract negotiations.

It seems clear that at this time imposition of the title policy across the board will cause problems and will be disruptive to contract negotiations.

The sample inquiry recently undertaken by the Patent, Trademarks, & Copyright Foundation of George Washington University revealed that only 13 percent of patented inventions obtained by contractors from Federal research and development contracts have been put to commercial use. That study expressed some reserve with respect to the significance of that figure, but it is of the same magnitude as that arrived at by inquiries of defense research contractors made by this subcommittee where the figure was less than 10 percent. These figures indicate that only a small percent of resulting discoveries which are patented have demonstrated commercial worth.

In the course of investigation of this matter, concern has been demonstrated with respect to the know-how that is developed by the contractor and that this know-how is in some way related to his retention of title in patents which may develop.

This know-how results from performance of the contract and, in our opinion, bears little, if any, relation to development of patentable material.

If, as proposed by these bills, all patents are vested in the Federal Government, techniques and nonpatentable know-how will be developed and will, nevertheless, remain with the contractor.

In this connection, a word of caution appears warranted concerning preparation of patent applications by the contractor under a policy precluding ownership of such patents by the contractor.

These applications are time-consuming, and from the contractor's point of view it seems inevitable that, if there could be any question as to whether the development under consideration would qualify as a patentable advance in the art, it would be classed as a mere technical development or know-how not qualifying as a patentable advance with no publication of the development.

The Department of Commerce urges that efforts be made to resolve this matter and avoid precipitate adoption by statute of an absolute rule which is fraught with unknown dangers.

In its investigations, this subcommittee, as stated above, raised real questions as to whether the public interest is properly served by giving the contractor the patentee's right of exclusion of others from the fruits of discoveries financed by the Federal Government. We would

to enact legislation which will have only one purpose in mind: to make those patentable inventions serve our country to the maximum of their usefulness.

Now, you have 600 inventions within the province of your proposed legislation. Any one or more of them potentially may, if properly utilized, form the basis of a new industry or in other ways contribute to the progress of our country. What are you going to do with them? On the one hand, the proposed legislation you have before you suggests that you take title, and the only reason given for doing so is that there is a financial investment by the Government of some sort, either partial or total, which gives the Government some equity in the ownership of the inventions. Very little thought is given to the responsibility which the Congress has in seeing to it that those inventions are utilized in the public interest.

Now, I know you have heard arguments pro and con as to which is the best way to assure the maximum utilization of those inventions. Some who favor these bills say that if, in effect, we leave the inventions in the public domain—in other words, grant a royalty-free license to anyone who asks for it—those inventions will be utilized. On the other hand you have heard patent people and industrial people say, with respect to those inventions, that, as a rule, they will not be utilized unless the right to exclude others is maintained.

Well, now, I think that there is another approach to the problem which may not have been considered. Undoubtedly, there is a need for some fresh ideas, and I think I have some to offer. If there could be a way by which the Government sees to it that these inventions are actually used in the public interest, I submit that it should be your overriding responsibility, your major concern, to find that way and use it. This is the number one issue. Unfortunately, it has been obscured by those who question whether there are some equities on this side or the other side, depending on how much was contributed to the making of the inventions by the Government and how much by the contractor. You have a much more important concern. That is to see that the inventions are properly exploited, that is, used in the public interest.

The real question is how will you do it? Well, I heard Mr. Morton who spoke before me suggest a form of compulsory working. By coincidence, this happens to be a feature of the Green and Toll bills I mentioned before. My comprehensive analysis of the problem, and my reasons for advocating this means for resolving it, are set forth in part III (or app. B in my prepared statement).

Now, if we have a feature of this sort, and I shall explain I propose it will work in just a moment, I submit that we shall eliminate what now exsits in the form of what I call passive suppression of inventions.

You know, of course, that many Members of Congress and other people have complained that some patent owners "sit" on their inventions. It is alleged that they do not use them. This is called suppression. I shall call it "active" suppression.

They say that by so doing the inventions do not get out into public use and this is bad. Assuming this is so, I submit that it is equally bad if the Government does not take the steps necessary to put into the public stream the inventions stemming from a Government contract. This would amount to passive suppression. The net result will be the same as the active refusal to commercially utilize inventions.

free license for their use in fulfillment of a Government contract, or for a license for commercial exploitation upon terms and conditions (including royalties or other fees) determined by the Administrator of the Federal Inventions Administration to be just and equitable. It is believed that these provisions of the bill would seriously deter product research and improvement by companies while holding Government contracts, or would tend to channel such contracts to companies having no significant product improvement program.

While we do not favor enactment of S. 1176 because we are not convinced that there is the necessity for one uniform policy with respect to ownership of inventions originating through the expenditure of public funds, we do favor the bill's general concept of centralized administration and management of Government owned patents and licenses. This approach should facilitate maximum utilization of scientific and technical information both within the Government and the civilian economy. Furthermore, we favor the centralized administration of a program of awards to individuals for inventive contributions as provided for in S. 1176.

The Bureau of the Budget has advised that, from the standpoint of the administration's program, there is no objection to the submission of this report to your committee.

Sincerely yours,

JOHN L. MOORE, *Administrator.*

GENERAL SERVICES ADMINISTRATION,
Washington, D.C., May 16, 1961.

HON. JOHN L. MCCLELLAN,
Chairman, Subcommittee on Patents, Trademarks, and Copyrights, Committee on the Judiciary, U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: This is in partial reply to your letter of March 22, 1961, as supplemented by conversation with Mr. Herschel F. Clesner, assistant counsel of the subcommittee, concerning Government patent policy. GSA's reports on S. 1084 and S. 1176 have been sent by separate letters.

Your letter inquires as to the effect of private ownership of patent rights which are needed to operate a Government-owned plant upon the ability to sell the plant to others. GSA has not found that the existence of such patent rights has materially affected the ability of the Government to sell commercia plants. Your subcommittee has previously raised this question with respect to certain specified plants, which are discussed below.

The plants at Luckey, Ohio, Manteca, Calif., and Canaan, Conn., for the production of magnesium by the ferro-silicon-calcine retort process, are not subject to any patent restrictions. The first two named plants have been sold by the Government and the third is to be sold pursant to a bid opening on June 1, 1961. The last-named plant is the only one now in operation for the production of magnesium and calcium, for which the plants are specially designed. The Canaan plant is now producing special high-purity magnesium. For the general production of magnesium these plants are not competitive with plants that use the electrolytic process.

The Painesville, Ohio, plant for the production of magnesium by the electolytic process was subject to certain patent restrictions, but Dow Chemical Co. has stated that no payment of license fees is necessary on the future production of magnesium at this plant. The plant has not yet been sold in view of the fact that, primarily because of the absence of a cheap source of electrical power, it is high-cost plant.

The Maumelle Ordnance Works at Little Rock, Ark., is designed to produce picric acid and ammonium picrate, both of which are explosives. The plant is not subject to any patent restrictions and was sold on March 2, 1961, to Perry Equipment Co.

The Keystone Ordnance Works at Meadville, Pa., is designed for the production of TNT. It is not subject to any patent restrictions but to date has not been sold. Negotiations are now underway for the disposition of that plant.

The formerly Government-owned plant at Louisville, Ky., is designed for the production of alcohol-butadiene, which was subject to certain patent restrictions, although Union Carbide Corp., the owner of the patent rights, has agreed to license the purchaser of the plant. It was sold to Rohm & Haas Co., which will not use the plant for the production of alcohol-butadiene.

The Morgantown Ordnance Works in Morgantown, W. Va., is designed for the production of anhydrous ammonia, and the Du Pont Co. alleges that it is

Or is it more important to see that those inventions are used, keeping in mind that they represent 60 percent of all our inventive potential? They represent 60 percent of all the sorely needed inventions which might contribute to our national welfare, and we never know which 1 of those 600 inventions, in my hypothetical case, might be the important invention that will save this nation from its enemies or heaven knows what else. With that potential in mind, how can we afford to dissipate it. How can we afford to collect them in a public showcase bearing only a sign, "Help yourself," and take the chance that people will pick them and use them in the public interest? When those inventions are free for anyone to use, we can only wait and hope that people will take a free license and use them. This is hardly an affirmative approach to the problem, or should we just ignore the fate of the 600 inventions?

I say, instead of taking that chance, let us take a truly positive approach. Let us have a system whereby the administrative branch of the Government will see to it that those inventions are used.

Senator McCLELLAN. Even if they have to give an exclusive right to the use of it?

Mr. FORMAN. Yes, sir; and let me explain how I propose to do it, how it is set forth in the Toll and Green bills.

The way it would operate is this: In every contract for research and development which is at least in part financed with Government funds, there would be the provisions that a defeasible title first remains with the Government contractor.

Then, after a stated period of years, the contractor must demonstrate to the satisfaction of a Government administrator called for in these bills that he has worked the invention. There are several terms for this defeasible title mentioned in these bills—one I can suggest just for discussion here involves a period of 5 years after issuance of a patent on any such invention. Now, of course, what the standard of working is would have to be resolved, and it is suggested that public hearings would be held to resolve this point. And, on this score, just to digress momentarily, we have a considerable amount of information by way of the experiences in a number of European countries. Well, now, this puts the emphasis on accomplishing the objective with which I believe Congress should be most concerned—seeing to it that the inventions are used in the public interest.

I subscribe wholeheartedly to the thought that since the Government has contributed at least some funds to these developments, the Government does have the right and duty to see that those inventions are not just forgotten; those inventions should be used.

It is only a question of how do you use them best? If you leave them with the contractor under the compulsion that, if he wants to use them, he should do so in the public interest, isn't this the most practical solution, the one that is simplest and most economical to administer? In this way we will get more of the inventions out where they can be used, where they can work for the people. That should be the Government's sole responsibility with regard to those inventions. It should not have to fiddle around deciding what are the relative equities in each particular contract situation, and whether the contractor should keep it or whether the Government should keep it, with the likelihood that nothing will ever happen to most of those inventions.

Mr. JORDAN. It is our view, Mr. Chairman, that there is no one policy that is desirable for all departments of the Government.

Senator MCCLELLAN. Well, that gives me some concern. I don't see why the overall policy shouldn't be the same for the different departments of Government. I can understand that, in order to be equitable, there would have to be flexibility to modify the overall policy. I am not disputing your statement at all. I am simply seeking information.

If a policy that is applicable to the Defense Department is good and sound, why wouldn't that same policy be sound and proper for the Agriculture Department?

Mr. JORDAN. I think that it could be provided there was some flexibility to recognize the differences in the program of the Agriculture Department from that of the Defense Department.

Senator MCCLELLAN. That is the point I am making. I don't quite understand that the Government would have what we call a different policy applicable to different agencies. It seems to me that there should be a Government policy which has—I don't know the word. Not facilities. But a policy that permits of flexibility to adjust to given cases and circumstances.

Mr. JORDAN. Yes, sir, I believe that is our view.

Senator MCCLELLAN. I can't quite reconcile that either the Government ought to have one policy in the Defense Department and another in Agriculture and another in the Post Office and another somewhere else. I don't understand all of these different policies.

There ought to be one broad, general policy that it is the policy of the Government to take title, No. 1, except—and there might be many exceptions.

Mr. MACOMBER. May I comment, Mr. Chairman?

Senator MCCLELLAN. Or there ought to be a Government policy not to take title but simply taking, in all instances, a royalty-free license.

Now that states the two divergent viewpoints. Which policy should we have?

Mr. MACOMBER. Mr. Chairman, if I may comment, I think that it would be highly desirable to have some statutory guidance by way of a Government policy, and I think what Mr. Jordan is suggesting really is that the degree of flexibility that we believe would be necessary would involve almost a different policy on the part of different agencies.

Or let me put it this way:

A greater number of exceptions to the established policy in the case of one agency than in the case of another.

Senator MCCLELLAN. That may be one way of stating it. We may be splitting hairs, but I can well see that there might need to be in one agency many more exceptions. I mean the circumstances would warrant different adjustments than in another department so far as that goes. But I was trying to think in terms of an overall policy, and I am becoming more and more convinced that the legislation has got to deal largely, primarily with an overall policy, and then you have got to allow some flexibility in the administration to adjust it to the given circumstances so as to do equity.

But whether that policy should be that the Government takes title or that the Government simply takes a royalty-free license and leaves

because there was always some doubt as to what was an invention and whether it did or did not come up under a contract. All this took a tremendous amount of paperwork, shuttling back and forth, and quite took some on-the-spot investigations that were time consuming and expensive to make.

Now, if you had a situation where you had to police all of these reports under a Government-take-all policy, you would have to increase your staffs wherever this contracting work goes on, and you would have to constantly probe to get this information. Not only would the Government need to increase its staffs and expenditures, but the contractors would have to do the same in order to keep proper records, and so forth. Undoubtedly, this will cause the contract costs to go up.

Now, in addition, after you get in the reports and a decision is made that it discloses valuable invention rights, this will not mean a thing until you file an application, prosecute it, and obtain a patent. Otherwise, it is still a potential right; it does not have any value as a patent. This requires staffs of additional personnel, professional patent personnel that nowadays are in short supply. Who is going to file all these cases? Is the contractor to do this? Is the Government agency to do this?

I recall quite a number of years ago two situations that illustrate this problem. The first case took place in the Navy Department, as I understand it. It was felt that perhaps not all inventions were being fully disclosed by the contractors, and people were sent from agency to agency and many of their contractors to explore this point, to find out what was happening, why were not people making their disclosures.

In the second case, also in the Navy, this problem arose. The inventions disclosures were piling up. Applications were not being filed. Personnel were just not available. Finally, they were faced with the possibility that they would pass the point in time when, under the law, they could file applications for patent. Rather than just drop those cases, I am told arrangements were made with the contractor in one case, and maybe many others, to prepare and file the applications. The Navy was to take on from there, but at least this help from the contractor got them over the hump for the time being.

Is this to continue? Is this the way we are going to operate under these bills? We are going to amass large numbers of inventions. Then what are we going to do with them? To illustrate the size of the problem, the Government now holds title to 14,000 patents, and this is under a system where most of the rights are still being vested in the contractor.

Aside from the huge administrative problems we are going to have, and the costs that these are going to entail, it is questionable whether the Government can get all the personnel that will be needed to handle them.

Also, there is another factor that should not be overlooked. We talk about incentives of various types. One of the incentives that one rarely thinks about is the fact that, when it comes to making these disclosures, their quality is going to depend on the incentive that the contractor has to do the job. He must be induced to marshal all the facts and prepare them well enough so that, if an application is filed,

Then I am, of course, here thinking of the case where the prospective research contractor has a great deal of background in the area and has brought his research to a considerable distance along the road.

Mr. WRIGHT. Well, he has it to a point where he can talk about some specific area where either he has made inventions or he thinks some are likely to result. Is that what you have in mind?

Mr. MACOMBER. Not necessarily that far, but a case where the contractor has done a great deal of work in the same general area so that what he did under this research contract would be related to what he has been doing, and it is for that reason that he is the best qualified contractor to do the work.

Mr. WRIGHT. Well, let me ask you a question in that connection.

I noticed in your letter that you refer at one point to the policy that the Federal Aviation Agency has adopted of attempting in any event to recover its contributions to R. & D. to the extent that the contractor is able to make a successful commercial use of them.

Do you see any reason why that policy couldn't be employed? I mean no matter how much work the contractor is getting, isn't he fairly compensated if the Government interest is limited simply to a potential recovery of what it has contributed to the development, assuming that it is successful?

Mr. MACOMBER. On the basis of our very limited experience, I don't see any problem with that kind of policy at all. I think it would be a desirable one. It would, for one thing, serve in part at least to overcome the argument of the believers in the title policy that unless the Government takes title the public pays twice for the same piece of work.

Mr. WRIGHT. Mr. Howard, of that Agency, testified here at the last hearings, and he said he had had no difficulty in persuading any contractor that this was a desirable field. There is just one other field I want to touch on.

You said you didn't have much research and development responsibility, but you do have responsibility for procurement and disposition of Government-owned production facilities, don't you?

Mr. MACOMBER. We have Government-owned production facilities for disposal; yes, sir.

Mr. WRIGHT. In that connection it sometimes occurs, does it not, that in one of your Government-owned plants a patented process may be of the kind that is built into the plant? That is, you may not be able to operate the plant successfully without a license under certain patented processes?

Mr. MACOMBER. There have been a few instances; yes, sir.

Mr. WRIGHT. Well, in those instances I take it your plant is more difficult to dispose of, is it not, unless you have title to the patent so that when you sell the plant you can sell the right to use the built-in processes as well as the bricks and mortar?

Mr. MACOMBER. I think the answer to that is, theoretically, "Yes" so far as our limited experience has gone. We do not know of an instance where the lack of Government title to the patents has seriously handicapped our disposal effort.

Mr. WRIGHT. Well, apart from handicap, I was just thinking in terms of the price that the Government realizes.

You mean it makes no practical difference in how much the Government is going to get on disposition of the plant whether or not it is

The other is a domestic experience. We have just recently terminated the Government Patents Board. This was mentioned earlier, and you are familiar with that, of course. But we had 10 years of experience, roughly, under Executive Order 10096, under which there was set up a program for deciding who was to keep rights to inventions made by Government employees. Now, I believe, I feel very convinced, that that program was administered remarkably when you consider that it was a program with which many people had very little sympathy. Yet, the first Chairman of the Board took over and did an excellent job that was acceptable, by and large, to all of the Government agencies.

But this is what he had to do, and this is what many of the people in Government had to do in order to carry out that order. If an invention was made in an agency out in California, or Alabama, or anywhere else you would like to think of, someone there had to make a record of not only the invention, but also had to determine how much time the inventor put in, how many facilities of the Government the inventor used, whether he used or had the assistance of his colleagues, what his job description called for, and so forth. I can go on and on and on and describe a large number of things that had to be considered as called for under the Executive order in order to make a fair evaluation of these criteria.

What was the objective? The objective was to balance the equities, to decide whether the Government put in more to make the invention or did the employee put in more? Was the employee assigned to do research and development, or was he not assigned; or was he in the fringe somewhere in between? Well, the decision, or let us say the first finding, was made in the place where the invention occurred, out in the agency. Several levels of people usually had to pass on it before that finding was communicated back to the headquarters of the Department here in Washington.

There, in proper quarters, this finding had to be reviewed. Each step of the way, there are people involved; not only the people doing the job, but their support personnel—their clerks and other people that have to do the spadework.

Finally, after the entire matter is reviewed at headquarters and a determination made, in the name of the Secretary of the given Department it was sent over to the Chairman of the Government Patents Board, where he had to review the entire matter, as he was required under the order, and make an adjudication.

You can see the process that was required in order to weigh these criteria and do it equitably. These were all expensive things, time-consuming operations; they were called for and made necessary by this Executive order. This is the same sort of cumbersome procedure that would have to be installed if the bills you are considering are adopted. The question is, if you can dispense with any such procedure where you are thinking about these inventions as arising out of Government contracts, might this not be a better policy to adopt? In any event, you have got to sum up all the costs involved in terms of personnel and their operating facilities in implementing a balancing-the-equities program, as opposed to the alleged "giveaways" that have been mentioned so loosely when this subject is discussed by some people.

Senator McCLELLAN. Very good.

Any questions?

You lead off with the questions, Mr. Counsel.

Mr. WRIGHT. The only question that I wanted to explore with you: I noticed from your response this time and from our prior hearings last year there has apparently been a change in the policy that the Post Office Department pursues with respect to taking title of inventions coming out of its research contracts. I wonder if you could tell us what the change was and why you made it.

Mr. WENCHEL. The change was that up until recently the Department's policy was to take merely the license. We have now determined that we should take title to inventions made in research and development contracts.

Mr. WRIGHT. And I was wondering why, how you happened to reach that conclusion. What were the factors which caused you to change? Was it something in your experience?

Mr. WENCHEL. This change was made by the present administration. I think it may have been in part influenced by the apparent desire of this committee that this be adopted as a Government policy. But——

Senator McCLELLAN. The committee hasn't spoken out yet on it.

Mr. WENCHEL. I realize, it has not spoken officially.

Mr. WRIGHT. I think what the witness may be referring to, Mr. Chairman, was the subcommittee's report on patent practices of the Post Office Department.

Is that what you are referring to?

Mr. WENCHEL. Yes.

Mr. WRIGHT. That report did point out, did it not, that what the Post Office was doing was agreeing not to use this letter-sorting equipment that was being developed for any purpose that might be regarded as in competition with private industry. Of course, Railway Express was claiming at that very moment that the parcel post service, which might use this equipment, was in fact a competitor. Do you recall that?

Mr. WENCHEL. I recall that. The Department has not agreed that that is a correct legal interpretation of the situation. However, it is recognized that that argument has been made, and, so, it has taken that into consideration, of course.

Mr. WRIGHT. I take it, just to make sure about that, that possibility was one of the reasons for the change, wasn't it, that you wanted to be sure you weren't in a position where you couldn't use that letter-sorting equipment in the parcel post service or anywhere else in the Government; didn't you?

Mr. WENCHEL. That was a factor. However, I do believe the contractual provision could have been so modified as to have continued the license policy without having that objection present.

Mr. WRIGHT. In any event, I gather you say this change of policy is more a product of the change in administration than anything else?

Mr. WENCHEL. Yes, sir.

Mr. WRIGHT. All right.

Senator McCLELLAN. Any questions, Senator Hart?

in these bills are carried out—one, the compulsory working provisions, and the other, this inventive awards program.

Well, this Administrator would be responsible for holding hearings to establish what would be the proper type of awards programs. But without going into details about that, because this is something that undoubtedly would have to be thrashed out, the point is that these inventors would have a share in whatever they produce, and this, interestingly enough, probably would go a long way toward dispelling some of the complaints that the patent system has forgotten the independent inventor, or the actual inventor in the case of the hired inventor. From that point of view, it may have a considerable amount of merit.

Another thing I would like to call to your attention, as discussed at great length in my part III (or app. B), because of course, it covers over 80 years of attempts and failures to legislate in this area, these bills would, I believe, solve not just the problem you have before you involving Government contractors, but several other problems.

For example, the question of the same rights with regard to inventions, but this time made by employees of the Government, would be settled. If you follow the philosophy that I have advocated, if you think it through and if you endorse it, if you see the logic of it, then you must subscribe to the proposition that it applies to employees of the Government as well as to contractors. The same solution will operate in both situations.

Now, you do not have the problem right now of Government employees. But the Congress has considered it, and as recently as, I think, 3 years ago, Congressman Celler held hearings on it. In my prepared statement, part II (or app. A) spells out the same sort of thinking which I advanced when I testified before his committee. Here is a chance, I submit, for the Congress to solve both problems. They are both thorns in the side of everybody concerned, and I think you have an across-the-board solution which possibly could resolve it once and for all.

This, I submit, terminates my formal statement, Senator, and I would like to conclude by expressing my appreciation for your invitation to be here today, and the privilege of setting forth my views.

I shall certainly welcome the opportunity to answer any of your questions, sir.

Senator McClellan. Thank you very much. I am not familiar with those bills that you referred to that are pending over in the House, but we shall make them an exhibit and check with their provisions, check their provisions along with other proposals that we shall consider.

Thank you, sir.

Who is the next witness?

Mr. Wright. Mr. Derr.

STATEMENT OF ADAM G. WENCHEL, ASSOCIATE GENERAL COUNSEL, POST OFFICE DEPARTMENT; ACCOMPANIED BY EDWARD M. TAMULEVICH, ADMINISTRATIVE OFFICER, OFFICE OF RESEARCH AND ENGINEERING, POST OFFICE DEPARTMENT

Mr. WENCHEL. Thank you.

I am Adam G. Wenchel, Associate General Counsel, Post Office Department, and I am accompanied by Mr. Edward M. Tamulevich of our Office of Research and Engineering of the Post Office Department.

Senator MCCLELLAN. Mr. Wenchel, do you have a prepared statement?

Mr. WENCHEL. We did not propose to read a prepared statement, Mr. Chairman. We did file a report with you.

Senator MCCLELLAN. The Department submitted a letter.

You have a very brief statement here. Do you wish to have this statement of yours placed in the record?

Mr. WENCHEL. I would appreciate having it placed in the record.

Senator MCCLELLAN. We will place in the record at this point a letter from Postmaster General Day, dated April 19, 1961. Also a statement submitted this day by Mr. Adam G. Wenchel. It will appear in the record at this point.

(The documents referred to follow:)

OFFICE OF THE POSTMASTER GENERAL,
Washington, D.C., April 19, 1961.

Hon. JOHN L. MCCLELLAN,
Chairman, Subcommittee on Patents, Trademarks, and Copyrights, Committee on the Judiciary, U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: This is in reply to your request for the views of this Department with respect to S. 1084 and S. 1176. Since your letter indicated that the chairman is considering the general patent policy as well as these two bills, our comments deal with the general propositions involved rather than all of the detailed provisions of the bills.

Both bills would establish a uniform patent policy for all Government agencies dealing with research. In addition, S. 1176 provides for an independent agency to administer Government-owned patents.

A basic question is posed: Whether title to inventions and patents originated under Government contracts, particularly research and development, should lie with the Government, or whether it should be kept by contractors as part of their compensation, with the Government holding a nonexclusive, royalty-free, irrevocable license.

In its research and development contracts the Post Office Department has followed the patent policy established by the Defense Department, as contained in the Armed Services Procurement Regulations. This policy provides generally for contractor ownership of patents with nonexclusive, royalty-free, irrevocable license to the Government, and in certain cases where the nature of work under contract or the public interest so indicates, provision is made for Government title. This policy has been extended by the Post Office Department to include within the license mail handling operations of foreign postal administrations.

Your request for a report on these bills has provided the present postal administration its first occasion to study which policy it should follow. We have determined that the public interest would be served better by obtaining title to patents than by obtaining mere licenses. Accordingly, we propose to make future contracts for research and development contracts on this basis. Accordingly, the Department has no objection to the principle embodied in S. 1084 and S. 1176 that title to invention made in the course of Government financed research should rest in the Government.

While we anticipate that we may face some difficulties in following this policy and we may narrow our field of potential contractors somewhat, the De-

Government is receiving for its research and development dollar all that it has paid for; there is the question of whether or not the license policy tends to inhibit the prompt and complete dissemination of new scientific and technological information; there is the question of how best to insure that the general public will most promptly and fully receive the economic benefits of inventions resulting from Government-financed research and development; and there is the question of whether or not the license policy contributes toward monopolistic concentrations of economic power.

Further, there is the question of how best to advance the national defense effort of the United States. This last point assumes special importance in view of the gravity of our national defense position and the suggestion that the patent license policy of the Department of Defense be abandoned or substantially changed.

Certainly all the objectives raised by these questions are important. They are not, however, necessarily consistent one with another. The problem then is to arrive at some solution while giving due weight to their relative importance.

THE PRESENT PROPOSALS

The two legislative proposals being jointly considered by the subcommittee seek by somewhat different methods to establish a uniform policy respecting the disposition of rights to inventions resulting from Government-sponsored research and development work.

The first of the proposals now before the subcommittee, S. 1084, provides that the Government shall take title to any inventions which may occur during the performance of any Government contract. There are no exceptions to the general title policy asserted.

The second proposal, S. 1176, would require that the Government acquire title to patents resulting from Government-financed research and development and provides further for creation of a new agency by which patent rights now in possession of the Government as well as those to be acquired in the future would be administered in the public interest. This latter bill authorizes the waiver of the Government's rights in such patents but the procedure by which such waivers are to be accomplished is so hedged about with restrictive limitations as to make it almost unworkable.

In addition to these two legislative proposals, the subcommittee is considering what, if any, practical difficulties prevent immediate adoption of the subcommittee's recommendation that the Department of Defense's license policy be made compatible with the title policy of a civilian agency where both are contracting for research in the same field and with the same contractor. Indeed, the subcommittee's announcement of the hearings seems to put the Pentagon under an obligation to rebut a presumption that the civilian agency's policy should apply. We question whether there is sufficient factual information on the subject to support any such presumption.

These represent the matters now before the subcommittee and to which our statement is addressed. Before proceeding to the body of that statement we have thought it useful to summarize below our principal recommendations and to suggest certain guidelines for the subcommittee's consideration.

A SUMMARY OF INSTITUTE RECOMMENDATIONS

1. We recommend a Government-wide license policy. It logically follows that we oppose the adoption of S. 1084, S. 1176, and the subcommittee's recommendation that the Department of Defense patent policy be made to conform with that of civilian agencies where both are investigating a single field of knowledge with the same contractor.

2. Any legislation which may be considered necessary should require as a general rule that patent rights be granted to R. & D. contractors with an irrevocable, royalty-free, nonexclusive license to the Government to practice or have practiced for it the invention involved. If in the judgment of Congress it is necessary to reserve expressly a right for Government to the title in unusual situations, any exercise of such right should be conditioned upon a justification of such acquisition in accordance with such criteria as may seem appropriate to the Congress.

3. In no event should legislation be adopted until a further and more comprehensive study has been made of the effects of procurement patent policy both on the accomplishment of governmental objectives in research and development programs and on our national economy.

Senator McCLELLAN. That is what I wondered.

Mr. COHEN. No. If——

Senator McCLELLAN. A fellow working in a corporation, the corporation has got a contract to do certain research for the Government. But in the course of doing that research, some employee of that corporation conceives an idea that if we had a certain tool, a certain machine, certain equipment, we could do this character of work, or some other work, far more expeditiously and economically. Does that patent, that invention, then belong to the Government?

Mr. COHEN. Well, it depends on, first, what the employee's contract was with his employer, and, secondly, whether this invention was in the line of the research and development that the corporation was hired to do.

Senator McCLELLAN. Let us say that the invention, the discovery which the employee makes while working for a corporation, is a certain attachment to a piece of machinery over here that would help that machinery expedite work. It seems to me that that would belong to the corporation and belong to the man who made the invention, who made the discovery. It is not related necessarily to what the Government was trying to do, finding a way to get to the moon or something else.

Mr. COHEN. In that case, probably so. If the—but that depends really on what the contract is between the employee and the corporation.

Senator McCLELLAN. What I am convincing myself of, if I am not informing anyone else, is that this thing is very complicated and I don't know how you are going to write a law that is going to do equity in all cases. That is what I am becoming convinced of the more of this testimony I hear.

Mr. COHEN. I agree with that.

Senator McCLELLAN. How do you do it?

I think we can concede everybody wants to find a solution that is equitable between the Government, between private enterprise and individuals, but I am beginning to wonder—I won't say I am convinced here, but I am beginning to wonder whether there can be absolute rigidity and at the same time do justice. I think there has got to be some way of providing some flexibility that permits adjustment according to equities that may be present in a given case in each instance. What is your thought regarding that general statement?

Mr. COHEN. I agree with you, sir, that there is a great need for flexibility, and that is the position that we take in our statement.

Senator McCLELLAN. All right; proceed. I just thought about how you are going to write a law that will cover all of these contingencies. I don't know.

Mr. COHEN. With regard to the question asked specifically about making the patents available in the field of desalination of water, in coal, and in fisheries, first as to Government title, our patents assigned to the Government are available for licensing under the Department's licensing regulations. On a suitable showing, any responsible party can obtain a royalty-free, nonexclusive license.

As to the availability of patents where title is in the contractor, first, as to saline water, the contractor has title and Government has a royalty-free, irrevocable nontransferable license for governmental