have changed but other factors are almost identical. The parallel between the factors there mentioned, the causes and the suggested cures, many of them are as applicable today as they were then, strikingly similar.

And the Commissioner's report for the Patent Office for the current fiscal year adopts and carries forward the requirements for the program that are pointed out there. He will speak this afternoon and in the report which he will give, which he has graciously given me a copy of, many of the things which the examiners know through daily contact are strikingly emphasized .

To most of that report we can only say a hearty amen. I would like to make only 3 or 4 points, which seem to me and to the members of the society to be important.

First I would like to answer a question which was asked, "Will the examiners say practically the same as the Commissioner says? Won't the Commissioners speak for the examiner?" The answer is, "Not necessarily." The examiners are people who see in their daily work the things that hold them up. Why can't I get this out faster? Why can't I do a better job for the inventor? In many instances they are not in a position to do anything about it. They don't have the responsibility to the administration that the Commissioner has. Their responsibility is a narrow one, to do a good job in getting out applications.

So they see some things from a slightly different viewpoint. Many they agree on heartily with the Commissioner. Many of the things which can improve administration within the Office, which is the only problem we are dealing with as a Society at the moment, the Commissioner has accomplished by administrative operation; and I believe the examining corps will agree with me in saying that no commissioner in recent years within our knowledge has been more eager or more conscientious in making such changes as are administratively possible to improve the operation of the Office, make it more effective, more helpful to attorneys, inventors, and everybody involved.

There are some changes, however, that are beyond his power. Some changes are possible only through legislation. Two or three of these I should like to say a hearty amen to have been emphasized by others. Mr. Ballard for the NAM said he felt there was a need for greater emphasis on the fact that the patent system is dominantly for the public, not for the inventors or the manufacturers but for the public as a whole.

I have sensed and others have sensed sometimes a feeling that the Patent Office was primarily for the benefit of inventors. I think that overlooks the fundamental purpose of the patent system. It is for inventors insofar as they contribute to the public good. That is something that we might well bear more often in mind.

A second point was emphasized by Congressman Lanham and that is that no one-year cure can produce the long-term benefit needed for the greater effectiveness of the patent system.

It is a long term thing. It is a matter that takes 5 or 10 years to accomplish and only insofar as the Congress realizes that, does not attempt to solve it in 1 or 2 years but sets up a long term program and does everything needed to carry out that long term program can the necessary changes be effected.

That second point is the necessity for a long term program carefully planned and carried out year by year.

Another point which the Commissioner will cover and which perhaps has already been discussed in connection with other legislation is the tremendous need for greater classification. I think anyone who has had experience as an examiner realizes that a great deal more time and money spent on classification of all that has been done in the sciences in the past will so narrow the field of research which each examiner must go into that a great amount of time and money can be saved in the actual examination of cases.

That is the purpose of the classification system and I think it is the unanimous feeling that more time and money spent on classification will be immensely helpful in saving in other respects. I think the Commissioner's talk will go a little more fully into that.

But to the examiners that is tremendously important.

Another thing which the Commissioner has spoken of, and I think, Mr. Chairman, you also have mentioned, is the difficulty which the Office faces in holding its older and more experienced examiners. Under present conditions, a man coming into the Office, progressing upwards to a GS–12, may in the course of 6 years receive approximately between seven and eight thousand dollars. If he remains for 16 more years, under present conditions he may hope to get as much as a thousand dollars more at the end of 22 years than he was getting at the end of 6.

For a man 6 years out of college, having a wife, 2 or 3 children perhaps, to face the prospect that 15 years hence he will be getting only a thousand dollars more than he is now, when he will have children to send to college to educate and the cost is $2,000 a year to educate one child if you try to do it—the child may help—it is an impossible situation. So the young man, realizing that 15 years from now, under present policy and legislation, he just cannot get enough to send his children to get the education he had, necessarily turns to the outside. He goes out, he finds Bell Labs or Radio Corp. or any of the other thousands of companies and attorneys around the country offering right now eight or nine thousand dollars, which is the most he can hope to get unless he goes on to administrative work in 15 to 20 years in the office, they are telling him that within a matter of 10 years, if he is any good at all, he will be worth $15,000.

A man in fairness to his own family cannot refuse that sort of offer, regardless of how much he might wish to remain with the Patent Office.

There are many men who would like to stay in the Patent Office who simply can't do it in justice to their families because long-term salary levels will not go high enough to permit them to give to their children even the education their own jobs require.

I don't know what the remedy is. A committee of the society is looking into that now. There is always a possibility that there may be a change in the Classification Act. You folks in the Senate and House have run into some difficulties on that score within the last year. Maybe there can be changes made when the need for the change is realized.

Possibly some system may be set up such as that set up for hearing examiners in the Civil Service Commission where they have highly

intelligent and trained men to meet the needs of the job which are very tough.

Another possibility which we have discussed is the one which has been discussed in Congress also, the need for a change in the Classification Act in the direction of making salary levels not absolute, but setting limits within which a salary board, studying salaries outside and in industry and in other Government agencies, may say that for the effective retaining of examiners, for a life career in the Office using them when they are most valuable, keeping them during their useful years, we must have these higher salary levels. Another possibility then would exist if the Classification Act were revised to make salary levels adjustable within the prescribed limits. That is a problem which needs legislative solution and anything you folks can do up here, the Patent Office will immensely benefit from.

The last point I want to make spotlights a problem and a body of comment which perhaps no other organization, no individuals, can make with such clarity and deep conviction as the members of the society, because we see it in our daily work, and that is this.

It enters into three of the questions, Mr. Chairman, which are in your opening remarks. Your third question is, What is the underlying reason for the high mortality of patents and what can be done to remedy it?

Your fourth point, can the cost of litigation be reduced? The sixth, of course, relates to Patent Office administration.

Fundamentally the problem is this. Applications come into the Patent Office from inventors who want patents as quickly as possible. Congress has said to the Patent Office, you may have this much money. So by force of circumstance, the Commissioner has to say to the Office, we have this much money, we have this much work to do, we have to do the work as best we can within the limits of the money available. And if we have only enough money so that each man can put 15 hours on a case, or 12 hours or 10 hours or 6 hours, if that is all the money we have, then we just have to average out and quit when the time allotted any one case runs out.

It is a matter of common knowledge that the examiners are highly conscientious individuals. Many of them feel, many of them in high places feel, that we cannot conscientiously do the kind of work that will turn out patents that will hold up in court until more time is available to do a more thorough job. We will do the best we can. I have never known a more conscientious group.

Senator O'MAHONEY. Has the Budget Bureau opened its ears to your plea?

Mr. WHITMORE. I believe, Mr. Chairman, that the Commissioner has spoken to the utmost limit which he feels that he can within the limitations of his administrative position.

Senator O'MAHONEY. I am sure the Commissioner will welcome the opportunity on the invitation of the chairman to discuss the problem of the Patent Office with the Bureau of the Budget. We know, of course, that the Bureau of the Budget places its ceilings upon every bureau of Government and you are forbidden to—the word "lobby" is used—to lobby the Congress to get more money than the Budget Bureau allows you.

Of course, you are always free whenever a Member of Congress asks for specific information to tell the committee what you have asked the Bureau of the Budget to give you.

That is the only way we can get a real picture of the needs of the Bureau from the point of view of the men in command of the operations of the Bureau.

I say that just so that you may have it in your mind when you come to talk, not to invite you to talk now unless you desire to.

Mr. WATSON. I could extend a cordial invitation to you to attend a hearing on Thursday morning this week before the Bureau of the Budget along with myself and others from the Patent Office.

Senator O'MAHONEY. Have you that authority?

Mr. WATSON. I don't know.

Senator O'MAHONEY. I think there is an Iron Curtain there, Mr. Commissioner.

Mr. WATSON. Maybe so.

Mr. WHITMORE. The question comes down to this. If you want a house you will say to the contractor for how much can you build me a house? The contractor says, how much of a house do you want? When it comes to the question of how good is a patent, we can only say that it is as good as Congress feels it should be and provides money to pay for it. We will do as good a job as we possibly can. I know of no more conscientious group, no group that suffered more when they feel that they must of necessity stop short of doing a proper job. It is a problem that is not capable of easy solution or discussion. If the committee intends to give more time later to details of such things, the society will be glad to cooperate in giving information. There are studies we have made that don't need to be introduced now. How good is a patent, how good must a patent be to have a greater percentage sustained in courts? I think that involves two decisions.

First, it is up to Congress to say how good patents shall be. Second, it is up to Congress to say, once it has set the standard, "We will give you money enough to accomplish this standard." And I assure you that the examiners will go all the way in trying to do as good a job as the Congress will permit.

That is all.

Senator O'MAHONEY. Mr. Whitmore, are we to draw the conclusion from what you say either (1) that patents are hurriedly issued without sufficient study or that (2) because there is not time and money enough to make a thorough examination the work is delayed and the backlog built up. Which is the result?

Mr. WHITMORE. I would say that the building up of the backlog is a result of the conscious feeling of every examiner at every level, the man who does the work and on through the Commissioner, that we should do a good, conscientious job; and it is in endeavoring to do that, and not to do the quick, superficial approach just for the sake of progress, that we find ourselves so far behind.

The backlog is largely a result of trying to do an honest job that will be the right thing for everybody.

Senator O'MAHONEY. Then you do not want to suggest that patents are issued prematurely and hastily and after inadequate examination because of the desire to get them out?

Mr. WHITMORE. In general I do not wish to suggest any such thing. The only thing I say is that the pressure to get them out is very hard to resist and that we are doing the best we can, and it is only because we are trying to do such a conscientious job that we are so far behind.

A yes or no answer to that might be misleading. May I add this. There are some in the Office who would say simply and flatly that we are turning out the best patents which the present circumstances permit.

There are others, including most of the more experienced examiners, who would say that while the great majority of patents are issued after adequately thorough examination and in accordance with a reasonably high standard, the many causes of pressure in the Office under present circumstances do introduce the necessity of being constantly on guard against any weakening of this reasonably high standard, if the standard is to be maintained.

Senator O'MAHONEY. One of our questions concerns the tendency, or the alleged tendency, of the courts to hold patents invalid.

Mr. WHITMORE. Exactly, that is the point.

Senator O'MAHONEY. So I desire to know what your opinion is and that of your fellow examiners as to whether or not the work in the Patent Office is so hasty that the courts are right and you are wrong.

Mr. WHITMORE. I don't think any single answer can be given. I think it is a matter of degree. I would like to quote, if I may, one conversation with former Commissioner Ooms.

In 1947, at that time, there was criticism in Congress because certain figures seemed to indicate that the Office was not doing so good a job. There were fewer patents being issued. The order came down "We will have to get out more actions." I had an appointment with Commissioner Ooms and we talked about that question. What is the effect going to be? If we get out more actions, will it inevitably weaken the work that goes into each patent or can you accomplish it by eliminating some needless things? Can we cut out questioning formal effects? Can it be done? He said, frankly, "I don't think it can. It seems to me that there is an explanation of why the Office is turning out numerically fewer patents, but I have not been able to find the answer." He had been in the Office 2 years, and you just can't learn everything about the inner workings of an office within 2 years. But, said he, if Congress wont give us any more money we will have They are going to say this isn't a real need that you are showing us; it is just because you won't eliminate the inefficiencies."

He said, "I don't think it is. As I go around the Office I see these fellows working hard. I think there is a logical basic reason for it. But," said he, "if Congress won't give us any more money we will have to do it, and hope that the results will not be too bad."

That is the reason that this article that Mr. Wahl introduced was written, and it was used by Commissioner Kingsland and the Senate Judiciary Committee at that time. The information which it contained, which was the result of many people cooperating with me, although I wrote it, was largely responsible I think for increasing appropriations the following year by a million and a half; and the Commissioner's report for 1954 shows it was that increase in appropriations in 1948 and 1949 that took us over the hump and started us improving again. It was the decrease in appropriations beginning

about in 1951–52 that again put us behind. I believe that whether work on too many patents is too hasty is always affected by the adequacy of appropriations.

Senator O'MAHONEY. You referred to the testimony of Mr. Ballard that the patent system must be regarded, in the first instance, as being designed to serve the public good, a principle which he said and you said should not be overlooked.

Have you in your experience seen any evidence that the public good was being overlooked?

Mr. WHITMORE. I have heard this question discussed. In general, I think it has not. But I have heard this legal question discussed. If there are 150 million people in the public, and the public has the right to the accumulated scientific knowledge which is within the public domain at the present time, and an inventor comes in, and there is a reasonable doubt as to whether a certain claim in an application defines something patentable over what was previously known, should that reasonable doubt be resolved in favor of the 1 inventor or should it be resolved in favor of the 150 million people, members of the public? That is an oversimplification of the problem which I have heard very often discussed and which I do not care to comment further on other than to say it is a question which often rises in the minds of examiners whether that particular phase of the patent law is fully in line with the fundamental purpose of the patent system.

Senator O'MAHONEY. Well, is there any evidence that the patent system as it presently operates works primarily for the benefit of the applicant or primarily for the benefit of the assignee of patents which have been issued in the past or primarily for the benefit of the patent lawyers who practice before the Patent Office?

Is there any class of persons appearing before the Patent Office getting the better of the law as it now stands and should there be any change?

Mr. WHITMORE. I would think there is very little chance of that. As you look around you see who is benefiting from inventions. There are a half million people employed in the aircraft industry. These are a half million people employed in the automobile industry. That is a million people deriving employment from inventions which in their early stages were developed under the encouragement of the patent system.

There may be some transitory benefit for the inventor, manufacturer, or attorney, but in the long run there is no question about the public reaping immensely important benefits.

Senator O'MAHONEY. When you and Mr. Ballard, speaking for the NAM, warn the committee to be sure that the patent system must be operated for the public good there must be in the back of your minds some sort of a feeling that it is not being operated for the public good?

Mr. WHITMORE. Only a need for alertness, I think.

Senator O'MAHONEY. It is only a general statement then, and not designed to point out a field into which we should send our investigators?

Mr. WHITMORE. I think not. I don't think it is that significant.

Senator O'MAHONEY. Is Mr. Ballard here?

Mr. BALLARD. Yes; I am here.

Senator O'MAHONEY. Would you give your answer to these questions, Mr. Ballard?

Mr. BALLARD. I made the statement that the patent system is set up entirely for the benefit of the public. I heard the statement here that this overlooks the fact that it benefits also inventors. I think I heard it about right. I think that this criticism overlooks the fact that my statement indicated, I thought quite clearly, that the public is benefited by benefiting the inventor, by giving him the reward which the law offers him for the job he does for the benefit of the public.

Senator O'MAHONEY. My question was whether that statement made by you and repeated by Dr. Whitmore is an indication that either of you believes that the patent system as presently operated does overlook the public good.

Mr. BALLARD. The patent system as instituted in the law does not overlook the public good. The administration of the patent law, due to human infirmities sometimes has failed to give the public the good it might have gotten. That is partly a human frailty and partly the lack of equipment and men, but my emphasis on that point in my statement arose from the fact that we heard so much lately about the independent inventor needing something very special.

I think that point can be overemphasized to the extent that the public interest might be submerged or damaged to some extent by it.

Senator O'MAHONEY. In other words, you are now saying that we should be careful not to do too much for the independent inventor?

Mr. BALLARD. Not at the expense of other inventors and not in any case at the expense of the public good.

Senator O'MAHONEY. What danger is there of that?

Where do you see the danger?

Mr. BALLARD. I wish I could answer that question definitely. I read a Fortune article not long ago centered around the idea that the independent inventor was not getting what he ought to get.

Senator O'MAHONEY. I have often wondered whether that magazine is a magazine dealing with predictions like the old-time astrologers or whether it is a magazine dealing with facts.

Mr. BALLARD. Believe me, I hold no brief for that magazine. I had occasion to criticize an article they published unmercifully. I did see this idea there, and I see it in the agenda of this committee, and I hear it wherever I go.

Senator O'MAHONEY. You have told us what I was seeking to obtain. You find something in the agenda of the commtitee. We will give you a little bit of opportunity later in the hearing to develop that thought. I thank you, sir, for having responded. We will now proceed with the Patent Office Society members.

Mr. WHITMORE. Mr. Chairman, that concludes what I think are the most important points of the things we wanted to emphasize. We have one advantage—Mr. Wahl and Mr. LaPointe and myself—all represent a peculiarly employee viewpoint and if there are questions which you or others wish to ask now or at any other time which we or the society or any other employees can answer, we will be very happy to do so.

Senator O'MAHONEY. I want to ask you 1 or 2 questions and then I will ask Mr. Caplan to take over.

You spoke of the necessity for a long-time program, as though immediate betterment could not be attained. Is that your feeling?

Mr. WHITMORE. That is inevitable. As the article in 1947 pointed out and as I think the Commissioner's talk this afternoon will make transparently clear, you can boost the budget by two and a half million this year and you will still have a bigger backlog next year than you have now, because the momentum of accumulating work and lack of available personnel will not stop it from growing within the short space of months or a year; but within 2 years, with the expanded personnel which apparently Congress is now disposed to give us, if they can follow through, if the Patent Office can follow through along the lines which the Commissioner requests, the improvement will show up, not next year but the following year and perhaps in 5 years we will be down to a reasonably current basis.

Senator O'MAHONEY. Then you speak of the need of a better classification system. Does that mean that the present classification system is poor?

Mr. WHITMORE. It means only that it is inadequate. There has not been enough time, there have not been enough personnel available to carry out the principles which are known.

Senator O'MAHONEY. When was this system devised, the one that you now have?

Mr. WHITMORE. The classification system?

Senator O'MAHONEY. Yes.

Mr. WHITMORE. It is probably a growth, trying to meet the demands. I think maybe Mr. Federico knows more about the history of that than I do.

Senator O'MAHONEY. I am trying to find out whether or not this is an ancient system that needs modernization.

Mr. WHITMORE. I think Mr. Wahl, who is president of the society and is in that area, is much more qualified than I am to answer that question.

Senator O'MAHONEY. Mr. Wahl?

Mr. WAHL. My daily work in the Patent Office is in the classification group. In answer to your question, the current system of classification that we use in making up new or revised classes has been in use for perhaps about the last 10 years and was developed under Mr. Malcolm Bailey, supervisory examiner. That system, of course, was developed over a period of years, but we only need to go back a few years beyond the 10 years and we find a classification system based upon named devices arranged largely in an alphabetical order. Take the class of abrading, for example "grinding." You can look through that schedule of subclasses and find it is arranged on an alphabetical basis, which means that the examiner in order to locate prior art had to be able to know what that particular classifier would call a particular machine by name. That way he could then get into the prior art for research purposes.

Senator O'MAHONEY. A former Commissioner, now practicing patent law in Chicago, Mr. John Marzall, in a paper which he has submitted to this committee makes the statement:

> The Classification Division of the Patent Office during my term as Commissioner of Patents was 2,000 man-years behind.

Mr. WAHL. That is right, sir; because the classes as I say up to about 10 years ago just grew and, as a matter of fact, most of those were created in a spurt of activity back in 1908–10. Most of the 300

classes we now have in the Office, which cover all of the concepts of the human mind in science, most of them you will find dating back about 50 years. We have within the past 10 years tried to modernize much of that. But that takes a huge amount of time and, as Commissioner Marzall indicated, the reasonable estimate of that indicates that it would take many man-years to bring it up to date, and the only way we can do that, of course, is if we have adequate personnel under adequate appropriations to do it.

Senator O'MAHONEY. If the classification system is as defective as this description portrays then it means that we will continue to have a backlog until that classification system is modernized because there can be no adequate examination of a patent without an adequate knowledge of the prior art; is that not correct?

Mr. WAHL. Yes, sir; that is correct. I would not say that is the sole contributing factor but it is one of the major factors.

Senator O'MAHONEY. No.

Mr. WAHL. In the classification work we are also caught in this pressure squeeze, you might say, to get out production. Needless to say, those of us who are engaged in the classification of the patents are not engaged in the daily production effort of the Office. In other words, we make no contribution to reducing this backlog in terms of daily production. Our contribution as we reclassify a class becomes apparent when the examiner starts using that class.

Especially during periods of decreasing employment in the Office, the net effect is to put every available man on the production or the examining operation; the result is that our Classification Division shrinks in manpower down to the point where we can do no practical good insofar as even keeping up with the current output of the examining corps.

Senator O'MAHONEY. We would be very happy to have you consult with the other members of your association and prepare for the committee a brief but explicit statement upon this very important subject.

Mr. WAHL. We will be very happy to do that.

Senator O'MAHONEY. Now, Mr. LaPointe.

Mr. LAPOINTE. I don't believe I have anything additional to contribute to what Mr. Wahl and Mr. Whitmore have brought forth with the possible exception of a brief description of our working conditions.

They are pretty antiquated in some quarters. For example, I work in a room 18 by 22 feet in size, we have three men working in this poorly lighted room. When an attorney or an inventor comes in for an interview, he doesn't interview me, he interviews everybody in the room because nobody else can work while he is in there.

That is just one example of how we have to work in the Patent Office.

Senator O'MAHONEY. Where is the Patent Office?

Mr. LAPOINTE. The Patent Office is situated in the north end of the Commerce Building, 14th and 15th Streets between Pennsylvania and Constitution Avenues.

Senator O'MAHONEY. I remember very well the old Patent Office when I first came to Washington and I remember when you were moved out of there, but I didn't know whether or not you had acquired quarters in what was assumed to be, when it was built, one of the largest and most commodious buildings that the Government ever had, the Department of Commerce Building.

Mr. LAPOINTE. Of course, at the time World War II started, the Patent Office was moved to Richmond into some tobacco warehouses down there and functioned there for a number of years and at the close of the war we came back to Washington. I don't think we have ever quite acquired the total amount of space since the war that we had before.

Senator O'MAHONEY. Mr. Lanham, former Congressman Lanham, since you recommend that the Patent Office should be made an independent organization, you will have to bear in mind that you will have to recommend also a building adequate for an independent organization.

Mr. LANHAM. That would be a part of my recommendation, Mr. Chairman, and may I comment briefly on 1 or 2 things that have been brought out by these gentlemen?

Senator O'MAHONEY. I will be glad to have you do so.

Mr. LANHAM. I may say something that may be in their minds but delicacy would preclude them from mentioning. Personally I think there is and has been on the part of Congress a lack of understanding and appreciation of the importance of our patent system, what it has meant, what it now means and what it must mean if we are to maintain and retain our preeminence among the nations of the world industrially and other ways. You ask if the interests of the Patent Office in those important aspects are being in any way overlooked. May I suggest that, in my judgment, there is one important respect in which congressional consideration of patent problems can be very greatly benefited.

Formerly we had separate and independent patent committees in the Congress. Now what is the situation? Under the Reorganization Act the consideration of patent proposals has been turned over to subcommittees of the Judiciary Committees of the House and the Senate.

Now, I make no criticism of those subcommittees. They have done the best they could. Our Committees on the Judiciary are greatly overloaded with work, and the members of those committees serve on several subcommittees. Not only that, but from Congress to Congress the personnel of those subcommittees constantly change, and so we have not been able to develop in the Congress, with the exception of yourself, who is quite familiar with our patent problems, and some other Members of the Congress, any Representatives or Senators especially versed in the importance and the need of our patent system, and I think if we would revert to the former system of having separate, independent committees on patents that we had before, that had before them simply the questions of patents, trademarks, and copyrights, the public, the Congress, and the patent system would be very much better protected.

Senator O'MAHONEY. It interests me to have you say that, Congressman Lanham. If I may make a personal allusion, I voted against the Reorganization Act because I felt that the concentration of jurisdiction in a few committees in order to abolish some standing committees would only result in a multiplication of subcommittees which would have fewer members and less influence, and that, of course, is illustrated by the fact that I am sitting here alone today.

Mr. LANHAM. That is right. And the present system does not bring out the congressional experts in the Patent Office and its needs.

I think you should stress that importance, which is a continuing matter as indicated by the gentlemen of the Patent Office Society, and get the Patent Office, from the congressional angle of consideration, back upon a proper basis. If we had it as an independent office, with its own building, and not taking directions from a Secretary, for instance, who would have no particular reason to be specially versed in the technical problems of our patent system, we would not only solve very largely the question of inadequate compensation to these gentlemen who work so faithfully and so well but, in the minds of the public, in the minds of the country, and in the minds of Congress we would stress the importance of our patent system which, from the very beginning of our Nation, has been a fundamental policy for our progress and our development and our prosperity.

There was never in the Constitutional Convention one word of controversy against establishing that exclusive right, and for the promotion of the useful arts and sciences.

Senator O'MAHONEY. I confess that your comments have made an impression upon my mind. I realize that it seems to be pretty certain that if the Patent Office, the patent examiners, and the Commissioner, in issuing patents, take an action which must go to the courts for decision if any controversy arises, the interposition of any jurisdiction by a Secretary or an Under Secretary who has so many duties to perform that he cannot be expert in the field is necessarily harmful rather than beneficial.

Mr. LANHAM. That is all the more reason why the Patent Office should be independent and in its field authoritative.

Senator O'MAHONEY. Captain Farrell, have you anything to say on this point? Give your name to the reporter, if you will, so it will be in the record the way you would like to have it.

STATEMENT OF V. C. FARRELL, INVENTOR

Mr. FARRELL. My name is V. C. Farrell. I am a former shipmaster. I have been inventing and patenting ideas since the early thirties, I think 1931. And for the past 8 years I have been engineering and developing and promoting my own ideas on my own under the name of Farrell Marine Devices, Inc.

During this time, I noticed a number of things which have far-reaching effects in our present problems. One of them is the general weakening of the moral fiber, reaching into the Patent Office and into the courts. We have in our penal codes in the States and in the Federal Government laws prohibiting the theft of everything under the sun, but there is no statute that I know of prohibiting the theft of an idea or prescribing a punishment therefor.

I don't mean to infer inadvertent infringement. I mean knowingly attempting to steal ideas that causes a tremendous amount of backlog in the Patent Office due to the tendency of inventors and patent attorneys to drag out cases in the Patent Office to keep them pending as long as possible for various reasons because of this tendency.

Senator O'MAHONEY. Describe that tendency again, please. This is important.

Mr. FARRELL. I have had so many attempts at thefts of my own ideas by people who are in every respect upright people and prominent in business.

If they found your wallet they would probably try to find you and give it back to you, but they don't seem to have any respect for other people's ideas and I think that is because there are no statutes on our books prohibiting the theft of ideas.

Senator O'MAHONEY. Can you give us some instance of the theft of an idea?

Mr. FARRELL. I have had three attempted thefts. They were not completed. Three of my best ideas. I had a tremendous fight and took years.

Mr. CAPLAN. Were these ideas patentable?

Mr. FARRELL. Yes, I eventually obtained patents and so far they have stood up.

Mr. CAPLAN. Your thought was that before the period when your patent issued there was inadequate legal protection for your idea?

Mr. FARRELL. No. The patent was pending and the general feeling about patents today has reached the point where everybody says a patent is only a ticket to a fight.

Mr. CAPLAN. An invitation to a lawsuit?

Mr. FARRELL. That's right. That is due to the weakening in morals. Somebody said I came out with a good idea. I was in process of installing it in a ship for a company. One of that company's employees thought he had an idea that would eliminate one of the features of my invention. And he did that and installed it on the ship that way and it didn't work; it was ineffective. They lost the money they put into the installation and didn't get the benefits they expected and it looked so much like my idea that it hurt me in the promotion of my own sound idea which has since been proven.

Mr. CAPLAN. You felt under existing law you had no adequate legal remedy in the situation?

Mr. FARRELL. I cannot sue for infringement until the patent issues. He knowingly attempted to steal the idea and the functions that I had developed.

Senator O'MAHONEY. Did he apply for a patent?

Mr. FARRELL. They were in the process. It soon came out in the open. This is not a company policy. This is an individual act. I know that it is not a company policy.

Senator O'MAHONEY. It had nothing to do with anybody in the Patent Office?

Mr. FARRELL. No, sir. There is so much of that, that there is a tendency on the part of attorneys and inventors to drag it out, deliberately to keep their patents pending as long as possible.

Senator O'MAHONEY. Why?

Mr. FARRELL. Well, they break down patents on so many different technicalities which may be legal, but morally they are wrong. It has built up in inventors and in attorneys that tendency. There are so many different angles that they can shoot at, technicalities, due to prior decisions in the courts, et cetera, that can invalidate it. It is purely on technicalities.

Senator O'MAHONEY. You have an attorney. As a patent applicant, you do not charge that attorney with contributing to the delay in order to create the possibility of infringement, do you?

Mr. FARRELL. No. One of the reasons for prolonging it is in the writing of claims you cannot conceive of every possible way your

function could be developed. They find one way of doing it, by leaving out a small part of your claim. It is not an infringement in our courts.

Senator O'MAHONEY. Who does this?

Mr. FARRELL. So that the inventor tries to get it before the public.

Senator O'MAHONEY. What I am trying to find out, who is responsible for this delay that you complain of.

Mr. FARRELL. Well, I would not want to say that the attorneys are. They do not deliberately delay, just to be delaying it, but the inventor tries to get the reaction of the public, to see how many different ways they can rearrange his construction.

Senator O'MAHONEY. You do not put your finger on the source of the delay. We cannot cure it, if it ought to be cured, unless we know what is causing that. You speak in generalities.

Mr. FARRELL. It is the fear of the inventor, that his structure can be slightly rearranged in order to get the same function or something near to it which will upset his patent completely. So he tries to figure out every way possibly that he can write his claims. You can write an infinite number of them. If he writes them, the attorneys submit them to the patent examiners. Of course, they have to go through them. That tends to build up their work and the backlog that these gentlemen spoke of.

Mr. CAPLAN. You mean a simplification of the system of writing claims would speed up the prosecution and reduce the amount of work required?

Mr. FARRELL. Yes. I am not qualified to speak on that point, but I think that something to prevent people from attempting to deliberately steal another man's ideas may have far-reaching effects on that.

Mr. CAPLAN. You are talking now about something apart from the patent law?

Mr. FARRELL. I think there should be a statute in the Penal Code whereby anyone knowingly attempts to steal another man's idea would be punished for it. I think that the public in general would gain a lot more respect for patents, and there would not be so many patent infringement suits in our courts. And also backlogs in the Patent Office.

Senator O'MAHONEY. Mr. Federico, have you heard that suggestion before? Is there any prior art on this idea?

Mr. FEDERICO. There are two phases to the suggestion. One is the theft of an idea before it is patented.

Under your present laws, if somebody else steals the idea and pretends to be the inventor and attempts to get a patent, he will have been committing several crimes which are amenable to various laws—the crime of perjury, for example, in filing the application.

I think the other phase is the question of infringement. And Mr. Farrell may be suggesting that infringement be punishable as a criminal offense. At the present time, under the present law, infringement is only a civil matter, being up to the patentee to prevent it by recourse to the courts.

A suggestion has been made a few times that we have criminal provisions with respect to infringement, but it has never gotten any support.

There are a few countries that have a criminal provision for infringement as well as the civil action, but they are very seldom resorted to. In a criminal action the matter would have to be considered in the same manner as another criminal trial. And the presumption would usually be with the defendant and the likelihood of success would probably be smaller in a criminal action than in a civil action.

Senator O'MAHONEY. Mr. Farrell, I think that you might be very helpful to the committee if some time later you would prepare a statement and go into this more fully than you possibly can do this morning, for our consideration. We will be glad to hear from you.

Mr. FARRELL. Thank you.

There is another point that I heard yesterday with reference to Government aid. Since the enactment of our patent system industry has gone forward with tremendous changes which doubles the time and effort and money required to get a patent into production. They are seeking Government aid in the form of special tax considerations.

I think there are too many people getting special tax consideration already, because for every one that gets it, there are probably hundreds more who come for the same thing.

I think the extension of the life of patents would be helpful and would not cost the Government any outlay of money or special tax consideration. Today there is a tremendous amount of absentee ownership in management. There is almost a complete lack of ownership in management, so that you have to see so many people before you settle a matter. It takes time.

In many organizations I have never yet been able to find the last man. I think the life of the patent should be extended.

As I was saying, I think the life of the patent should be extended, instead of special tax aid, because if we keep giving special tax privileges to people it will be like in France, where nobody will want to pay taxes. Certainly, we do not want to see that day come in this country.

Senator O'MAHONEY. I am interested in your experience, your difficulty in finding the last man who can give the final answer in some of the organizations with which you deal, and your reference to absentee ownership, coming from a man by the name of Farrell. Of course, that indicates that this is an old ill in social, political, and economic affairs. The modern corporate organizations are managed by people who own precious little of the stock.

Mr. FARRELL. Yes, sir.

Senator O'MAHONEY. Ownership and management is divided, and it makes it difficult for the individual person like yourself who wants to deal with them.

Mr. FARRELL. Yes, sir.

Senator O'MAHONEY. We have Dr. Allan DuMont, of the DuMont Co., one of the famous inventors in the field of television, with us today. And I know that his comments are likely to be very interesting at this point. And, Mr. Diggins, I would be glad to have you move up to this side of the table, too.

Mr. Diggins is a former head of the Antitrust Division of the Department of Justice. We will be glad to hear from you at any time.

Mr. DIGGINS. Thank you.

Senator O'MAHONEY. We shall be glad to hear from you now, Dr. DuMont.

STATEMENT OF ALLEN B. DuMONT, PRESIDENT, DuMONT TELEVISION CORP., CLIFTON, N. J.

Mr. DuMONT. Senator O'Mahoney, I might just very briefly outline the experience I have had with patents.

Originally, I filed a lot of patents as an individual before more or less getting into a corporation. So I have some inside into the problem of the individual inventor, and, also, the problem that corporations face owning patents.

I feel that the patent system has been instrumental in bringing the country up to where it is today. I do not however think that it is nearly as effective today as it was in the past.

You probably have figures—I do not have them—but it seemed to me that 25, 30 years ago there was a much greater number of patents that were adjudicated as compared with what we have today. In just looking at the number of suits and the number of patents that are judged valid, it seems to me that only 1 out of every 100 patents is finally adjudicated.

I know in the radio business, where there are literally thousands and thousands of patents, that today there are only 1 or 2 that really have gone to the Supreme Court and have been judged valid.

I think there is something missing, or some different policy should be pursued by the Patent Office, so that when a patent is issued there is better than one chance in a hundred that the patent will be valid. In other words, it would seem to me it would be of much greater value to an individual inventor or to a corporation if they knew when they received the patent that there was a reasonable chance that it was an invention and not just a right to sue. I think that is something that is extremely important.

I have not been in touch with any associations or groups to know what they are doing about it, but I do feel that the Patent Office policy in that respect would be a lot better if it would issue a smaller number of patents, and build assurance the patents that are issued really amount to something.

Another thing, I feel that the Patent Office should be given all of the financial support possible. Speaking as a member of industry, I would certainly be willing to pay more for patents, that is, the fees, if that is necessary, in order to get speedier service.

I think it is extremely important when an inventor files a patent that he does not have to wait 3 or 4 years or more in order to have it issued. This is a fast-moving age. You can see the improvements in certain fields. And 3 or 4 years is a long time to wait to receive a patent.

Furthermore, the slowup in the Patent Office allows certain corporations that desire to withhold going ahead to stall and take plenty of time before the patent is issued, so that in effect they are getting additional protection on the patent.

Senator O'MAHONEY. Would you clarify that a little, Dr. DuMont?

Mr. DuMONT. Well, there have been many cases in the past—I am thinking about several radio inventions—where the patents were purposely held in the Patent Office for a long period of time.

Senator O'MAHONEY. By whom?

Mr. DuMONT. By the corporation holding the patent. In other words, they would have a patent on a certain device.

Senator O'MAHONEY. You mean the corporation holding up the application for the patent?

Mr. DUMONT. They might have a patent on a product that has a number of years to go, and then they would have another patent that was an improvement on that. Well, they had the patent protection on the issued patent, and they desired to withhold the application as long as possible, so that when one ran out they would have the other available to continue the monopoly which they were really not entitled to. That happened in the case of a number of radio patents where a specific piece of apparatus is involved. In other words, they had the protection on it a lot longer than they should have had it.

Senator O'MAHONEY. Do you mean that the idea for which the second application was made was or was not a patentable idea?

Mr. DUMONT. No; it was a patentable idea all right, but you can argue with the Patent Office. In other words, it all revolves around faster action by the Patent Office by providing the proper facilities.

Senator O'MAHONEY. Does not the trouble lie with the applicant who delays filing his application?

Mr. DUMONT. He wants to delay it.

Senator O'MAHONEY. Of course. Is there any impropriety in allowing an inventor to use his invention before he gets the patent?

Mr. DUMONT. No; I do not know as I make it clear.

Senator O'MAHONEY. If you will answer that question then I will get to the other one.

Mr. DUMONT. No; there is none.

Senator O'MAHONEY. Well, then, is there anything improper in the action of an inventor who has secured one patent which is workable in delaying the filing of an application for an improvement upon that patent?

Mr. DUMONT. It is not a question of delaying in filing it. It is a question of delay in the Patent Office acting on that application. I think that it should not be allowed to have an application in that situation. In many, many cases in the past it went considerably over 3 or 4 years before the patent issued.

Senator O'MAHONEY. Do you mean to suggest that under the present system a person who files an application for a patent may take advantage of conditions in the law as they now exist and delay action in the Patent Office?

Mr. DUMONT. That is right.

Senator O'MAHONEY. Is that not subject to correction by the Patent Office administration now?

Mr. DUMONT. If they have the funds and the facilities, yes, sir; in order to take these questions up.

Senator O'MAHONEY. Commissioner Watson, what do you have to say about the possibility that applicants may delay the operation of the examination work in the Patent Office?

Mr. WATSON. No applicant can delay the orderly process of examination. Every applicant is treated alike. His application, upon receipt, is assigned to an examining division. The applications are taken up in the order in which they are received ordinarily, and examined in that order, and the patents issue in due course.

The applicant, of course, is given a period of 6 months to reply to each Office action. And it is within his choice whether he would

reply within a week or whether he waits for 6 months before making a reply. But there is no way in which an applicant can delay his application by an action which he himself takes, except by delaying the filing of his response to the Patent Office reaction until the last minute.

Mr. DuMont. Is it not a fact there have been many patents in the past that were in the Office for between 5 and 10 years before they were issued?

Mr. Watson. That, of course, happens. And particularly when complications have happened, such as interference contests between applicants and questions of priority of invention, appeals to the Board of Appeals, and appeals from the Patent Office to the courts. We will always have those extenuating circumstances.

Mr. DuMont. I am thinking about one specific patent, the oscillating audio patent, where DeForest had it, and it was used for a long time, and then there was a patent fight on it, and then the Armstrong patent prevailed after that. Are you familiar with the situation?

Mr. Watson. I am not familiar with those circumstances, but I believe there was an interference in that case. Do you remember it?

Mr. Federico. I do not recall the case.

Mr. Watson. I do not recall the circumstances, but in all probability there was an interference contest between the two.

Mr. DuMont. There was.

Mr. Watson. Involving the taking of testimony and appearances before the Interference Board of the Patent Office, and possibly from there to the courts.

Mr. DuMont. Certain companies had licenses under both of those patents. So, in effect, they extended the monopoly for more than the 17 years.

Mr. Watson. The monopoly cannot be extended for more than 17 years, except by act of Congress, which is very seldom granted. The delay, however, may have been some real advantage to the company owning the invention and exploiting the patent for the simple reason that others may have become acquainted with the fact that there was this pendency of an application, possibly of a dominating character, and naturally under those circumstances they would be most reluctant to invest capital in the manufacture of a device which might ultimately prove to be a direct infringement.

Mr. DuMont. Yes, sir.

Mr. Watson. So there is always an apprehension on the part of manufacturers of every character who suspect that a rival manufacturer may have an application pending.

Mr. DuMont. I would just like to go on for a second. The way the patent system works out in many cases—and I have not any suggestions for improving the thing; I do not know how you go about it—but it has happened that many times in the past a corporation with a large group of patents can put a smaller company out of business, not because he does not have good patents, but simply by suing him on the patents and losing the suits, but costing the particular company $25,000 or $50,000 to defend those suits. I know of cases specifically where that has happened. And I think it is pretty much of a general practice where if you have a large group of patents that may not apply to the particular companies, but they can enforce the patents,

simply by costing the smaller company money that they cannot afford in lawsuits.

That has been in my estimation one of the negative parts of the patent system. I do not know how you would get around it. It is something that is quite prevalent.

Senator O'MAHONEY. I would like to have your comment on that, Mr. Commissioner. Mr. DuMont says that this practice is quite prevalent. The records of the Patent Office would indicate whether or not wealthy corporations have the habit of following the practice that Mr. DuMont has outlined here. That would be a very natural thing perhaps for a wealthy corporation to do, if it wanted to suppress competition.

Mr. WATSON. Well, I was simply going to volunteer the comment that the evil of which Mr. DuMont has spoken is without the jurisdiction of the Patent Office. As I understand it, he refers to a large and wealthy corporation using perhaps unfairly a mass of patents as a threat to corporations of less accumulated capital, who cannot stand litigation. Perhaps that is an evil which is not limited to patents. Perhaps there are other fields of litigation in which those corporations engage, and by reason of their financial strength, are able to dominate the situation and scare the smaller ones. I have hear of those instances, but in any event, there is no right on the part of the Patent Office to refuse any patent to a corporation, large or small, provided the invention is of such character as to merit the issuance of the patent.

Mr. DUMONT. Yes, sir.

Senator O'MAHONEY. Your statement, Mr. DuMont, reminds me of the testimony that was given during the TNEC study of the patent system by an investor from Texas. He had invented a process or a machine for making milk bottles which he contended was better than the existing machine which was owned and operated by a very large concern, the Hartford Empire concern. I can summarize this in a few words.

He told this committee that in Texas, very close to the town in which he lived, was a large deposit of sand particularly well adapted for the use of making glass. He had capital from his neighbors and friends with which to build the machine and to make the bottles. And that there was lots of labor in the vicinity to operate the plant. But he received word from the Hartford Empire Co., whose offices were in Hartford, Conn., that he would be sued for an infringement of the patent unless he agreed to the price at which the bottles were to be sold.

The result was that he was driven out of business by a company having offices in Connecticut, though he had a valid patent and had the capital and had the labor and had the natural resources with which to build a new industry.

That resulted afterwards in an antitrust action, which I think was successful. If Judge Arnold had not left the room, I think he could tell us about that case, because I think he prosecuted it.

Mr. Diggins, you may know about that case.

This is Mr. Bartholomew Diggins, formerly head of the Patent Section of the Antitrust Division of the Department of Justice.

Mr. DIGGINS. The case was reversed successfully, from the standpoint of the Department of Justice.

Senator O'MAHONEY. I have correctly stated the facts, have I not?

Mr. DIGGINS. Yes, sir.

Senator O'MAHONEY. I did not want to divert you, Mr. DuMont.

Mr. DUMONT. I should just like to summarize the main things that I feel are important.

One, a revaluation of what a patent is. In other words, that a bigger percentage become valid patents. I think probably you could give us some indication of what percentage of cases are settled, declaring the patents valid. Is it not a much smaller percentage today than, say, 30 years ago?

Mr. WATSON. I have no information tabulated on that point. Perhaps some of the gentlemen in the room, the members of the bar associations engaged in litigation, can supply statistical information as to whether or not there is any difference between the decisions of today and years ago. I do not know the periods of which you speak.

Mr. DUMONT. Thirty to forty years ago.

Mr. WATSON. I think everyone will agree that of recent years patents have had a bad time. Probably when Judge Learned Hand testifies this afternoon it will be made quite clear the difference between the patent suits in which he personally engaged in the years gone by and those in which he has rendered decisions during the last 20 years. I think we all agree there has been a change.

Perhaps, with your permission, Mr. Chairman, Mr. Jo Bailey Brown might have a word here, from his long experience as a litigating patent lawyer.

Senator O'MAHONEY. First let me say that the staff has gathered some statistics at this point. I do not know whether we should introduce the statistics now, Mr. Caplan, or wait until Judge Hand appears. However, you might summarize what these figures show, and then I will call on Mr. Brown.

Mr. CAPLAN. At the request of the committee, the Patent Office has prepared three tables showing the number of patents adjudicated in the district courts, the courts of appeals, and the Supreme Court in the years 1948 to 1954.

They have also shown the number of patents held valid and infringed, both in number and percent, in the district courts in those years and the United States courts of appeals.

This information is tabulated and it shows, for example, that in the United States courts of appeals in that period, 1948 to 1954, only 19 percent of the patents which were in litigation were held valid and infringed.

Senator O'MAHONEY. Of course, this question of validity raises one of the most important questions which the committee can discuss. The committee will necessarily have to give attention to that matter, but the appropriate time for considering it will probably be when Judge Hand arrives.

In the meantime, I would like to suggest that you tell us what you think should be done and could be done about this matter.

Mr. DUMONT. Well, I think personally that a stricter interpretation of what an invention is would be much more useful, so that a patent would mean a lot more than it does today.

Senator O'MAHONEY. You mean a better definition?

Mr. DuMont. A stricter definition, let us say, yes.

Senator O'Mahoney. We should like to hear from you now, Mr. Brown.

STATEMENT OF JO BAILEY BROWN, PITTSBURGH, PA.

Mr. Brown. Mr. Chairman, I have just a few sentences.

I can point out to you that in the twenties and the thirties in Pittsburgh we had three United States district judges, and they set aside the months of April and October for trying patent suits. At least 2 of them were usually continuously engaged in those 2 months, every year, in trying patent cases.

In the last 10 years they do not set aside any period for patent cases, and I could just guess offhand that there are not more than 5 patent cases tried in a year in Pittsburgh at the present time, as compared to years ago when there were maybe a dozen or 2 dozen.

That is all I can tell you from my personal experience.

Senator O'Mahoney. What is the reason for that?

Mr. Brown. I think it comes back to what I said in a very blundering way yesterday: there has been a deterioration of the value of patents, due to the fact that under the leadership of the Supreme Court the standard and definition of invention has been changed and made so strict that corporations have been discouraged in trying to enforce patents and individuals have been discouraged to invent or try to patent inventions.

We advise any corporate client now to sue on a patent only as the last resort. If you have an outright infringement, you have to sue on it or you might as well have no patent. If you have a direct competitor who is infringing, and openly defies your patent, and you cannot enforce it by suit, you might as well throw your patent out the window.

We always tell our clients nowadays, even if it is the best patent, "You do not have better than a 50–50 chance," which I think is a fair statement today as to any patent I know of.

Senator O'Mahoney. You have had a lot of experience, Mr. Brown. You have practiced law for many years. You have had experience before the Patent Office and before the courts.

Do you think this is an evil in the present system that ought to be corrected?

Mr. Brown. That is a very hard question for me to answer, sir. Of course, I believe that a patent that is not valid should be declared invalid. Mr. DuMont will agree with me.

We all agree that the courts should get it out of the way, if it is invalid, but I do think that the Supreme Court has an atmosphere of feeling that the patent system is somewhat akin to monopoly, so that there has been prejudice against patents in the minds of a great many of the United States district judges, very few of whom have had any real practical experience with patents, and with the effects of patents in industry.

Senator O'Mahoney. Does not that amount to a statement that the judges have come to deny the validity of the constitutional provision that Congress may grant an exclusive right?

Mr. Brown. I do not think that the judges deny that. I think it is a question of judgment. And when we try patent cases, they are

practically always tried to the equity court, not to a jury. In nearly all patent cases, there is a close question of the effect of the prior art, whether an invention or not an invention, and that includes questions of infringement quite frequently. And you come down to the judgment of one man who makes that decision.

If he is under the feeling that his superior courts are going to reverse him if he finds a patent valid and infringed, he will lean a little bit too far in the direction against the patent. That is the way I feel about it.

I do not know any United States district judge that would openly say that he does not believe that patents are constitutional and statutory and proper. I do not like the word "monopoly," but it is used in reference to patents.

When you come to apply that to a particular case, there is a great deal of difference in the matter of judgment. What may be white to one man may be gray to another, as you well know.

Senator O'MAHONEY. I know the art of semantics has been mentioned here. Sometimes that word has been used in a derogatory sense toward people who have advocated reforms of one kind or another. I have known many courts to use semantics in order to get around what seemed to be the logical meaning of the law. I am sure that every lawyer who has had any practice has felt that way in some cases which he lost.

Do you not agree?

Mr. BROWN. Yes, sir.

Senator O'MAHONEY. If I may be permitted by you to put the question this way: If a client should come into your office, who had a patent, which you believed to be a good patent, and told you that it was being infringed by a corporation of great wealth, do you wish us to understand that you would advise that client to forget his patent and not go to court because of the expense and the trouble to which he would have to go to defend it?

Mr. BROWN. As to its being a defendant of great wealth, that would have no substantial weight in giving advice, because, perfectly frankly, I think that the little man, an individual or small company in litigation against a great corporation, has an advantage and not a disadvantage.

If the little man was one whose financial condition was very limited, we would have to tell him that patent litigation is inevitably very expensive; it takes research and lots of time and takes many expert witnesses, and we have to develop the testimony in such a way that a lay court can understand the technical things.

You have asked a double-barreled question.

As far as expense is concerned, that would depend on how much the man himself could afford to put in, in an attempt to enforce his patent.

Senator O'MAHONEY. I could see why you would like to have a wealthy corporation on the other side, if you had a good case, because you probably could collect the judgment. The question would be, however, whether on anything less than a contingent fee your client could finance the long period of litigation that the wealthy defendant could undertake; is that not right?

Mr. BROWN. That is right, sir.

May I add, you may be interested to know, I know very, very few patent lawyers that take cases either for or against on a contingent

basis. They nearly all charge on a per diem basis. The man going into patent litigation has to be able to pay his way as he goes.

Senator O'MAHONEY. I can see why that should be the case, in view of the testimony which has been given here with respect to the invalidity of patents.

This is what occurs to me, and I say this generally now for any comment that anybody may wish to make upon it.

The Constitution says that Congress may pass laws to grant this exclusive right, this limited monopoly. That means, to my mind, that Congress could refuse to grant any monopoly at all to inventors. It could refuse to pass any copyright law or any trademark law or any patent law. But having decided to pass a patent law, Congress, it seems to me, by reason of its having held out to inventors the invitation to file for a patent and to get an exclusive right, has the duty to make that law so effective that not even the Supreme Court can overthrow the exclusive right which is granted.

Does anybody disagree?

Mr. BROWN. I would like to say that I thoroughly agree with that, but, of course, when you come down to whether it is a right or not, you have to depend upon the courts to decide that. I think any judge that you might ask that question of would say, if the man is right, we will certainly enforce the patent law, but if we are not convinced that he has a valid patent or perhaps not convinced that the defendent has infringed on it, then it is equally important that we should not enforce the right.

Senator O'MAHONEY. This discussion stemmed from your reference to monopoly and to your opinion that the cause of the courts upsetting patents is sometimes the unwillingness of the courts to sustain the monopoly or, to use the words of the Constitution, the exclusive right which the Constitution authorizes the Congress to give. So it is on that basis that my question was addressed to you.

Mr. BROWN. I do not want to take advantage of your courtesy, but if you could by statute control the condition, which I think is evidenced in my experience, that there has been a deterioration in—I started to say in the value of the patent system to industry—perhaps I should say in the enforcement of the patent rights, to use your words, by the courts—if it could be done by statute, I would say yes. I think there is something wrong somewhere.

Senator O'MAHONEY. The committee then invites you and all others to write us a letter setting forth your ideas as to what might be done. We seriously extend and make this invitation, because we must use the experience that you gentlemen have. If you believe that the patent law should be so clear that neither an overall monopoly nor the courts should have the right to overthrow the exclusive right granted by the Congress, give us the ideas, so that maybe we can hammer them into a law that will withstand any constitutional attack.

Mr. BROWN. I do not believe that I will ever be able to make a valuable suggestion for a statute that could cure a condition which I think is psychological and a matter of growth. I think there has been a swing in judicial decisions. I think there is now a tendency for the courts to swing in the other direction.

Pardon me for saying that, but I just do not believe you can legislate a fair statute that will require a court to do something, courts of equity particularly, which they think is economically unsound.

I think the Supreme Court, as regards the patent system, has had a feeling that the patent system has been abused, and it has hamstrung industry in certain respects, and that they were going to change it and they could do it, and did do it, by their decisions. There is plenty of law that would permit the patent system to be made effective. You have the right that you speak of, and it is pursuant to the authority of the Constitution and the Congress, which has the power to pass the law, but I do not see how the Congress has the power to tell the judges what they may do in matters of discretion and judgment.

Senator O'MAHONEY. I will make this observation, and then I will not bother you for the rest of the morning. We will then return to Mr. DuMont.

It seems to me that with the facts developed here already, namely, that there has been a marked decrease in the number of patents that are finally held valid, that this decrease has been particularly notable during the past 10 years, and that lawyers sometimes advise their clients to throw their patents out of the window and to forget them, rather than litigate them; that the profession of the patent law is witnessing the deterioration of a great branch of the law practice; and that many of you gentlemen now seated around this table may find yourselves out of work if this matter continues and if Congress does not act. You may be promoting the suggestion which is in the constitutional provision that Congress need not pass any patent law at all, and let everybody go out on his own and do what he can, in which instance, of course, it is perfectly obvious the little fellow would just be beyond the pale completely, and the admission to the area of invention and progress and discovery would be restricted to the absentee owners, of whom Captain Farrell spoke this morning.

Now, we should like to hear from you again, Mr. DuMont.

Mr. DUMONT. I think Mr. Brown expressed, much better than I can, some of the ideas as to why the patents are not validated by the courts. I think he explained it very well, so far as I am concerned.

I think there is one thing that would ultimately come about if the patent situation is not strengthened, that is, there would be a tendency not to file patents and not to have this information for the use of the general public. I can conceive where a corporation or corporations might do a lot better by keeping their inventions to themselves and using them as secret processes in the manufacture of their products, rather than filing for patents and giving that information to the world.

I think that as the value of patents go down, there is more and more a tendency for that thing to happen.

I do not have anything particularly more to say about this except that I do feel strongly that anything that can be done to strengthen the patent situation from the standpoint of being more strict and having a more strict interpretation and having speedier action in the Patent Office, so that inventors do not have to wait so long, would help. I think the Patent Office is entitled to consideration from the standpoint of additional funds and whatever they require in order to do that.

Senator O'MAHONEY. Mr. DuMont, did you hear the testimony of Captain Farrell?

Mr. DUMONT. Yes, I did.

Senator O'MAHONEY. Have you anything to say about his suggestion that there is such a thing as the theft of patents?

Mr. DUMONT. I think it goes on all of the time, because of the very difficulty of enforcing patents. In other words, many companies figure if they want to use something, they go ahead and use it, take a chance on being sued on it. I think that is not uncommon at all. I do not think it is a good practice, but the fact that patents cannot be sustained very readily causes that to occur. And many concerns may know of patents or of ideas that they figure they will use and go ahead with, and if they have to pay for it, all right, but they figure that they will pay less than they would by making some sort of a deal.

Senator O'MAHONEY. Then you would recommend changes in the law to make patents more definite and certain by way of definition and also by way of enforcement?

Mr. DUMONT. Generally, yes. I do not know whether it requires a law or whether it requires a policy of the Patent Office. I do not actually know how they determine that.

Senator O'MAHONEY. The Patent Office cannot adopt any policy which is outside of the ambit of the law. It is governed by law.

STATEMENT OF MR. BARTHOLOMEW DIGGINS, PATENT ATTORNEY, WASHINGTON, D. C.

Mr. Diggins, would you care to make any comments on this matter?

Mr. DIGGINS. I would like to make a comment, first of all, on Mr. DuMont's feeling about oppressive patent litigation.

In the Department of Justice we had a very flagrant case of oppressive patent litigation. As I recall, the attorney advised against bringing suit because he felt that the patents were invalid.

Senator O'MAHONEY. What attorney do you speak of now?

Mr. DIGGINS. The patent counsel for the patent owner.

Four suits were brought against the defendant, one defendant. One suit was tried, lost in the district court. The attorney advised against going ahead. The company, nevertheless, directed an appeal. The appeal was lost, the patent held invalid.

That went through three different suits. So that the defendant was put through three complete trials.

By that time the patents in the fourth suit had expired.

The district judge, in his decision on that phase of the case, said that inherent in the patent was the right to sue, so that he found nothing improper or nothing contrary to law in that particular series of litigations. On the other hand, if those be merely threats to sue, they would have been actionable under the laws of unfair competition.

Now, perhaps Mr. DuMont has a real point on this matter of oppressive litigation from that standpoint. I have never run into another case which was quite that flagrant, but there was that one.

I think on the matter of the high mortality rate, and realizing that the examiners are trying to do the best job they can, I recall when I was an examiner in the Patent Office we worked 5½ days a week. I had a quota of 11 actions to be gotten out every week. That meant half a day per case. And you either got your 11 actions out or you were not favorably considered when raises came along, not that there were many raises at that particular time. This was in the early thirties.

I do not believe that the Patent Office applies the same standard of invention that is now being applied in the courts. I think the courts

are too strict, and I think to some extent the Patent Office is too lenient. Maybe we ought to find a standard of invention somewhere in between, but as a practical matter I think that the A. & P. case in the Supreme Court, and certainly the third-circuit cases, almost eliminate entirely the matter of patentability of mechanical combinations, yet the Patent Office is issuing patents on mechanical combinations every day.

I think that those patents which are issued will suffer a horrible fate if they ever come to litigation, especially in the third circuit.

The cost of patent litigation, which is one other point that I believe you spoke about, Senator, is one which I think applies particularly to the little man. He cannot afford to enforce his patents. He cannot afford to defend an infringement suit. As a result, it means that patents which would, in many cases, be invalidated, were the litigation between two corporations equally able to finance their litigation, yet a small man will have to knuckle under to a patent, even though he believes it invalid, because he simply cannot afford the luxury of a patent-infringement suit.

Frequently, when an individual client comes into my office, I advise him not to spend his money on a patent unless he has enough money to be able to bring an infringement suit, if he gets it, because I think unless he is able to back his patent up, his patent is not worth much to him.

Those are just a few general comments that I have.

Senator O'MAHONEY. Well, now, you state a condition but not a remedy.

Mr. DIGGINS. I think there would be several possible remedies.

On the matter of applying different standards in the Patent Office and in the courts, I think probably the Congress should set more definitely the standards of infringement, which would then be applied by both the Patent Office and the courts in the same way. I think that would eliminate a great deal of the trouble on invalidity at the present time.

I mentioned that matter of mechanical combinations as one example. I do not believe that, as a matter of fact, in the A. & P. case in the Supreme Court—I believe one of the Justices made the statement he did not see how any mechanical combination could ever be patentable—and yet patents are coming out on them every day.

On the cost of litigation, I believe a great deal can be done if the judges were familiar with the subject matter and were more amenable to some of the summary and preliminary procedures. A great many grounds for invalidity are matters which can be determined right within the four corners of the patent itself, and yet I have noticed a reluctance on the part of district judges to hold patents invalid or to expressly rule on validity prior to a full and complete trial.

If, for example, a patent with very little substance to it comes before a court, a judge would invalidate it on a summary proceeding, it would save expense, time, and effort of the trial. And very frequently, when a judge does finally come up with a conclusion of invalidity, it is on grounds that he could have decided very easily in a summary fashion.

I think it is the reluctance of a nontechnical judge to decide a technical point or a point of science without having a full trial beforehand.

I think that those are two remedies which would substantially cut down the mortality and also cut down this outlandish expense of patent litigation.

Senator O'MAHONEY. There was a suggestion at one time that there should be a special patent court. As you know, the Court of Customs and Patent Appeals deals with Patent Office appeals now.

Have you ever given consideration to the desirability of the establishment of such a separate court to deal with patent infringements alone, and with a statutory definition of the jurisdiction, drawn in such words as would tend to narrow the jurisdiction of the Supreme Court?

Mr. DIGGINS. I have given some thought to the matter of a special patent court. I have some serious doubts about it both ways.

I think it might very well help, so far as the scientific end of patent matters are concerned, but, on the other hand, a patent infringement suit is still a lawsuit. It still has all of the matters of pleading, evidence, of any other lawsuit, where the general experience would be equally valuable as it is in ordinary Federal court cases.

I think, from a technical standpoint, trained, technical judges would be of a great deal of value.

I think one of the answers to it is that, unfortunately, few members of the patent bar ever become judges.

Senator O'MAHONEY. We might develop some candidates around this table.

Mr. FARRELL. I am a practical person, and based on the statements of Mr. Brown and Mr. DuMont and this gentleman, the processing of the patent through the Patent Office, where we have experts—and I might add that I found the Patent Office to be the most honorable agency in Government—we take it from there, and we put it into the hands of a layman who is not scientific or an engineer, which brings about this great expense.

Why not have a higher court within the Patent Office where they have all of their experts to draw from and are best qualified? This is the day of specialization.

I think that may be the answer to this expensive litigation. Let the Patent Office have jurisdiction in the adjudication of patents.

Senator O'MAHONEY. Judge Hand will be here at 2 o'clock. That will enable you who have so kindly come to this session to throw more light upon the problems which are before us. I feel very grateful to all of you who have contributed thus far. I think the discussions and the suggestions have all been on a high plane of frankness and intelligence, and that they have opened up the problem just as I had hoped that these discussions would open up the problem. They have not settled them, to be sure, but you cannot settle any problem until you know what it is. I think we have made some progress in finding out what the problems are, have we not?

Mr. WATSON. I agree heartily.

Senator O'MAHONEY. The committee will now stand in recess until 2 o'clock, when it will reassemble in this room.

(Whereupon, at 12:20 p. m., the subcommittee recessed, to reconvene at 2 p. m., of the same day.)

AFTERNOON SESSION

Senator O'MAHONEY. We are going to have the great privilege of having the testimony this afternoon of one of the greatest judicial minds of certainly my generation and though Judge Hand was good

enough to call me young man this noon, I have viewed a good part of the generation in which he has lived from the cradle, not yet to the grave.

We are happy, indeed, Judge Hand, to have you here. I wish I could properly summarize the testimony which has been given in what amounts to an open forum. We have invited every participant to speak his mind freely, to interrupt when he felt he had something worthwhile to present by way of interruption in order that we may lay out upon the table here as fully and frankly as possible the problem of patents in the modern world.

We have had suggestions that Congress should make bigger and better appropriations to maintain the Patent Office, suggestions that there should be improvements in the administration of the Patent Office. More serious suggestions have come to the effect that the small inventor is now pitted against an organized antagonist, which it is difficult for him to contend with, namely the organized research labs and the great corporations which play so large a part in the modern economic scene. But the Patent Office, the Congress, the corporations, the research labs, have not been alone in the criticism which has been suggested here. Even the courts have been criticized and it has been said by several of our participants that what the patent law needs above all things is a more definite and rigid, perhaps not rigid, but at any rate a more definite and clear definition of what an invention is.

The suggestion has been made that until that definition is presented in statutory form, the Supreme Court will be the judge of whether or not any discovery is patentable and that because the Court has been showing a tendency to hold patents invalid, something ought to be done. But nobody has spoken definitely about what that something should be.

We are hoping that out of your long experience and your very lucid decisions, you may make some contributions to us that will raise the curtain, so to speak, and help us to gear the patent law to the modern world.

Judge Hand, the floor is yours.

STATEMENT OF HON. LEARNED HAND, RETIRED JUDGE OF THE UNITED STATES COURT OF APPEALS, NEW YORK, N. Y.

Judge HAND. I take it that you really want in this subcommittee to consider the thing anew from the bottom up.

Senator O'MAHONEY. Right.

Judge HAND. Well, my own view is that the only step which will really be important—the rest will be skirmishing about, procedural skirmishing—is to have a thoroughgoing examination of how the present system works.

As I say, I mean a very thoroughgoing investigation in which you would compel, for example, the corporations that maintain their laboratories and everybody else you could get and see if you could find out how far the present system contributes to the purpose, the underlying purpose being, of course, the promotion of the arts on which civilization has come to depend so completely, even for its very existence.

I don't know that that has ever been done. I think that has

never been done. Oh, there have been committees. I know I was on a committee. Perhaps I didn't pay enough attention, but nothing came of it.

We really are going along on assumption, that go back 300 years. As you all know, particularly in Queen Elizabeth's time there was great objection to the fact that she gave—that was a way of raising money in the days it was hard for the Crown to raise money—patents on the sale of tea or wine or whatever it might be, and she finally stood off the Commons, but near the end of the reign of King James the First, they passed an act. What was the test? I think I am right in saying that the original test was the one that got into the first patent statute that Congress passed, 1790.

It was just "new and useful." Well, if you had an infringement case, and that was the type of case that made the law practical, the issue of whether it was useful or not the infringer could not very well raise, because the answer was if you are infringing you think it is useful; don't you? That is enough for us. That used to be rather the conventional answer, as you probably know. So that it really came down to whether what had been done was new. And that went on, as I understand it, until about a hundred years ago. I forget the name of all the case, but wasn't one of the parties Hotchkiss, where the Supreme Court for the first time did lay down a standard of invention and that standard was whether the new combination was within the capacity of the man skilled in the art or what you chose to call it of the ordinary skilled artisan. Well, that was something apart. That made less of a stake for the inventor. That reduced his stake because before that the inventor got his monopoly, whatever it provided, if he could show it was new.

So in place of it he was put through this test.

Well, I like to speak moderately but I have found—we used to have a great deal of experience in the second circuit—I found it an awfully difficult test to apply. What does it call on you to do? You have to construct—I use the word advisedly—you have to construct imaginatively who is this prospective figure of the skilled artisan in the calling. That isn't enough. You may be able to tell what some skilled artisan would do by calling skilled artisans but—in all that I say I speak much more dogmatically than I should. This is as I understand it and there are nine excellent gentlemen who are employed to show me why I am wrong and I never knew public servants with more unflinching courage. I sound more certain than I am. I am very little certain about anything but least of all about patents.

Senator O'MAHONEY. You sound very polite and we assume——

Judge HAND. I am trying to be polite.

Senator O'MAHONEY. We assume the certainty.

Judge HAND. All right. That is a desirable mask, isn't it, that one of modesty, always.

Well, to go back, you have to endow the supposititious artisan with an acquaintance of all the existing art although it may be patents in Germany or England or France and where you will.

After you have constructed what that man knows, then you must say, would the invention have been within the compass of that kind of man, that protege or call him what you like, within his powers. When I used to do it, I used to say that the only way you could do it would

be to try and figure what had been—how long the need had existed, how long that need had not been impeded by the backwardness of the attendant or necessary technical arts without which it could not have appeared and then what success it had.

But I don't think that was by any means the accepted rule. You could find nearly anything you like if you went to the opinions. It was a subject on which the judges loved to be rhetorical. I remember one very moving—I won't mention the name of the judge but he is very well known—he described an invention as that jewel in the thoroughfare which all passed by without seeing until he who happens to have the happy instinct at last makes it out and picks it from the dust where it lies.

Well, if you like that for law—there are a good many patent lawyers here. I am afraid that they like to quote all those things. There are lots of them.

They never seemed to tend toward enlightenment. For a long time I have thought the first thing to do was to have a very thorough examination of how it really works. When I have said that to people, they have always answered me, "We know now just exactly how it does work and it is not necessary to go any further," and the idea is that all we want from you is silence and damned little of that.

To a judge that is useful advice although he does not always follow it.

Senator O'MAHONEY. What they wanted, Judge, was not silence but a signature.

Judge HAND. That comes later. He generally doesn't talk his signature, either. He writes it. I am by no means as desperate as those people to whom I have talked about there being no light to be got. For example, let me take what will probably seem to be a very invidious and unpromising possibility. Suppose it appeared that the steady advance little by little of the arts on which so much depends in our material civilization, supposing that really occurs in the big specialized laboratories kept, if you like, by the big corporations. That they form nests, and they signal out promising inventors. They are in competition with each other. They are little nests themselves, I take it, I don't know but I think they must be, of capable men, stimulating and competing with each other all the time. Suppose it were to appear, if it could be approached with a nonpartisan spirit, that the establishment and maintenance of such specialized laboratories depended in very large measure on limited periods of monopoly, patents.

That would be, if that did appear, to my mind a very cogent reason for having something of the sort.

On the other hand you have the other school which says no. What you ought to have is not the slow step by step, what you might call little movements out on the borders of invention, little innovations all along. That is not what you want. What you want to encourage is those inventions which require genius. I doubt that. I think the great inventors or great discoveries are like the great artists. It is in their bosom. It has to come out. I don't think they would be appreciably moved by the fact they were to get a limited monopoly for 17 years. I should think that we nearly all would come to that agreement. You wouldn't have had the great painters—I don't

think they would have painted better if they knew they had a monopoly. The place for the stimulus, I think, is those people who are very competent and will be induced by that hope of pecuniary reward to devote themselves as entirely as is necessary.

Well, that is really all I have to say about it.

I do think in addition and I will find very little agreement when I suggest this.

Judge Frank and I see alike in this. He agrees with me. But the others said no. I will put it to you. You can join either side you like. I think a great deal of the odium that has surrounded the subject is because patents are monopolies. I would like to distinguish between monopolies, for they call copyrights sometimes monopolies. I would like to distinguish between that kind of monopoly and a patent.

You may call them both monopolies. Let me confine a monopoly as I will use it now for the moment to the right to prevent anyone from doing what you have done, what you have described in your patent regardless of whether he has needed your disclosure to help him at all.

I don't know if I make that plain. In other words, you may say that when I write, we will say, suppose I wrote a verse, a sonnet, anything you like. You may say that my copyright which prevents you from coming along and copying is a monopoly. All right, if you like; that surely is a very different monopoly, because that is the taking of the fruit of my mind. You are using my brains, you are copying from me. Most people would feel that there was a kind of inherent fairness about that. "If you are going to use this old boy's brain, what he has done, why you ought to get his consent."

But it is very different if you are going to say here is X which is a certain collation of steps or processes, he did it first. Even if you reached the same result without the least recourse to what he has done, he may stop you.

That is a real monopoly. I throw this out with much diffidence. It wasn't originally my idea. I think it was the idea of a very good lawyer now dead, Mr. Richard Eyre. I thought I had originated it but he said he did. I guess he did. I think it would be very profitable in your inquiry, if I may say so, and submit it to you, to get all the light you could possibly get on how that system would work. The Constitution does not use the word "monopoly." It says "discovery." I don't think there will be any constitutional difficulty in limiting the monopoly to those who could be shown to have copied what the inventor did. If you did have that as in the case of copyrights, it would not be necessary to have any test for invention.

You might say it would be very difficult for the patentee to ever prove that the supposed infringer had copied. Well, there are various devices that I think might be arranged to meet that. If the patentee brought the infringer to court and showed the infringer was making the same thing, you might throw the burden on the supposed infringer to show that he did not have to have recourse to the patent in order to do what he did.

There would be other difficulties. In the copyright law we say there can be no copyright in ideas, it is only in the expression of ideas. That is a borderline that is really in theory very difficult. It is not so difficult in application as one might think. It would rather be much too hard on an inventor to say all you have got is the exact text of your

claim. But that comes up in infringement now anyway. You can't avoid that. The scope within, I would say the verbal scope, the scope within the words you have used has never been the actual measure, literal measure.

You know the difference. Formally the courts have prescribed "substantially the same means producing substantially the same result." I don't think that would be an objection. At least it would avoid a great deal of the animosity that has surrounded patents nearly always.

I suppose it was the feeling of that which made the Supreme Court in whatever it was, 1855—you know when it was.

Mr. CAPLAN. *Hotchkiss* v. *Greenwood.*

Mr. FEDERICO. 1850.

Judge HAND. I suppose that was what lay behind the construction of the old rule that it had to be more than new. It was entirely judge made. There was not a syllable in the statute at that time. Some syllables have come into the statute recently but we don't know yet quite what they mean.

I wonder if this suggestion wouldn't do all that would be necessary to do. All that the whole system is designed to accomplish. Whether that kind of monopoly, if you choose to call it that, would not be enough of a reward, a bait for the progress of the arts without making it cover all infringements that happened thereafter regardless of whether the person who infringed had any benefit from the patent itself.

I don't know whether it is very clear, but I hope it will seem clearer when you read the record.

If I were going into this I would certainly want to study that aspect of it. I don't find much sympathy with the statement of it, and I don't think I shall here. But I think it is worth looking into.

Senator, I have talked more than I really had to talk about, but that is all I have to say. I am not really interested in details of the administration because I feel so sure that until you go at it from the bottom up, you are going to have this constant difficulty and these innumerable verbal questions that come up. I don't know whether you were ever a patent lawyer or not.

Senator O'MAHONEY. I was not, Judge. I was not a patent lawyer, but I have an incliuation to believe that most good law reflects commonsense in human relations. I doubt——

Judge HAND. You are something of an optimist, may I say.

Senator O'MAHONEY. I think I am a congenital optimist. I noted with interest your suggestion that the patent law had its genesis when Queen Elizabeth the First, we must now say——

Judge HAND. Yes.

Senator O'MAHONEY (continuing). Began to reward her favorites with patents, with the right to do certain things. Having just returned from an unofficial trip to Ireland where I had the opportunity of becoming acquainted with the land of my progenitors, I could not help but remember that some of the patents that that illustrious queen issued were patents to lands already occupied by a very intelligent race of people.

Judge HAND. I beg you, when you consider the patent system, forget Queen Elizabeth.

Senator O'MAHONEY. Let's go to James then.

Judge HAND. Of the two, I think I prefer the lady.

Senator O'MAHONEY. Well, it was the gentleman who made the law or at least whose name was attached to the law.

Judge HAND. It was the gentleman whom they finally overcame and made much against his will. He couldn't give more patents to his favorites. The stories are very disagreeable. Let's not get into that.

Senator O'MAHONEY. We won't get into that.

Judge HAND. The Commons finally took it away from the old boy and "new and useful" was supposed to do the job of insuring that they, the public, would have a quid pro quo.

Senator O'MAHONEY. When you use that phrase from the statute of James, "new and useful," I believe you open up the field that we are trying to study.

Judge HAND. Yes.

Senator O'MAHONEY. Is it in your opinion a good and useful thing—I am substituting "good" for "new" now—for Congress to exercise the power which the Constitution gave it to provide by law for exclusive use of the inventions or discoveries of inventors. Is it a good and useful thing? Does it promote the arts and sciences?

Judge HAND. That is just the question. Nobody knows and nobody can know until they examine how the system which has been working after all for 150 years works in our present very complicated industrial society.

Senator O'MAHONEY. Let me appeal to you to state from your experience what that has indicated from the many cases that came to your attention. Did they on the whole promote the arts and sciences?

Judge HAND. That is just what a judge never gets.

Senator O'MAHONEY. Why doesn't he get it?

Judge HAND. Because the facts are not there, how essential it was for the progress of the arts it was. I am trying to get at how far this system of monopolies or whatever you like to call it, how far does that system in fact stimulate production? You can find—I have been at the job nearly 50 years—there are two schools and the one school beats the air and says without the patent system the whole of American industry would never have been developed. It is the stimulus which has brought us to the top, and the other says it is nothing but a beastly method and they get hold of it and they get a lot of smart lawyers and the little man who has really made it never gets anywhere. And he is scared to death.

No one really knows. Each side is beating the air. They approach it with enormous passion but without enlightenment. The judge doesn't get that. He does have this much particularly if he tries to make this test. I always try to make it, and I like to call it an objective thing and what the art is as it had been, and ask yourself, what do you think—do you think that was within the compass of the ordinary skilled artisan? I don't know how to answer that question. Judges don't. They answer it because they start with certain preconceptions. That is about what you do. You have no idea, you get no line whatever of information as to how the system itself is in fact influencing the production of inventions.

No one could believe more than I that it is the step-by-step increase of invention on which we depend. As I said when I started, for our very existence now. So your committee is engaged I think in the most vital—there could not be a more vital inquiry in substance on the subject.

Senator O'MAHONEY. I think I may have stated my inquiry rather poorly.

Judge HAND. No, no.

Senator O'MAHONEY. I didn't get over to you I think what I had in mind.

Judge HAND. That is probably my fault.

Senator O'MAHONEY. Let me say first, as I read the constitutional provision, the drafters of the Constitution extended to Congress the power to grant, or not to grant, as it saw fit, patents or the exclusive right to use these works and discoveries for a limited period.

Judge HAND. Yes.

Senator O'MAHONEY. That offer of the Constitution was accepted by the Congress, so we are not discussing whether or not to amend the Constitution or whether to repeal the patent law. We are discussing rather whether the grant of a monopoly for a limited period does stimulate the production of the inventions that we require, that society needs.

Judge HAND. Absolutely. If you include in the word "monopoly," I tried to make a distinction there.

Senator O'MAHONEY. I don't think there is any distinction. It is a limited monopoly, isn't it?

Judge HAND. No; I have entirely failed if there is no distinction. It seems to me there is a very vast distinction. If I were to make a change I think I would want to hear what people much more advised than I would do. I think I should change it. I think I should make patents like copyrights. I should say that a man is entitled to what he contributed, but what he contributed to others, and unless they used what he did, he could not stop it. That is like copyrights. You take a copyright of music in these days, and you take a very skillful person like Spaeth, they call him a tune detective, he will show you how again and again spontaneously you get identical measures and chords, and so on.

I think you probably would find that was true also—I don't know. Without any more information than I have now, if I had to say what I should prefer, it would be that.

Senator O'MAHONEY. Are you suggesting that since the copyright law protects the author, only to the degree of the actual words that he sets down, the expression of the idea, and does not in any way prohibit another writer to express the same idea in other words, the same plan should be followed with respect to patents and that the patents should cover only the precise invention that the inventor makes and should not be extended to cover vague claims with which it is surrounded when the patent lawyer gets hold of the application and files it in the Patent Office for the purpose, as some say, to prevent others from coming in to improve upon the same idea.

Judge HAND. Yes; that really is the law. Now, Senator, the courts have said they won't hold the inventor literally to the verbal rigidity of the claims, but they don't let him go beyond the claims.

His monopoly is limited—of course they are never tired of repeating it ad nauseum. That would not be a new point.

Senator O'MAHONEY. You must remember that we started out on this discussion with a frank acknowledgement on my part that I am not a patent lawyer. Do you wish us to understand that the language of the claim establishes the patent right?

Judge HAND. Oh, yes; there is no greater commonplace in the whole law than that. That is not as clear as it sounds, because the claim does have all kinds of penumbral edges.

Senator O'MAHONEY. May these penumbral edges of which you speak be erected by the skill of the lawyer rather than the inventor in order to place a barrier against new inventors to improve on the original?

Judge HAND. Everybody wants to get the most he can for his client.

Senator O'MAHONEY. But the Congress has for its clients the general public.

Judge HAND. Yes.

Senator O'MAHONEY. I am asking you now to advise the Congress what it should do, not for the inventor, not for the infringer or against the infringer, not for the manufacturer or the distributor, not for the lawyer——

Judge HAND. Not even for the lawyer?

Senator O'MAHONEY. The patent lawyer, but for the general public.

Judge HAND. I don't believe you can answer that. I do think that is the only question in the end, how far does this system of what we call monopolies, does it promote the public interest by stimulating progress, interstitial progress of the arts, without which we shall soon be left behind? What I tried to say first was that that cannot be determined satisfactorily a priori by the beliefs that people have one way or the other. Not without a thoroughgoing investigation. I mean a very extended examination. Call everybody and see how it works. I don't care much about their opinions as to how it works. But how it does work. It will be a long job. It may be an impossible job. I have talked too much.

Senator O'MAHONEY. No; you have not. I want to ask you to lay down the agenda for such an investigation as you have in mind.

Judge HAND. Oh, my God. You have to get someone who is more closely connected with industry.

Senator O'MAHONEY. Let's see what you are not saying, Judge.

Judge HAND. Very little, I am afraid.

Senator O'MAHONEY. There are a lot of patent lawyers here.

Judge HAND. I am aware of the background.

Senator O'MAHONEY. I know you are not intimidated by the lawyers.

Judge HAND. May I put in a caveat on that?

Senator O'MAHONEY. I don't know whether I will allow that or not.

Judge HAND. If I can't have it here, I will have it outside. You better give it to me now. I am very afraid of them. Go on.

Senator O'MAHONEY. Are you suggesting to this eminent patent bar assembled in this grand caucus room that the patent law might well be repealed unless they can prove that the patent law has done something?

Judge HAND. Oh, no. Nothing so sudden as that, Senator. It might turn out—I have not the least idea that it would. But if it

did turn out that it was merely a way which did not result in what I call the proliferation, the slow increase bit by bit of the arts, then, of course, I don't think there will be any justification of the bar. I suppose everybody will agree with that. Even the lawyers must.

Senator O'MAHONEY. I hesitate to ask this question, but you are a very good-natured man as well as a great judge.

Judge HAND. I am not going to answer the question now. I deny the hypothesis. Leave that out, and I will answer the question. Strike it out.

Senator O'MAHONEY. The motion is denied. In all of your experience on the bench in patent cases, have you received no glimmering of notion as to whether or not the patent law has served a useful purpose?

Judge HAND. I have an opinion, but I don't want you to cross-examine. I don't think it would be any good. I think it has. A great one. If you cross-question me, and ask me why, I don't know.

Senator O'MAHONEY. I am not going to cross-examine you. I got the answer I expected. You believe the patent law has been good. Now will you help us to improve it?

Judge HAND. You are a very harsh judge. You have to specify a little more. You overlooked my motion.

Senator O'MAHONEY. Mr. Caplan, would you care to take up the questioning at this point? I know well enough to stop questioning when I have a favorable answer.

Mr. CAPLAN. You put me in a terrible spot.

Well, we were interested, Judge Hand, in your recent decision as to the effect of the Codification Act upon the standard of invention.

Judge HAND. You mean Lyons against Bausch & Lomb?

Mr. CAPLAN. Yes.

Judge HAND. I was interested, too.

Mr. CAPLAN. I appreciate the fact of the limitations upon your commenting upon that case.

Judge HAND. All right, the comment on it now is it is done. It is in the hands of higher powers.

Mr. CAPLAN. The particular sentence was the statement that—

> On the other hand it must be owned that had the case come up for decision within 20 or perhaps 25 years before the act of 1952 went into effect on January 1, 1953, it is almost certain that the claims would have been held invalid.

I wonder if you had any comment upon that tendency in the last 20 to 25 years?

Judge HAND. Yes. We have been pretty frank about that in the second circuit. You will see a lot of cases there that I dug up or my law clerk did. I read them after he did. It was pretty well accepted, I think, that perhaps 20 or 30 years ago the Supreme Court had adopted a very much stiffer rule about what was invention. I think it began first with Justice Brandeis.

It seems to me it was in the Carbice case. I think I was in the case. Judge Swan wrote the opinion. I should think that was all of 20 years ago. It might be more. That was the first sign, as we understood, that we should watch our steps and be more severe about what was an invention.

As it went on, we thought in the second circuit that that tendency was becoming more and more fixed and although I think, or a good

many people thought before that, we were much too easy about patents, however, after all we were there to take our orders as we understood them and we understood that we were to be very strict, very severe.

There was a case I know about molding silver. The Jorgenson case. I wrote a dissent, but the majority was affirmed. Justice Jackson said, "Now the only patent that can be said to be good is one that has not reached this court." I thought that showed at least he thought we had fairly well interpreted the Supreme Court. People have said, "We don't go to you any more because you are so tough on patents. You used to be a friend of patents and now you are perfectly terrible." But we were doing what we thought our orders were.

Now when the Congress passed the act, whether we were right in construing it as meaning that the old rules were to apply, remains to be seen. I hope the case will go up.

Mr. CAPLAN. I wondered if you had any opinion as to the overall wisdom of this tendency which the Supreme Court has expressed in such decisions.

Judge HAND. No; I haven't any opinion. I think we are all beating the air without going into the facts. Until we have a thoroughgoing investigation, it is all going to be guesswork, I think. I don't see how we can tell. How do we know what the effect is. Perhaps we shall never find out. It will be a very intricate and difficult inquiry. When it is through we might get nothing. Still I think we ought to go about it that way. I have thought so for a great many years. I don't get much support so probably I am wrong.

Mr. WATSON. May I make a remark?

Senator O'MAHONEY. Yes, of course.

Mr. WATSON. I am very much interested, Judge Hand, in that suggestion which you have just made, namely that it seems at this time to be quite appropriate to study the operations of the patent system as a whole. And to ascertain its true economic impact upon the economy of the country. I had not given it much thought until I came to the Patent Office and for the first time came up against the problem of appropriations for the Patent Office.

I entertained the same views as probably every other patent lawyer in this room entertains, that, if there were no patent system, the country would cease to progress and the Indians would take over.

Judge HAND. They had some inventions, too.

Mr. WATSON. I had the library of the Patent Office canvassed and I found there had been some 14 prior semiinvestigations of the patent system, some congressional hearings, some economic analyses, but never a really complete one. I well remember a statement made in the last book purporting to be an economic analysis of the patent system and its operation, which happened to be a book prepared by the National Association of Manufacturers, but not publicly distributed, and in that book it says that of all the prior attempts to evaluate the operation of the patent system and to determine its value to the country, each had been incomplete and based only upon the personal opinion of the person, based in turn upon his rather narrow experience.

In other words, the testimony before the congressional committees had been by individuals who had had certain experiences but that at no time in their past experiences had they the advantage of studying the full economic facts.

There was an attempt by the Bureau of Labor Statistics recently. There was a circular sent out to industry. I attempted to have included on it 12 questions to 7,000 manufacturers, the answers to which would give us some idea of how the patent system was working.

It was finally pinned down to one question, namely, "Have you any patents or patent applications?" The Bureau of Labor Statistics and the National Science Foundation were not particularly interested at that time.

I haven't yet ascertained the results. I couldn't pass by without saying that that idea is on the agenda of only one institution of which I know and that is the Patent Foundation of George Washington University which I think if allowed to complete the work which it has undertaken would give us some idea of the net value of the patent system. I see Dean Colclough up here.

Senator O'MAHONEY. He is present and I think a contribution from him at this time would be very valuable. Where is Dean Colclough?

STATEMENT OF DEAN O. S. COLCLOUGH, ACTING DIRECTOR, THE PATENT, TRADEMARK, AND COPYRIGHT FOUNDATION, THE GEORGE WASHINGTON UNIVERSITY, WASHINGTON, D. C.

Dean COLCLOUGH. I am here.

Senator O'MAHONEY. I am glad you are at the table.

Dean COLCLOUGH. I am so happy to be here to listen to Judge Hand because it seems to me that he has expressed the motivating influence that caused the university with which I am connected to undertake 5 years ago the organization of a foundation which would be dedicated to a search for the facts in connection with the operation of the patent system in this country.

We became convinced some years ago of the very thought that the Commissioner of Patents has just expressed and which Judge Hand spoke of so clearly. That the whole area of the patent monopoly in this country has been characterized by opinions of the two schools of thought which you expressed, Judge, as on the one hand condemning it as restricting progress and the other claiming that it is the sole basis of progress technologically and industrially, and it was for that reason that the foundation was organized.

Perhaps, Senator, it would save time if I quickly provided information on the research projects in which we are now engaged. I know the chairman is cognizant of this work. The chairman of the Judiciary Committee is a member of our advisory council and I am proud to say that Judge Hand and the Commissioner of Patents are members, too. May I quickly read the research projects which we have undertaken so far to show our approach to find a factual basis for conclusions with respect to the patent system?

Senator O'MAHONEY. In order that your testimony now may be placed in its proper perspective, let me ask you first, when the study was undertaken?

Dean COLCLOUGH. The organization of the Foundation was undertaken about 5 years ago, sir. The fund-raising aspects of it were completed and the Foundation was actually put in operation in February 1954.

Senator O'MAHONEY. When the fund-raising effort was completed, what success did you have? Can you give us the amount of money that was raised to finance the project?

Dean COLCLOUGH. Yes, sir. Not exactly, but in round figures, it was something in the order of $120,000. Would you like to know who contributed?

Senator O'MAHONEY. You may volunteer that information.

Dean COLCLOUGH. I think that is important to our undertaking because it is evidence of the breadth of our support and the fact that this support represents those elements of our society who might have conflicting opinions.

It is supported by patent lawyers on a wide scale. It is supported by industry—and when I say industry, I mean both large and small. It is supported by research laboratories. All laboratories are voluntary memberships in the Foundation. The Foundation, I must point out, is an integral part of the research and educational program of The George Washington University, and is not separately incorporated.

Senator O'MAHONEY. And this financing, I state, is an assumption and is a fact I am sure; the Foundation was left wholly free to make its own decisions.

Dean COLCLOUGH. Right, sir, subject only to the Board of Trustees of the University.

Senator O'MAHONEY. Yes. In other words, the contribution of any fund to the Foundation was not in any sense made to guide the Foundation in its studies or in its findings.

Dean COLCLOUGH. Right you are, sir, and it was for that reason we sought our support in all the various areas of opinion and attitudes toward the patent system.

Senator O'MAHONEY. You began 5 years ago?

Dean COLCLOUGH. To raise the money.

Senator O'MAHONEY. This committee received an appropriation of $50,000 out of the contingent fund of the Senate to conduct the study in which it is engaged. I want to point out the handicap under which we are working as compared with the grant that you have.

It is the rule of the Senate that an appropriation of this character can be made only for 1 year, so that it will be necessary for this committee for the coming session of Congress to apply for a renewal of its financial support if it is to carry on the study.

You have already been working for 5 years.

Dean COLCLOUGH. We have been working for a year and 6 months, sir, on the actual work but I might say, in that connection, we hope that the money invested—and it will be more than the figure I have named by a great deal before we complete this study, on the basis of our present judgment—I hope it will be of use to this committee and will perhaps save some of the appropriations.

Senator O'MAHONEY. All right, sir.

Judge HAND. May I ask a question?

Senator O'MAHONEY. Certainly.

Judge HAND. Have you gotten far enough into the study to know whether the absence of the power of subpena would stand in your way—do you find you have access to all of the information?

Dean COLCLOUGH. So far we have gotten full cooperation. We are getting complete cooperation, I would say, from industry and the laboratories. They are being very generous in their cooperation.

Judge HAND. That does not surprise me at all. I wondered whether you had found any hindrance, and you say that you have not?

Dean COLCLOUGH. We have not.

Senator O'MAHONEY. This committee has issued no subpena as yet.

Judge HAND. But it might be, you know—you cannot tell if it got very close and right to the marrow—you have got the claws, and they have not.

Senator O'MAHONEY. Would you repeat that? I want that clearly on the record. [Laughter.]

Judge HAND. I will repeat it for you. You have got the claws, and you know it.

Senator O'MAHONEY. Proceed.

Dean COLCLOUGH. I want to go over our projects and then if the chairman would be interested I would be happy to file with the committee for its records a description of these research projects.

Senator O'MAHONEY. That will be very satisfactory.

Dean COLCLOUGH—

1–A. PATENT UTILIZATION

The purpose of the patent-utilization project is to determine as objectively as possible: (*a*) The proportion of patents issued in a particular year that are put to use in commerce and industry. (*b*) The extent to which patents are used, and the length of time. (*c*) The monetary value of patents to the inventor and to the assignee. (*d*) The economic or competitive value of patents which are not actually used in production. (*e*) Social and economic factors which stimulate or inhibit the maximum utilization of patents. (*f*) Factors which account for nonutilization of patents. (*g*) Suggestions which inventors and assignees have for maximum patent utilization through changes in present patent procedures. (*h*) The extent to which industry is resorting to trade secrets in preference to relying on patent protection.

To assure objectivity and representativeness, the answers to the preceding questions are sought through a statistically selected sample. This approach makes it possible to generalize the findings from the sample to all the patents issued during the particular period from which the sample was selected. For our pilot study, we have started with an initial sample of 2 percent, selected systematically from all the patents issued in 1952, 1948, and 1938.

The information abstracted from the Official Gazette for the 2,115 patents could yield some interesting relationships between such items as the assignment status, lapse of time between application and the issuance of the patent, the frequency with which assignments are made to corporations, the number of claims, and the classification of the patents.

The patents not assigned at date of issue have had to be searched against the Patent Office files to obtain the date of subsequent assignment, if any.

Information on the utilization of patents will be obtained through questionnaires addressed to the inventors and assignees. For inventors and assignees in nearby areas, questionnaires have been filled out through personal interviews. This phase of the work is completed. A mail questionnaire will be sent to inventors and assignees in other areas. The personal interviews were made to give us a first-hand

knowledge of the questions which could be answered, and the best way to phrase these questions. This initial face-to-face questioning of inventors and assignees has helped us to streamline our questionnaires.

To minimize costs and maximize information, we plan to investigate only about 10 percent of the nonassigned patents. We are assuming that most nonassigned patents are not utilized. It is considered that this small sample will be sufficient to test this assumption. We are excluding all the patents to foreign residents. The assigned patents, numbering about 1,300 will be circularized, as discussed in the preceding paragraph.

After every means has been exhausted to trace inventors and assignees and have them respond to the questionnaires, a subsample of inventors and assignees, living in certain nearby cities, who failed to respond to the questionnaires will be visited personally to obtain the desired information, so as to determine in what respect the nonrespondents differ from those responding.

The questionnaires filled out by personal interviews or by mail will all be coded and tabulated and the results analyzed. Moreover, since this is a pilot study, records are kept of the time spent on the various activities, so that ultimately cost data could be prepared. Finally, a report will be prepared summarizing the findings, and appraising the effectiveness of this approach. The salient findings resulting from the study will, of course, be made widely available to the members and other groups.

Project No. 1a is under the direction of Dr. Joseph Rossman, patent attorney of Philadelphia. He is patent counsel for the Marathon Corp. His publications include: The Psychology of the Inventor, the Law of Patents for Chemists, and the Protection by Patents of Scientific Discoveries. He served as editor of the Journal of the Patent Office Society from 1931 to 1935. He has contributed numerous articles on legal and technical subjects to magazines and journals. The research associate is Dr. Barkev S. Sanders, consultant on disability insurance to the Bureau of Old Age and Survivors Insurance, Department of Health, Education, and Welfare. He is a lecturer in statistics and economics at Johns Hopkins and Catholic Universities, and has developed and conducted numerous statistical surveys and studies. He has also contributed articles to technical journals, including the Journal of the Patent Office Society.

2–A. THE VALUE OF THE PATENT IN THE UNITED STATES

The purpose of this project is to determine the value of the patent in the United States. Because no one generally accepted and integrated body of criteria [standards] with which to measure patent value exists at present, the first objective of this study is to develop and precisely define such criteria so they can be used as a guide for fact collecting. These criteria will be designed to measure as specifically as possible what the patent system has done, is doing, and ought to do. For example, one of the criteria is the proportion of output (1) which would not have been undertaken without patent protection, (2) for which patent protection is of some importance, and (3) for which patent protection is of negligible or no importance. When quantitative estimates along these lines are obtained, they will throw light upon the operation of the patent system for the whole of indus-

try and for major segments of industry, as well as for classes of products.

The pilot project is designed to provide answers to how we should proceed to accurately evaluate patents as well as provide tentative answers based on incomplete facts to what is the value of patents. To that end, the pilot project is broken down into four subdivisions of investigation: (1) the development of criteria for patent evaluation to the extent that prevailing criteria are inadequate, (2) the testing of the criteria developed and the gathering of preliminary factual data on patent value through selected case studies, (3) subsequent improvement of the criteria to provide better procedures and techniques, so that more comprehensive and practically useful studies of patent evaluation may be undertaken, and (4) a report to the members of the foundation which will include the preliminary factual data on the value of patents gathered in the case studies.

The principal investigator for project No. 2–a, Dr. Jesse W. Markham, has specialized in the fields of industry studies and public policy toward business for 10 years. He has taught at Harvard, Vanderbilt, and Princeton Universities, and is at present an associate professor of economics at Princeton. His publications include two books, Competition in the Rayon Industry and Workbook in Economic Principles, and several articles. From 1950 to 1953 he headed up a research project dealing with an evaluation of fertilizer policies for the Tennessee Valley Authority. From 1953 to 1955 he served as Director of the Federal Trade Commission's Bureau of Economics.

3–A. EFFECT OF PATENTS ON THE CREATION AND GROWTH OF SMALL INDUSTRIAL UNITS

This project seeks to determine the roles of the patent right and other factors (like availability of capital, quality of entrepreneurship, and technical and economic barriers to entry) in the development of new firms and industries. The investigation is designed to provide firsthand field interview information and is being conducted by individuals with small staffs and is being executed relatively quickly and will lead to foundation reports and publications on the influence of the patent system on the creation and growth of new vigorous units, new units that are keeping our industrial system flexible and alert. The pilot project covers three different typical situations, which when brought together will have broad inductive value. These situations are: (1) the rise of enterprises on the technological frontier, (2) the rise of enterprises through the specialization of services, and (3) the rise of enterprises permitted by opportune technological changes in heavily concentrated "mature" industries.

Specifically, situation No. 1 is a study being made of small new firms springing up in New England and elsewhere in the electronics field. These firms are not so much interested in radio and television as in instruments, special high-cost components, electronic "guns," high-purity metals for electronic fabrication, etc. Many such firms start as consultants or with Government research contracts. In addition to such sources of capital buildup, they rely heavily on "education"—on technical knowledge, not generally shared and often embodied in owned patents. In addition to electronics, this study will cover a sample of new firms in the radioisotope field.

The second situation of this project is an investigation of the rise of the custom heat treating of metals industry performing services for automobile parts makers and other companies. The technology of heat treating (which imparts extra strength to carbon steel, "case hardens" the softer steels, relieves internal stresses in worked metals, etc.) has been improving rapidly so that a metalworking firm has difficulty in keeping up with the latest equipment and methods. This study is inquiring into the place of patent licensing in the growth of this new industry, the sources of personnel and capital, etc.

The third situation is a study of the economic feasibility of small-scale local steel facilities based on small-scale electric furnaces (in lieu of blast furnaces) and the continuous casting process. It appears that the development of new iron and steel technologies will require much less capital for entry and will permit the exploitation of small, high-grade iron-ore deposits for the benefit of local markets. The officials of companies designing continuous casting equipment will be interviewed to find out what problems of patent licensing exist, how these will be overcome, what kind of clients are expected, what future is envisioned for this type of decentralization in the steel industry, etc.

The principal consultant for project No. 3–a is Dr. Irving H. Siegel, director of research, American Technology Study for Twentieth Century Fund; staff member of Council of Economic Advisers to the President; author and lecturer on economic and technical subjects.

5–A. LICENSING OF AMERICAN PATENTS, TRADEMARKS, AND TECHNIQUES IN FOREIGN COUNTRIES

The purpose of this project is to obtain information on licensing operations abroad by American business and of the relations of patents and trademarks to these operations. There is very little organized material on this subject, but it is apparent that licensing of foreign manufacturers is a widespread and growing practice of American firms. The foundation is now completing a preliminary study which has the purpose of determining whether a more comprehensive project would be feasible, and whether there would be enough interest to justify it. In the course of the preliminary study the project staff had a number of interviews with officials of American firms that engage in licensing foreign manufacturers, and with interested Government officials in the United States and abroad. The feasibility of a proposed questionnaire was tested in a mail survey of approximately 70 foundation members.

Results of the preliminary study so far show that a very large proportion of American firms engaged in licensing abroad would cooperate with the foundation in a more comprehensive project, thus assuring the foundation of access to necessary information. The results also show considerable interest in the subject.

The comprehensive project, if undertaken, would cover points such as the following:

1. An analysis of the factors which contribute to the success, or lack of success, of the practice of licensing abroad—including, of course, the role of the patent and trademark systems.

2. An analysis of the economic consequences of the practice, both here and abroad.

3. A description of negotiating techniques, and of the principal provisions of successful licensing agreements.

4. An analysis of the factors abroad which make for a good or a poor "climate" for successful licensing agreements.

Project No. 5–a is under the direction of John Lindeman, consulting economist, of Washington. For several years Mr. Lindeman was with the Mutual Security Agency in Europe, where he dealt with the problems arising from exchange restrictions and economic nationalism. His present work also gives him an intimate knowledge of the foreign operations of some American companies.

6–A. PUBLIC ATTITUDE TOWARD PATENTS, TRADEMARKS, AND COPYRIGHTS

The purpose of the project is to determine attitudes toward, incentives for, preconceptions of, and levels of information about the patent, trademark, and copyright systems. Two groups are being studied in the pilot project: (1) university seniors at the George Washington University, and (2) a cross section of the general public in Washington. Within each of these groups, analysis will be made of special subgroups, e. g., engineering and technology students. The method will be that of a sampling survey using intensive interview techniques.

This information is designed primarily to provide guidance to a public-relations program. An effectively focused public-relations program must first know the shape of current attitudes and levels of information, in what areas ignorance and doubt exist, and what misconceptions prevail. Furthermore, such information must be obtained with respect to certain critical groups.

This pilot project has begun in Washington, D. C., with the possible view of extension to other cities and other types of critical groups.

Project No. 6–a is under the direction of Mr. James N. Mosél, associate professor of industrial psychology at the George Washington University and research consultant on advertising. communication, and public opinion. Professor Mosél has conducted numerous surveys of public reaction for advertising agencies, industrial organizations, and the United States Government.

We have other projects in mind. We are working to develop one in the atomic energy field which is an obvious one, because atomic energy has special patent problems.

And, finally, we are working on a project in the antitrust field.

Those are the projects now undertaken. They are each in what we call the pilot phase, because supplementing what Judge Hand asked a moment ago, one of the first things we have to find out is, can we get the information? And, secondly, what the best methods of collecting the information are. So we have gone on for this reason and for the reason of finance, on a pilot basis with questionnaires, and by interviews with the industry.

We have our representatives in the field consulting manufacturers, the laboratories, the individual inventor. We have passed out questionnaires to a large number of individual inventors in this country to get their personal experience with respect to the development and marketing of their invention.

Senator O'MAHONEY. What response have you had to these questionnaires, first, with respect to the questionnaire itself? There have been

complaints, you know, from many business sources about questionnaires, the numerous questionnaires sent out by executive bureaus and committees of Congress. It is condemned sometimes as a great burden, an unnecessary burden upon business.

What response do you get in that respect?

Dean COLCLOUGH. Our response has been good, Mr. Chairman, but we have more or less adopted a refinement on the questionnaire method in order to make it less burdensome, of combining the questionnaire and the interview. In other words, either equipping the interviewer with a questionnaire or using a mail questionnaire on previous personal interviews, but not asking the busy executive or the busy laboratory director to answer all sorts of impossible questions. Our personal interview experience is employed in drawing up mail questionnaires and for further interviews.

We find that facilitates the collection of the information.

Senator O'MAHONEY. With respect to the subject matter what has been the response?

Dean COLCLOUGH. We have had no difficulty.

Senator O'MAHONEY. And you have been gathering material?

Dean COLCLOUGH. On a small scale, sir, because as I said, we feel that in order to develop methodology we should approach it on a pilot basis, to be sure that we have the correct method before spending a great deal of money on a general search.

Senator O'MAHONEY. After this material has been gathered what will be your method of reaching a conclusion for the preparation of the report and the making of the recommendations?

Dean COLCLOUGH. Our staff will analyze the information and come to tentative conclusions.

We have, and are most fortunate in having, the Advisory Council of which I spoke a moment ago, two members of which are here in the room, and which also has on it, which we think is a great privilege, men like Mr. Asbury, vice president of the Esso Research & Engineering Co.; Dr. Joseph W. Barker, president of the Research Corp., and also president of the American Society of Mechanical Engineers; Mr. Cyrus S. Ching, in the labor field; and we had the late John W. Davis, who is not with us any more; Adm. Luis deFlorez, president of the deFlorez Engineering Co.; Mr. Laurence B. Dodds, vice president of the Hazeltine Corp.; Mr. Thomas K. Finletter; Mr. Lawrence R. Hafstad, recently Director of the Reactor Development Division of the Atomic Energy Commission; Mr. John M. Hancock; Judge Learned Hand; Mr. Mervin J. Kelly, president, Bell Telephone Laboratories; Dr. Charles F. Kettering, chairman of the board, Kettering Foundation; Mr. David E. Lilienthal; Mr. Max McGraw, president of McGraw Electric Co.; Gen. David Sarnoff, chairman of the board, Radio Corporation of America; Dr. Glenn T. Seaborg, professor of chemistry, University of California; Dr. Edward R. Weidlein, president of the Mellon Institution of Industrial Research; Mr. Charles E. Wilson, chairman of the executive committee of the board of directors, W. R. Grace & Co.; and Mr. William T. Woodson, a very prominent trademark lawyer of Chicago.

And as ex officio members, Senator Kilgore, Representative Cellar, and Commissioner Watson.

We have periodic meetings

We also have an executive committee. We will take our findings of fact and tentative conclusions and discuss them with this committee. We will work with many other institutions on our projects.

As indicated a moment ago we are using people on our staff from Princeton, John Hopkins, Pittsburgh, and other institutions. We will finally develop what we believe to be a scientific analysis of the facts.

Senator O'MAHONEY. Did you hear the testimony, or rather the comments of Mr. Jo Bailey Brown this morning with respect to the reduction in the number of patent cases in the courts?

Dean COLCLOUGH. No, sir; unfortunately I did not.

Senator O'MAHONEY. Have you in this study set up a project—I regret to say that I did not follow all of these special studies you have established—dealing with the position of the small inventor as related to the research laboratory?

Mr. COLCLOUGH. That is implicit in one of them; yes. As a matter of fact, it probably is involved in four of them, but as a separate project; no. Although, as I pointed out, sir, our patent-utilization project—one of our major projects—is starting with the individual inventor. I believe we have now some 75 who have been interviewed. And when we perfect our questionnaire it will go out to thousands, followed by personal interviews in certain cases.

The degree of sampling, of course, will depend on statistical methods to go far enough to reach sound scientific results.

Senator O'MAHONEY. Thank you very much. In order to stimulate the discussion a little bit more, I think that I will call on Mr. Biebel. We interrupted you yesterday, because we asked you to wait for the presence of Judge Hand.

Mr. BIEBEL. If I could refer back to one of the matters that was mentioned by Judge Hand. He referred to inventive genius as being, I think, something that was either there or it was not there, that you found it and it came out. I think that is certainly true.

He further referred to some of the great painters of the past as exercising genius in that field. I think it also is true that the great court painters in the period of 300 and more years ago were largely subsidized by the court to which they were attached or by some large and prominent wealthy family.

Judge HAND. That was always true, I think.

Mr. BIEBEL. I think that was very much a part of the court intrigue. I think it explains some of the very famous collections that now exist in the places in Florence, for example.

I think we have genius today. I think that it is essentially the same in kind, namely, that it must come out, but I think that today our geniuses must also have support. They do not do well without means to eat and even further they want a car and a radio and a television and many of our modern conveniences.

I do not think it is in the spirit of what we are trying to accomplish to say that that should be done on a subsidy basis. I think that we have found a more satisfactory basis, one which is more truly geared to the contributions that they make by allowing them to take out patents which they can either exploit themselves or which they can license to industry.

I think in that regard that the patent system can be said to serve a most important and useful purpose.

I am not prepared to give any statistical data of the kind that Dean Colclough has been talking about.

I share the Commission's conviction that I think most patent lawyers acquire from years of contact with inventors and with businessmen that they do find and do place considerable value on the property right that they acquire through being able to identify the inventive concept that the inventor makes.

I would like to make one other comment.

I was, of course, impressed by Judge Hand's discussion of the difficulties of applying the test. I am not a lawyer in the field of accident or other law, but I think that there are tests in different branches of the law, such as an ordinary prudent man, one exercising reasonable care. And I would assume that also in those fields of the law the judge must decide what an ordinary and prudent man is.

Probably the factual data to enable him to do that is very much less complicated, but I do not think that we can say that the problem is basically different. I think that it is undoubtedly extremely complex.

With our further development of science and research it looks as if our inventions are going to be even more complex.

I merely raise the question, if the basic problem is not essentially the same, merely a difference in degree?

Senator O'MAHONEY. May I request Mr. John H. B. Bruninga, who is a patent attorney of St. Louis and who has been good enough to come to Washington, to participate in this session to make his comments at this point?

STATEMENT OF JOHN H. BRUNINGA, PATENT ATTORNEY, ST. LOUIS, MO.

Mr. BRUNINGA. I was taking notes here yesterday and today. I have a number of subjects that I should like to cover, but I wonder if I can in 10 minutes, unless you want me to handle any particular question.

Senator O'MAHONEY. We will let you be the judge as to what you want to say. We will ask you, if you will, to prepare a paper for us to be submitted later on.

Mr. BRUNINGA. I will. I will make this just a brief summary.

First, my name is John H. Bruninga. I am a member of the firm of Bruninga & Sutherland, in St. Louis.

My own experience after engineering was with the Bureau of Standards, and in the Patent Office in 1905, and then into practice.

Now, the examining corps today is much better educated than when I was there in 1905, that is, the general run of the men. In those days they were not all college men by any means.

The difficulty I have found in the Patent Office, which probably explains the cases where the courts have decided the patent granted by the Patent Office invalid, is that some of those men are not familiar with the practical field that is practiced. That extended back as early as 1905.

I was in the Shoe Machinery Division. I was in there 3 years. I had never been inside of a shoe factory. I went, 2 weeks of my own time, to Boston and I learned more in those 2 weeks about the shoe industry than I learned in the first year in the Division.

Now that can be done. Those men can be sent out into the field. Their expenses should be paid. They should not be required to take it on their vacations. And in that way they get the practical end of the thing.

As to the expenses of the Patent Office in connection with that, I think that is a public service and it should not—that is, the expenses that are allowed—should not be based upon the income any more than of the Department of Agriculture or the Bureau of Standards.

Next, as to the courts. I started in litigation in 1910. It is my opinion we do not want any patent courts. They will become too technical. What we want is good lawyers on the courts. We do not want any technical adviser to a court, because pretty soon we will have the decision by the technical adviser and not by the court.

My experience has been that if a judge has had high school and college physics and chemistry that he can be educated to try a patent case. Those who have not had that, may have a lot of commonsense, but in a number of cases which I had in which I prevailed, or in which the other fellow prevailed, all the judge said was, "The prevailing party will submit findings of fact and conclusions of law." In other words, he did not understand the case.

Senator O'MAHONEY. Now then, Mr. Bruninga, if that be the case that there is an occasional judge who does not understand what is before him, what would be wrong with providing a technical court to deal with this problem, particularly at a time when the field in which the inventions and discoveries are being made is constantly becoming more complex?

Mr. BRUNINGA. I am afraid that they are going to get too technical, because what you need is a No. 1 lawyer having had at least 4 years of law school. That has been my experience.

That is probably the trouble with the Patent Office—particularly in the Interference Division. They are technical men, all right, but they are not experienced lawyers. They have not had any outside law practice.

What I believe can be done, except in cases as Judge Hand indicated, in jurisdictions like that, is to have a roving judge in the district or in the State or in a number of districts, who tries patent cases and who before he is appointed for that purpose has had a year of physics and a year of chemistry.

There is a case by Judge Hartshorne, of Newark, N. J., who I tried. It happens that I won the case, but that judge had had physics and chemistry before he ever tried that case. I asked him, and I said, "Will you review a certain part of your physics?" He understood that case all the way through.

For a while they thought I was going to lose the case. I finally did not.

Senator O'MAHONEY. You recommend that we pass a law to provide for the appointment of judges who will render favorable decisions when Mr. Bruninga is there? [Laughter.]

Mr. BRUNINGA. No. Those cases that I have lost have been before very capable judges. I was just wrong, that is all, on my opinion in the matter.

When it comes to a matter of patentability, of course, we have section 103. Section 103 only states what is not patentable. What I would like to see in that statute is something like is stated in 145 and

284, that is, in general words that the judge shall decide that case on the evidence before him and not on his own personal opinion.

Of course, let him use his own personal experience on the basis of judicial notice, but if the case is decided on the evidence done there will be a lot of trouble avoided, because that is what a lot of the district courts do, they do not decide the case on the evidence.

When you come to the court of appeals, what do you have? Unless the district court was manifestly wrong he is affirmed.

Senator O'MAHONEY. May I interrupt you at this point?

Mr. BRUNINGA. Yes.

Senator O'MAHONEY. Judge Hand, unfortunately, has to take a train at 4 o'clock, so I would like to get his point of view about this question of expert advice to the courts before he is compelled to tear himself away. Judge Hand, you have heard the testimony here about some cases in which the judges just asked the attorneys to prepare the statement of facts, et cetera, and he signs the order, and the conclusion of the witness that it was an evidence of a lack of knowledge of the case. Do you think that the field in which patents are issued now is becoming so much a matter of science and complexity that the courts would do better if they had expert assistance or if there were a special court of patent appeals?

Judge HAND. Those are two separate questions.

Senator O'MAHONEY. That is right. I am trying to save time.

Judge HAND. I will take the second one first, if I may.

I think it might be desirable to have one court of patent appeals provided, with this proviso, and I for myself would regard it as absolutely critical, that is, that it should be a rotating court. I do not want to have a court of specialists, because we all get in love with ourselves.

And courts are particularly of that kind, as you know, although you may not be willing to say so. But it is true. And if you get a court of experts you will get out of line. I think that was Mr. Fish's idea. He was in his day perhaps the head of the patent bar. He thought of a single court of patent appeals, that it would be good.

Perhaps it would be too much work for one. But, anyway, providing the assignments were only for a period of time, so that you would not get arterial sclerosis, which we all are in danger of.

Senator O'MAHONEY. I like that better than the roving judge that Mr. Bruninga has mentioned.

Judge HAND. Of course; yes. I will come to the other question. I should not agree with Mr. Bruninga.

When I first came on the bench they just had the new rules, that was in 1913 or a little before that. That was where they used to have questions almost stereotyped that they would give to the expert: "Have you read patent so and so; claim so and so? And do you understand them? I do. Will you explain them?" And then they would go off and play golf, leaving him with the typewriter. He would explain and argue the case.

That was a dreadful system. We ended it in the southern district of New York. I never let an expert give his opinion on the meaning of the claims or on whether there was infringement or whether is was patentable. They did not like it at first, but I think it has been adopted.

It was always a question strictly of fact, and not interpretation of the claim.

I got them to pass a rule in the southern district shortly after I began to deal with these things that the parties might agree to have an impartial expert in cases which involved complexity.

Well, you take a thing like a wireless case. Unless a man has been trained in electronics, it is all a wilderness to him. He has got to have help.

I do not think the system is a good one by which each side calls a partisan expert of that sort, and never have. But the bar never would use it. The rule finally was repealed. I do not think it had ever been used.

I got them to pass it. It must have been 40 years ago.

And when I used to talk to the lawyers about it they would say, "You do not know these experts, they are all committed one way or the other."

They did not mean, mind you, or suggest that they were dishonestly committed, but they all had their slants. And if you got the court's expert the court would always follow him on these questions of fact and he would, because the poor wretch has nothing else to go on, really.

Senator O'MAHONEY. You mean the expert or the court?

Judge HAND. You know what I mean. I mean the court. [Laughter.]

That was an unkind question.

Senator O'MAHONEY. I withdraw the question. [Laughter.]

Judge HAND. Too late— the damage is done. [Laughter].

Everybody knew it anyway, so it is all right.

Here was a case, for instance—I do not knew whether it was true or not, but we have in the patent law one great phrase which is the "prior art." That is a phrase you hear over and over again. It means what led up to. An anticipation depends on it. The judge was trying the case for a couple of days and he said, "Gentlemen, I am not very familiar with this. You have used a term here that I do not know that I quite understand. It must be peculiar to the patent law. Repeatedly you have talked about the prior rot. What does that mean?" [Laughter.]

That perhaps was an extreme, but it illustrates, I think, what is absolutely a condition. You have got to have someone to guide the poor—I will not use the word "wretch" again—the unfortunate victim of these issues, or he will not know the terms in themselves.

Many is the time I have written an opinion and said to myself, "A smart boy of 16 reading this would say, 'Why, that old duffer, he does not know the very first meanings of the words, does he?' "

The lawyers are very expert in predigesting the food for the infantile judicial stomach, so that we get an awful lot. The good ones are perfectly wonderful. But even so, if you have a controversy of fact about intricacies in chemistry or physics, electricity, too—they do get more and more difficult all of the while—you must have some help of that sort. A college education, at least.

Well, perhaps, it is better than in the last 60 years or so, but it did not help you much on that.

Senator O'MAHONEY. Thank you, Judge Hand. Before the judge goes, is there any other lawyer around this bench or in this room who wishes to venture a question?

Mr. LEVY. May I have the privilege of putting a question to Judge Hand?

Senator O'MAHONEY. I am sure that the judge will not mind.

Judge HAND. Not a bit. I may say that I cannot answer it, but I do not mind that, either.

Mr. LEVY. Thank you, sir. You raised an analogy in some respects, as I understood it, between a copyright and a patent, introducing the element of unfair competition. Would you feel that there is in fact a difference between the two in this respect. With respect to a work of art, a poem, or sonnet, or painting by Botticelli, the chances are rather remote that the exact sonnet or the poem or the exact painting is going to spring from the brain of another individual. Whereas in a patented invention, in view of the strong drive in research as we now experience it in industry, is it not more likely that perhaps within the lifetime of the monopoly, another party, by nature of his work and the need that created that invention, will also come to the same conclusion or the same result?

In other words, I am suggesting that it may be difficult to introduce this element of unfair competition in a patented invention and you can do it very well in a copyright.

Judge HAND. I quite agree that you find a good many cases, much more likelihood, that independently of each other two inventions would be made. What I was saying was it seemed to me it would be adequate stimulus—that would be one of the questions to be decided. I put this out. If you protected the inventor from plagiarism alone and did not have any test of invention, it might be said that that would not be sufficient.

It might be that a man said, "Well, if I invent this now, someone will come along after a while and he will do the same thing and then all of my advantage will be gone."

That would not move me, personally. I should say if he can buy it without recourse to what you had done, I do not think that you ought to be able to stop him, but if it should turn out in an inquiry, such as Mr. Colclough has under way, which I think is absolutely a condition of any progress on this subject at all, it might turn out that would have to give the first man more. I do not quite see why.

Mr. LEVY. I was suggesting that merely from one point of view, that is, in the element of proof in a copyright case there is no question usually if the exact thing appears before the judge. And in the case of an invention there is a very large measure of question.

Judge HAND. May I differ with you? There is a very great difficulty in musical copyrights all of the while. You have no idea how often you get similarities that seem to be there. There is the dramatic copyright. What is the scope of the copyright? Where does idea begin and expression end? You would not have that. That would be more easily dealt with, I think, in patents than it is in copyrights

You have it, anyway, in patents, as I say.

None of the courts hold the inventor strictly to what is literally, verbally, his claim. You oftentimes disembowel the most valuable

invention if you did that. I do not think that there is any difference between the existence in what I am suggesting on that score and similarity.

Senator O'MAHONEY. Thank you, Mr. Levy. Mr. Robertson has another question. I think that this will be the last one that we will propound to you, so that you may catch your train.

Mr. ROBERTSON. I was concerned with the difficulty of getting the courts to effectuate what I think was a congressional intent under section 103 to go back to or at least toward the old standard of invention.

When the courts first had section 103 to interpret they had cases before them which had begun before the act came into force.

Very often they have cases in which the defendant began his practice before the new act came into force.

I am wondering if you feel that it would help the courts accept the changed standard of invention if Congress should provide for something in the nature of intervening rights to protect the defendants who began their activity prior to the effective date of the act?

Judge HAND. Well, it so happens in a case that was in our circuit, called *Lyon* v. *Bausch & Lomb*, I wrote the opinion where we dealt with that question, and it was argued by the defense very strongly that this is practically taking my liberty without due process of law because, "I had reckoned on the strictness of the old doctrine which you say was changed." That is what they are saying to me. And to which we said, "Yes. The Supreme Court has actually changed it."

And they say, "You cannot take away my reasonable interpretations of the old law by changes ex post facto."

Well, perhaps we were wrong. I await the final wisdom on that. We say no, no. "You took a chance when you infringed that claim. What the test would be of invention. That had not any of the certainties on which you might rely which is back of the taking of property without due process."

I await with great interest what the result will be, what it eventually will be on that subject.

Senator O'MAHONEY. Judge Hand, it is now 3:41. I regretfully excuse you from the witness stand. We are very grateful to you.

Judge HAND. Thank you very much. It has been very fine.

Senator O'MAHONEY. If you would see fit to write a paper to us, we would very much be indebted to you.

Judge HAND. I do not believe I could do that. If I came back and said that I promised to write a paper there would be trouble at home. [Applause.]

Senator O'MAHONEY. Mr. Bruninga, will you proceed now? I am sorry to have interrupted you. However, you were not dealing with what the judge had said.

Mr. BRUNINGA. There was one question that I did want to ask the judge. What are you going to do about those Supreme Court decisions in spite of section 103?

It seems to me there has to be a distinct amendment to the patent statute to wipe out those Supreme Court decisions. I am talking right point blank.

That was done in section 102 (g). Before that statute the Patent Office used to bedevil us patent lawyers with what they called func-

tional claims. And finally the Supreme Court said that any claim that was functional at the point of novelty was invalid. And paragraph (g) was promulgated which took care of that, I think.

It looks to me we have to do something. We cannot hope that the Supreme Court is going to reverse itself so fast, although they have changed three times on the general proposition.

There is one thing that I would like to talk about very briefly and that is this, interference. This has been before the bar association before, and never anything done about it. Interferences are now handled by the Patent Office by depositions. They never hear or see the witnesses, and then they decide the case. Then you can take it to the Court of Customs and Patent Appeals, who do not see the witnesses.

And what do you get? You get something which is not like open court procedures.

Then you can proceed under section 145 to a United States district court and have the whole case tried over.

In the first place, that is a roundabout way.

In the second place, they rely upon a decision of *Morgan* v. *Daniels* (153 U. S. 120), to the effect that it amounts to setting aside a judgment, which it is not the case at all.

It seems to me that study should be given to this situation as it exists.

I had two cases in succession, for the same invention. There was a decision by the Board of Interference Examiners. And then I was called in. It was taken to the United States district court in St. Louis. I got a favorable decision there, also in the court of appeals.

Then another interference case was tried on the same facts. The Patent Office spent one-half a page on considering the decision in the eighth circuit, on the same facts, and again decided against my client. There was another defendant in that case.

I took it to South Bend, and again the Patent Office was reversed, and the other fellow did not even take an appeal. It was the General Motors-Bendix case, no small people at all. Bendix had money enough to appeal.

It seems to me that some study should be given somewhere along this line that one of the parties, instead of going through the interference examiner, shall have the option to file a suit against the other party, maybe the junior party or the senior party, or whoever it is, and try the case in the district court.

At the time that that was proposed we did not have, at least generally, the authority of the district judge to transfer the case to the forum of convenience. We have that now.

It seems to me study should be given to that situation. It is very important, because it now costs a lot of money and holds up the issue of the patent.

Your Honor, that application was filed in 1932, and issued last year. So you see how important it is to have something to speed things up.

Just one more thing briefly, that is, what I call the garret or basement inventor. Today that garret or basement inventor is very important.

I had a couple of cases where one inventor made a million dollars out of his inventions. It is very important.

The automatic choke case was not by General Motors, but by one of the basement or garret inventors.

We had before 1910 what was called a CAVEAT. The statute was later repealed, because they said it was not effective. Maybe it was not. I had some experience with it in the Patent Office, and it was not entirely ineffective.

There ought to be some way that an inventor can protect himself by filing something in the Patent Office. You say all right, he can have witnesses, and those witnesses can substantiate what he will testify to. Yes; but that costs time and money.

His witnesses may be dead. If he files something in the Patent Office, let the Patent Office pass on it, let them make a search on it and tell him if they find anything like that, at a small fee. The old fee was $10. Maybe it should be $10 or $15 or $20, which would be all right.

So far as the danger to the small inventor is concerned, so far as Congress is concerned, I do not see how Congress can pass any act preventing what some gentleman called patent stealing which happens very little, in my practice of fifty-odd years, very little of it has happened.

But today the inventor has the right to proceed against somebody who appropriates his invention before he ever files a patent application. Of course, that costs money. He has that right. That is generally covered by State court decisions, because it is an action in the State court, although where there is diversity of citizenship it will be in the Federal court. But again it may be a quasi-contract, and again covered by State decisions.

That is generally what I had in mind in taking notes on this meeting.

Senator O'MAHONEY. Are there any questions to be addressed to the witness?

Commissioner Watson, do you desire to make your statement this afternoon?

Mr. WATSON. I can probably finish it in half an hour.

Senator O'MAHONEY. Let us get off the record.

(Discussion off the record.)

Senator O'MAHONEY. On the record. Let us get the names of these people.

Mr. CAPLAN. Mr. Bailey, will you step forward, and Mr. Harris.

Senator O'MAHONEY. Give your names to the reporter so that we will have a record of them.

Mr. HARRIS. My name is Ray M. Harris, patent adviser, Office of the Secretary of Defense.

Mr. BAILEY. My name is Jennings Bailey, Jr., patent lawyer.

Mr. ROBERTSON. My name is Louis Robertson, patent lawyer.

Mr. CAPLAN. I might say for the record, Mr. Chairman, that Mr. Hoffman, of the Small Business Administration, asked me to announce that his Administration produces a product list circular of opportunities for small businesses which lists patents. He wanted that in the record.

Senator O'MAHONEY. If there is no objection we will have Commissioner Watson testify tomorrow morning at 10 o'clock. We will spend the rest of the afternoon with some of these gentlemen who have come forward, beginning with Mr. Robertson who has, I am sure, an interesting contribution to make.

STATEMENT OF LOUIS R. ROBERTSON, PATENT LAWYER OF CHICAGO

Mr. ROBERTSON. Thank you, sir. I might say first that I am here in a purely personal capacity. I represent no group. In fact, since I have mostly refrained from saying the things which were being said so well by my colleagues with whom I agree, it can be assumed that the things which I say now are things on which they are as likely to disagree as agree with me.

I want first to report on an effort made in 1945 to determine the underlying cause for the trend of the courts toward holding patents invalid. Letters of inquiry were written to all of the Federal judges by Mr. Robert C. Brown, a Chicago patent lawyer, as chairman of a committee of the Patent Law Association of Chicago.

Recently I have analyzed the replies which he received. Eliminating a number of the replies which, for one reason or another, gave no indication of the cause, merely attributed it to the Supreme Court and the other courts following the Supreme Court, there were 15 significant replies.

Of these 12 mentioned or expressly attributed the trend to something that might be classed as dissatisfaction with working of the patent system at that time.

This suggests the possibility that the best way to remedy a trend in the courts against patents is to make the patent system more popular.

There were three main groupings of the complaints that these judges made. They can be classified, perhaps, roughly as (1) abuses of the patent system, sometimes with specific reference to the TNEC, this report having followed that by a few years; (2) unreasonable withholding of inventions from use; and (3) that not enough of the benefit goes to inventors.

That ended the factual report.

I might say that it seems to me that the first item, the abuses have fairly well been taken care of by the activities and successes of the Department of Justice. There is some feeling that they have been too well taken care of, but at least if they have been too well taken care of the patent system has been scrubbed mighty clean.

The unreasonable withholding of inventions from use, I think all patent lawyers are thoroughly convinced is nonexistent, at least insofar as any important inventions are concerned. There is no shelving of a 50-mile-to-the-gallon carburetor. Stories of that kind have been going along so many years that any patents by now would have expired long ago, anyway. And still the miraculous carburetor does not appear.

That leaves us with the matter of relative benefit to the inventors.

Let me say at this point that in my opinion the patent system as it stands is a mighty fine thing for the country and for the inventors. Its chief faults are only two in character. One, the matter of too many patents being held invalid in recent years which has received so much attention here. And, two, the matter of expensiveness due to its complexity.

There is such a terrific amount of work involved not only in litigation, but also in Patent Office prosecution that it necessarily is expensive for inventors.

I think that anything that we can do to simplify either or both of those will make the patent system or help make it more popular and

will not only secure better justice for inventors due to enabling them more often to be able to afford the procedure, but will also secure better justice for the inventors and all assignees in the protection of their inventions by holding patents valid.

Let me make one other point clear in this connection, that there is no sharp conflict between the interests of the inventors and the interests of the public. In all questions where we sometimes loosely speak of that conflict, really the public interest is on both sides, because there is at least as much public interest in seeing that the inventor is adequately protected as there is in whittling down his protection. When we are too anxious to make sure he does not get too much, we may defeat the public interest in maintaining incentives, because he may not be adequately protected.

The utmost technological progress is far more important than any question of slight excesses of patent monopoly.

And in the case of borderline situations where it is doubtful whether a particular claim should be considered valid or not valid then the possibility of excess to the inventor is also borderline, that is, he at least comes to being entitled to all that he would be getting if the claim is held valid.

So if it is held valid or allowed when possibly it should not be, he is not getting much more than he is entitled to.

There is one other specific suggestion I have in connection with trying to get the courts to hold patents valid more readily and that is an amendment to the law which would to some extent reduce the technicalities of claim practice.

In the simplest form it would amount to a provision that merely because of imperfect claim draftsmanship no patent should be held invalid. The provision as to the scope or maximum scope of a patent being measured by its claims could stand as they are at present. And the main difference would be that the patentee would not have to have a large number of claims of intermediate scope to be protected in case broader claims were held invalid.

If the broader claims were too broad, the court would still be free to render justice according to whether an inventive concept disclosed in the patent was actually used by the defendant or not.

Senator O'MAHONEY. Is there complete agreement among the lawyers and the representatives of the Patent Office that a court or the Patent Office cannot grant a patent on a lesser degree than covered by the claim?

Mr. ROBERTSON. I think that there is fairly complete agreement that if a claim is so broadly worded that it fails to define invention over what was old that that claim is invalid and no relief can be granted under that claim.

There used to be a doctrine in the days when courts were favorable to patents that they would sometimes read into the claims limitations more or less taken from the specification, but that is largely disregarded now, in my opinion.

Perhaps some other lawyers here who have more experience with the courts will want to say something on that.

There are, of course, situations in which courts do have the courage to jump through the technicalities and hold the patent valid and infringed when people do not see quite how they did it according to the technical grounds.

Senator O'MAHONEY. In the paper that you are to submit I understand you are to submit a paper, I wish that you would go into that matter. And the same invitation is extended to others who would like to comment on it.

Mr. ROBERTSON. There is also a sort of separate subject matter of ways in which the functioning of the granting of the patents could be made simpler. Of course this one of making fewer claims necessary is one simplification, but there are quite a few others which I have also notes for, but I think it would be too long to give those at this time; at least, until others have spoken.

Senator O'MAHONEY. It would be a rather difficult thing, would it not, to attain that latter objective of making fewer claims necessary?

Mr. ROBERTSON. I do not believe it would be very difficult. I think the greatest difficulty would be getting the bar associations to accept that. We are so accustomed to the present system. Under present law, numerous claims are often necessary merely to have a gradation of scope. If a patent had only one broad claim and one very specific claim a copier might defeat justice if he can find some prior act to show the broad claim is too broad and invalid, and design his product to omit some detail of the very specific claim. If Congress once passed a law that validity and infringement could be found anywhere within the scope of the broadest claim, or modified that to anywhere within the scope of the claim, if the invention was reasonably apparent from the claim as a whole, or anything that you want to put on that, then there would be no need for the intermediate claims.

And the time and the work of the Patent Office would be somewhat reduced; not tremendously, because the greatest struggle is over the broadest claims.

Senator O'MAHONEY. There would be no dispute, would there, that the claim which is obviously too broad should be rejected?

Mr. ROBERTSON. That particular claim should be rejected. And if it slips through, as it often is bound to, then that claim should be held invalid, but the court should nevertheless under the proposal find that there is invention within the patent which is used by the defendant.

Senator O'MAHONEY. And how would you define the scope of such a limited patent in the law? I am thinking now of writing a law. How would you define that?

Mr. ROBERTSON. I think that it could be defined. Of course, let me make this statement first. The widest scope of the patent would be determined as now by the broadest claims. Within that the scope of what is valid and infringed in a particular instance would be evident from the decision where that question was developed, that if the court found that the inventive concept disclosed had been used, then that would indicate the validity of that scope of the patent.

There is also a possibility of authorizing the court to do as the trademark law authorizes the courts in trademark cases to do, namely, to rectify the register, as the trademark law says.

Senator O'MAHONEY. All suggestions of this kind must be carefully drafted, because a vague law does more harm than good.

Mr. ROBERTSON. Correct. And I think that the ideal method of draftsmanship would include considerable work by the bar associations in trying to perfect it, if the committee is inclined in that direction.

Senator O'MAHONEY. The committee by inviting all of the lawyers it could lay its hands on to come here shows its willingness to listen to them, at least.

Mr. ROBERTSON. That is correct. I feel sure that all of the lawyers present are deeply appreciative of the attention that you have given to the problems of the patent system at this meeting.

Mr. CAPLAN. We were interested in the statistics that had been gathered that you mentioned earlier in your presentation, Mr. Robertson. Do you have any further comment on that feature of your recent presentation?

Mr. ROBERTSON. There could be a little bit of a breakdown as to what some of the things that were mentioned were as abuses, but I think that they are well enough known, so that it would not particularly add.

As far as you could tell, most of them were of the TNEC variety, which I think have largely been overcome.

Mr. CAPLAN. What is your own experience? Is it your own feeling that the abuses to which patents have been in the past the subject, affects the feeling of the courts in holding patents invalid?

Mr. ROBERTSON. Yes. I have felt that that was a very strong influence at the time. Those abuses had been getting particularly heavy public attention during, at least, the early part—maybe not the very beginning, but the early part of the court trend that we are speaking of.

And even that first Carbice case that Judge Hand mentioned, I think was a situation where the practices there involved were of a type which have now been considered abuses, although at that time they had not been so identified.

Mr. CAPLAN. As the result of the publicity given to antitrust abuses of patents in the TNEC and the Antitrust Division of the Department of Justice rather vigorous enforcement of the antitrust laws in the patent field, there has been an improvement in the antitrust position, and yet the tendency of the courts has not changed. How do you explain that?

Mr. ROBERTSON. The lower courts, of course, still feel bound by the Supreme Court. And the Supreme Court has not had very much chance to show what its current view is.

I suspect that the Justices quite likely have not realized the extent to which the patent system has been cleaned up. There are articles pointing it out.

The Attorney General's committee seems to show some indication that maybe the cleaning up has gone a little too far.

It seems to me that the Supreme Court can quite possibly be expected or, at least, hoped that it will now be more favorable toward patents.

Mr. CAPLAN. Quite apart from your own personal views which we were soliciting previously, do you think there is a general recognition by the bar that there is a connection between the holding of invalidity and the antitrust features of the patent law?

Mr. ROBERTSON. I really do not know how much of a general recognition there is that there is a connection. I think it is quite obvious from Rich's statement yesterday (that the patent system was benefited by the work which Thurman Arnold did, whether or not Thurman Arnold intended his work to benefit the patent system). That there are some who recognize that factor may be important in getting the patents upheld.

It is sort of unfortunate that the abuses of the patent system cannot be pointed out severely enough to get correction in them without at the same time getting the judicial part of the public and perhaps other parts of the public a little annoyed with the patent system until the correction is made.

Senator O'MAHONEY. Are there any other questions? If not, thank you very much.

Mrs. NELL F. STEPHENS. Mr. Chairman, I will submit my statement in writing to the committee for further reference.

Senator O'MAHONEY. Thank you.

We will next hear from Mr. Harris.

STATEMENT OF RAY M. HARRIS, CHIEF, PATENT BRANCH, OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE

Mr. HARRIS. Mr. Chairman, my name is Ray M. Harris, patent adviser, Office of the Assistant Secretary of Defense for Supply and Logistics.

The suggestion that I would like to make is not with respect to the patent system as such, but is supplementary to the patent system. Specifically, I am speaking about the Inventions Awards Board which has been covered by a bill in the House, H. R. 2383. It was passed by the House and is now referred to the Senate Judiciary Committee.

I feel that this bill, or a bill of this kind—not necessarily the bill passed by the House—would provide a measure of relief to part of the problem we have heard discussed at these hearings yesterday and today, especially with reference to the problem of the compensation and rewards for the small inventor or the individual inventor.

We have heard the various problems that he has about getting a patent, the cost of getting a patent, the fact that a great many patents that are issued are invalid for reasons beyond the control of the Patent Office.

Then the difficulty of litigation to enforce those patent rights.

The Department of Defense is probably one of the largest consumers in the country and is probably one of the largest users of patents. So patent owners have their troubles obtaining rewards from the Department of Defense.

We, of course, realize that the Department of Defense is part of the Government and is subject to the patent laws under the act of 1910, as amended, but we have this problem. We are a Government of laws. And in the Department of Defense we try to observe the law so that we will only pay the inventor under a valid patent which is infringed.

If the inventor has a patent which we believe is invalid, or if there is some doubt about the infringement, or if he does not have a patent at all and has merely submitted an idea, then we are at a loss to be able to pay him.

So the problem is to provide some kind of relief.

Since it is said we are a Government of laws, we can only make payments under a law that authorizes us to do so. We cannot just go around handing out awards unless there is a law authorizing it.

This bill would set up a board with authority to make such payments.

I suspect that most of the patent attorneys in the room are familiar with the bill, so I will not go into the details of the bill at the present time.

I would like to put it in this perspective: That the bill as I see it is to the patent system like equity was to the common law back at the time when equity first came into our jurisprudence. It goes beyond the law. It is not a substitute for the law, but it provides new remedies for new situations.

There has been a great deal of opposition to this bill among the patent bar. That is one of the reasons why I would like to talk about it today, to understand that opposition.

As far as I have been able to understand the opposition, it has centered largely on the point that this bill is a substitute for the patent system. It is no such thing. It does not in any place say that it will be in lieu of patents. It is an additional remedy to the patent system.

I have never understood why a lawyer would object to having two remedies instead of one. And that is what this bill would provide.

There has been a considerable amount of opposition to the bill based on the fact that it is considered to be a Russian system of paying awards. Those who make this objection also say that the Russians are ahead of us in scientific development. I wish they would get consistent.

This system has a precedent. I do not know about the Russian system. I do not admit the truth of that or deny its falsity. I do know that the English have an award system which the bill does pattern after, and I think that is a better precedent to look to. Those who are familiar with the English system believe that it has provided a great deal of value to their Government and to their inventing public.

Senator O'MAHONEY. This bill has already passed the House, as I understand it.

Mr. HARRIS. Yes, sir.

Senator O'MAHONEY. It has come to the Senate. That being the case, it has been referred to the Judiciary Committee, and by the chairman of the committee would be referred to the Standing Committee on Patents. It has not been brought to my attention as yet. We would have to have a hearing upon this bill. Not having read it, I am not in a position to question you at all about it, except that I am interested in having your statement as to what sort of standards it sets up to guide the Department of Defense in the making of the awards.

Mr. HARRIS. It provides that the contribution shall be an inventive contribution. The latest draft of the bill as passed by the House defines an inventive contribution to be any contribution of a process, machine, manufacture, or composition of matter in the fields contemplated by the patent law or of an improvement in idea for or for the use of such a process, machine, manufacture, or composition of matter, whether or not patented, unpatented, or unpatentable, and whether or not original to the contributor, new, or amounting to invention which is used in the national defense of the United States as a result of communication by the contributor and which is not subject to the provisions of the Atomic Energy Act.

Senator O'MAHONEY. This is an award and not a grant of monopoly?

Mr. HARRIS. Yes, sir.

Senator O'MAHONEY. It makes no attempt to protect the individual who receives the award against the use of his idea by any competitor?

Mr. HARRIS. No, sir; it only provides rewards to the inventor where he cannot get them by the patent system.

Mr. WATSON. Does it involve a determination of novelty?

Mr. HARRIS. I do not believe so, not by this standard that I just read. However, I think that would be taken into consideration by the board or whatever agency there was that made the award. Certainly, a novel idea would receive more remuneration than one that was not.

Mr. WATSON. The bill contemplates the grant of sums to somebody who makes no novel suggestion?

Mr. HARRIS. The suggested idea must have been used. I think that is the important thing. The suggestion must be the proximate cause of use by the Department of Defense.

Mr. WATSON. Who determines the question of invention?

Mr. HARRIS. That is not involved. Again, it would be an element to be considered in the amount of the award.

Mr. WATSON. I thought that you said it had to be an inventive contribution.

Mr. HARRIS. The use of the word "inventive," I think, is to make it parallel the subject matter for which you can get a patent, if it is patentable.

Senator O'MAHONEY. The award may be given even though the idea may be unpatentable?

Mr. HARRIS. Right, sir. However, it is meant to exclude suggestions to write on both sides of the paper and thereby save paper—that kind of a suggestion would not be appropriate or be considered, because that would not be inventive.

Mr. CAPLAN. Does the bill contain a definition of the word "inventive"?

Mr. HARRIS. Yes; I read it.

Senator O'MAHONEY. It would seem to me, Mr. Harris, that it is a little bit irrelevant to the study that we are making now of the patent situation.

Mr. HARRIS. That is granted.

Senator O'MAHONEY. I appreciate the fact that you have sought an opportunity to speak about it, because by so doing you are calling it to the attention not only of the chairman of the Patent Subcommittee, but also of those interested in inventions who have gathered here, but I think this is not the time for us to question you about it. You will get that opportunity later when we devote our attention to that particular bill.

Mr. HARRIS. Thank you, sir. I felt that it did have this much that was apropos to this meeting, that it does show there are other things that can be done about some of your problems than just to work on the patent system.

Senator O'MAHONEY. We have had some suggestions in the way of bills to award individuals for contributions they claim to have made to the Department of Defense, contributions by way of a reasonable facsimile of an invention, and though the contribution has been used, they have received no recognition whatsoever, and we have been asked by special bills to pay awards in such cases.

So we will have a lot to talk about when the time comes.

Mr. HARRIS. Thank you, sir.

Senator O'MAHONEY. We will next hear from Mr. Bailey.

STATEMENT OF JENNINGS BAILEY, JR., PATENT ATTORNEY, WASHINGTON, D. C.

Mr. BAILEY. My name is Jennings Bailey, Jr. I am a patent lawyer practicing in Washington, D. C.

I was asked by Mr. Martin, who is chairman of the section of patents, trademarks, and copyright law of the American Bar Association, to appear. He regretfully was unable to be here before you.

I was chairman of the section about 4 years ago.

I understood that you wished the record to show the general procedure of the patent section in acting on matters, and that is the purpose of my being here now.

Our section consists of something over 1,500 members, all of them being members of the American Bar Association, and most of whom are vitally active in either patents, trademarks, or copyrights.

We meet once a year at the time of the annual meeting of the American Bar Association. At that time our attendance varies. I would say in general it runs from 100 to 250 members.

The work of the section, the preliminary work, as is usual is almost done entirely by committees who prepare written reports and resolutions and submit them to the meeting of the section.

The resolutions are presented and voted on at the section meetings.

Now everyone who is present has a right to speak his mind. It is true that we have a 5-minute limit for debate on each motion by one member, but ordinarily if a man has something to say he can get that time extended by unanimous consent.

Assuming that the motion is properly brought before the section it is ordinarily quite actively debated, if there is any difference of opinion on it.

And sometimes these matters are debated over a period of a good many years. For example, the Lanham Trademark Act, the Patent Act of 1952, were before the section for quite some time and, in fact, we had a special 3-day midwinter meeting to discuss the new Patent Act in detail.

Then this proposition of a single court of patent appeals has been discussed very fully at various times in the past.

The definition of infringement that appears in the new Patent Act was discussed at some length, and suggestions of changes in language are made as well as changes in principle.

Assuming that the section adopts a resolution, that resolution is, ordinarily an approval or disapproval of a certain principle, together with in many instances approval of specific language.

The reason for the approval in principle is that if only specific language is approved, and our chairman of a committee on legislation or our second chairman is appearing before a congressional committee and one word is changed in a bill, he could not say it is approved. So, we have it approved in principle ordinarily, so that if he thinks the changed language still embodies the principle he can speak for the American Bar Association on that point.

I say, speak for the American Bar Association because until we have approval of the house of delegates of the American Bar Association any action taken by the section of patents, trademarks, and copyright law is wholly unofficial.

In other words, the action of that section is no more binding than the action of a committee of Congress is law. It has to go before the house of delegates and be approved by them.

We do have a provision for emergency action. If we have passed action of the section, and some matter comes up which has not been to the house of delegates and they are not in session, we can ask approval by the board of governors of the American Bar Association and its action is the action of the association and is official.

Likewise, if matters come up between section meetings which have not been acted on by the section, the council of the section may be consulted and it may take action on behalf of the section, but it cannot take action contrary to any outstanding action of the section.

We have a very firm policy in the section. It is not a rule, but it is a firm policy that a man acts as chairman for 1 year, and then gives up that office and somebody else takes over. In other words, we do not have a chairman sitting for 2, 3, 5, or 10 years. So that we have a constant turnover in the makeup of the governing body of the section.

That, I believe, Senator, about covers the question of how we act and how we can appear before your committee on any question that comes up and advise you of the position of the American Bar Association on it.

Senator O'MAHONEY. Well, your recommendations then when approved by the house of delegates are the recommendations of the American Bar Association?

Mr. BAILEY. Definitely.

Senator O'MAHONEY. And they are developed through the interchange of opinion by those who are members of the patent, copyright, and trade-mark section and those other members of the bar association who desire to appear?

Mr. BAILEY. Yes, Senator. And I might say that they also developed to some degree through cooperation with other sections.

For example, the International Copyright Convention had to be approved by the section of international comparative law, or, at least, it was submitted for their approval. They did approve it.

Senator O'MAHONEY. But it is the contribution of the bar association and its members. And, for example, the George Washington University and its foundation, in dealing with this subject, there an effort is made to acquire knowledge and information from all segments of the public who may be affected by the law. The bar association does not do that.

Mr. BAILEY. Well, except insofar as our committees may investigate and make recommendations. One example I can think of offhand is that we had a committee which did a great deal of work in developing the techniques that were used by corporations where ideas were submitted to them. And in developing the techniques of the rewards to employed inventors—matters like that are often investigated by our committees.

Senator O'MAHONEY. And such an investigation is carried on in what manner?

Mr. BAILEY. Merely that the members of the committee ordinarily write to persons whom they know in different corporations and ask for their help as to the practice of those corporations.

Senator O'MAHONEY. To use Judge Hand's language, you have no claws in doing this?

Mr. BAILEY. No, sir, none whatsoever, but we very seldom run into any trouble in getting what we want to know.

Senator O'MAHONEY. Now, I would not think that you would. Well, thank you very much, sir; I appreciate your statement.

Is there any other contribution this evening?

Mr. Biebel.

Mr. BIEBEL. If I could make a similar statement as to the way in which the American Patent Law Association arrives at its results, I would appreciate it.

Senator O'MAHONEY. Yes, of course.

Mr. BIEBEL. We have an analogous but somewhat different procedure. We too start with committees. We have a membership of about 1,600 patent lawyers across the country.

They are organized into approximately 18 to 20 different committees. The number which varies up to 30 or 40, making a total, I think, of over 300 members on our committees. The work begins there.

There is a board of managers which acts for the association. It is composed of 4 members elected each year for a 3-year term, so that in that way we get a continuity plus a change as we go along.

We have a president, a president-elect, a first vice president and a second vice president. And it has been the custom for some years past to progress, so that anyone starting in as second vice president goes up through 3 years as an officer, moving up 1 step each year, and in that way acquires some familiarity with the work of the organization.

We have a bulletin which we publish monthly. The last issue was September 1955. It has about 50 pages. In that way we keep our members quite well advised of all of the things that we think are pertinent and that are happening in the patent field.

We have three major meetings a year.

Senator O'MAHONEY. Will you furnish a copy of that bulletin to the Patent Subcommittee of the Senate Judiciary Committee?

Mr. BIEBEL. We shall certainly be very happy to do so.

Senator O'MAHONEY. Without subscription? [Laughter.]

Mr. BIEBEL. Yes, sir. I will assume that personally and see that that is done.

Senator O'MAHONEY. Thank you very much.

Mr. BIEBEL. As I said, we have three major meetings of the association a year. It has been the practice to hold 2 of them in Washington and 1 outside of Washington. This last year the outside meeting was held in New York City and in collaboration with the New York patent bar.

This coming year it will be held in Cleveland in cooperation with the Cleveland patent bar.

We also prepare and send out a series of questions or referendums on various matters that we want to get a sampling of the entire membership on. The last one that we sent out had to do with the Patent Office fees. That came back and the results of that are available and

at the proper time, if you wish, I will be very glad to see that the information as to the returns on that referendum are made available to the committee.

Senator O'MAHONEY. Yes, indeed, we would be very glad to have that.

Have you any comments, Mr. Caplan?

Mr. CAPLAN. I wonder if it would be possible in the deliberations of the committee on other matters to circularize the members of the association in a referendum?

Mr. BIEBEL. I do not know exactly what you have in mind, Mr. Caplan, but I assure you that we will try to be as fully cooperative as we can. We have an executive secretary here in Washington. I think that you should feel free to call upon me or the other officers or upon the executive secretary, and we will certainly try to cooperate with you in everyway we can.

Mr. CAPLAN. Thank you.

Senator O'MAHONEY. Thank you very much, Mr. Biebel.

Mr. Ballard of the National Association of Manufacturers had to leave, and he requested permission to file a written statement of the methods employed by the National Manufacturers Association. That was granted.

Congressman Lanham seems to have left the room, but Mr. Brennen is here. Do you care to make any statement on behalf of the National Patent Council, or would you prefer to have a written statement filed?

Mr. BRENNEN. I will submit a written statement, but in line with what has just been said, I would like to make a short statement.

On minor clear cut issues our board of directors is empowered to act. On more controversial issues we like to get the opinion of our membership.

We have found since we have a very diversified manufacturing and inventor membership that the only way that we can really reach a decision is to circularize them. We have done this many times in the last few years as issues came up.

We do not even cut it at a 50–50 vote. We would like to see a large majority of our membership on one side or the other. And on several occasions our association has backed off from questions, because we could not see an overwhelming preference in our organization. That is basically the way we handle it.

Senator O'MAHONEY. How does one qualify to be a member of the National Patent Council?

Mr. BRENNEN. Well, qualification would be a company that had an interest in membership.

We also have an associated membership of patent attorneys throughout the country who are also interested in patents, but basically it is a company that would have an interest in patents which I assume would be almost any manufacturing organization in the country.

Senator O'MAHONEY. Well, when a decision is reached by a majority does the minority receive notice of that?

Mr. BRENNEN. Yes.

Senator O'MAHONEY. And is an opportunity extended to the minority to express its views?

Mr. BRENNEN. The minority has already expressed its views at the time.

Senator O'MAHONEY. I mean in the publication of the views of the council. In other words, do you say, "This is what the council believes, because the majority voted thus and so, but there is a minority which holds this other belief"?

Mr. BRENNEN. I do not know whether I have ever seen that or not. I assume we would if it was a large enough minority, yes.

Senator O'MAHONEY. You know how a committee of Congress works. If the committee is not unanimous, the majority can control and make the recommendation, but the report filed with either the Senate or the House will be accompanied by the minority views, if the minority desires to express them.

Mr. BRENNEN. Yes.

(The following were subsequently received and ordered printed in the record at this point by the chairman.)

RESEARCH CORP.

405 Lexington Avenue, New York, N. Y.

Research Corp. is an independent nonprofit corporation, established on February 16, 1912, under the laws of the State of New York, to receive and administer the gift from Dr. Frederick G. Cottrell of his patent rights in the field of electrical precipitation, to aid and encourage technical and scientific research, and to afford a means of introducing inventions into public use by taking out patents on them, licensing or otherwise developing them, and devoting the proceeds to the support and advancement of scientific investigation in scientific and educational institutions.

According to its certificate of incorporation, the corporation was formed:

"To receive by gift, and to acquire by purchase or otherwise, inventions, patent rights, and letters patent either of the United States or foreign countries, and to hold, manage, use, develop, manufacture, install, and operate the same, and to conduct commercial operations under or in connection with the development of such inventions, patent rights, and letters patent and to sell, license, or otherwise dispose of the same, and to collect royalties thereon, and to experiment with and test the validity and value thereof, and to render the same more available and effective in the useful arts and manufactures and for scientific purposes and otherwise;

"To provide means for the advancement and extension of technical and scientific investigation, research, and experimentation by contributing the net earnings of the corporation, over and above such sum or sums as may be reserved or retained and held as an endowment fund or working capital, and also such other moneys and property belonging to the corporation as the board of directors shall from time to time deem proper, to the Smithsonian Institution and such other scientific and educational institutions and societies as the board of directors may from time to time select in order to enable such institutions and societies to conduct such investigation, research, and experimentation; and

"To receive, hold, and manage, and dispose of such other moneys and property, including the stock of this and of any other corporation, as may from time to time be given to or acquired by this corporation in the furtherance of its corporate purposes, and to apply the same and the proceeds or income thereof, to the objects specified in the preceding paragraph."

The control and management of the affairs and properties of the corporation are vested in a board of 15 directors, serving for terms of 3 years, 5 to be elected each year.

The officers of the corporation are elected annually by the board of directors and consist of a president, a chairman of the board, a vice president, a treasurer, and a secretary, all of whom shall be members of the board of directors except that the president and the secretary may or may not be members of the board. The president is the chief executive officer of the corporation and has general control and direction of its business and affairs.

The corporation is financed by profits received from its former precipitation division, a wholly owned subsidiary incorporated as Research-Cottrell, Inc., by royalties obtained through the introduction of patents into use by licensing, and by the income received from investments.

Through patent development agreements entered into with 60 colleges and universities, directly or through their affiliated research and patent management organizations, and with 17 other nonprofit organizations, the corporation acts as patent-management agent and handles patentable discoveries and inventions in their behalf, as well as in the interest of inventors among their faculties and staff. (Nonprofit Research and Patent Management Organization, by Archie M. Palmer (1955), pp. 99–101.)

NATIONAL ASSOCIATION OF MANUFACTURERS,
New York, N. Y., October 13, 1955.

Hon. JOSEPH C. O'MAHONEY,
Senate Office Building, Washington, D. C.

DEAR SENATOR: This is to answer your inquiry at the Tuesday session (October 11) of the subcommittee studying the patent system as to the manner in which the position of associations there, represented, is determined; and is now given in writing in accordance with your consent given in the late afternoon of that session.

PATENT SYSTEM STUDY

The policy of the National Association of Manufacturers is fixed by its board of directors, a body of representatives from about 170 manufacturers so distributed as to represent the entire country and the entire range in size of company membership.

The association's policy consists, at any time, of the policy positions on various subjects as determined by the board. These positions are statements of principles of greater or less breadth, rather than the expression of views on details such, for example, as specific bills pending in Congress.

Positions are adopted by the board only after a study of the subjects has been made by the appropriate committee of the association.

In patents matters, the patent committee, of about 205 members, makes the study. Any given subject in this field is first referred to a subcommittee for study, after which the subcommittee sets up a statement of the view it believes should be adopted. The subcommittee recommendations go to the main committee at its next meeting, but immediately before such meeting the recommendations are reviewed by a program committee which may make suggestions as to form or as to ripeness of time-taking action.

Positions thus proposed to the main committee may be tabled or revised by it, and when approved, are passed on to the board of directors with recommendations for adoption. The board itself may, and often does, amend the recommended positions.

Membership of committees and subcommittees is voluntary; that is the members of the association themselves select the committees on which they wish to serve. The positions adopted and in force at any time are published in a pamphlet which is available to anyone interested.

Sincerely yours,

WILLIAM R. BALLARD,
Adviser, Committee on Patents.

Senator O'MAHONEY. That was what was in my mind. We will appreciate having a written statement from you and anybody else that desires to do so. Is there anybody else that desires to speak tonight?

Mr. MAYERS. I should like to.

Senator O'MAHONEY. I saw your name here and I was looking around for you.

STATEMENT OF HARRY R. MAYERS, GENERAL PATENT COUNSEL OF THE GENERAL ELECTRIC CO.

Mr. MAYERS. My name is Harry R. Mayers. I am general patent counsel of the General Electric Co. I have a very short statement, because as this hearing has proceeded, the number of things which I might say without being seriously repetitive has dwindled, but I have

one line of thought with respect to the administration of the patent system that perhaps might have a kernel of useful information in it.

I know that almost everyone who has spoken here has been concerned about the long pendency of patent applications in the Patent Office. I am sure that the difficulties which this occasions for the applicant for the patent have been fully stated and explored.

I want to comment on one other viewpoint attaching long pendency of patents which I imagine has also been somewhat mentioned, but which deserves further emphasis. That is the difficulty which this pendency occasions for the manufacturer who wishes to begin the manufacture of a new product and who does so today at considerable peril of finding that after the manufacture has begun he will be confronted with the last minute or even later issuance of a patent which will occasion him embarrassment.

I can mention a specific example which illustrates the nature of the problem involved, in that the company which I represent has recently placed on the market a new household appliance which required the investment of several million dollars in equipment for its production.

About a month after the first item was put on the market, advice was received from a competitive concern of the very recent issuance to them of a patent which was alleged by that concern to be infringed. The examination of the patent shows that it had been in fact pending approximately 4 years, which is not an extraordinarily long time as things go today, but is the kind of long time which creates the problem I am talking about.

The existence of this kind of situation is in a sense inherent in the operation of our patent system almost under any circumstances; that is, there is going to be some period during which patents will be pending whose existence cannot be known to the manufacturer desiring to undertake the manufacture of a new product. The difficulty can be diminished, however, in direct proportion to any diminution that can be accomplished in the length of pendency of applications in the Patent Office. And it is of course this consideration which adds to what has been stated in favor of doing everything possible to find ways and means to cut down the length of pendency.

I have no imaginative suggestion as to how this could be accomplished, other than the very obvious one which I know has been stated of giving the Patent Office the additional personnel and help which are clearly needed to bring down the backlog and to reduce the time of pendency of the average application.

There are however two sides, obviously, to the long pendency of applications. One is the time required for the Patent Office to do its part of the job. The other is the time required by the applicant to do his part of the job.

At this time, while the Patent Office is in its present condition, I doubt that it would be helpful to the Patent Office to urge that the time allowed the applicant for responding to an action of the Patent Office be shortened. To do so would probably only increase the amount of work piling in on the Patent Office examiner.

I do have this thought for the committee's consideration however, that if the work of the Patent Office can be brought reasonably under control, I doubt if there would be serious opposition to a proposal still further to shorten the time of response allowed the applicant. The

time now is set in the typical case, subject to some exceptions, at 6 months. I should think that a shortening of that period to 4 months might be a very reasonable thing to be considered at an appropriate time.

That is all.

Mr. CAPLAN. One of the recommendations of the TNEC with which you are probably familiar was the adoption of the 20-year bill which would make the patent expire 20 years after the date of application or 17 years from the date of issuance, whichever was sooner.

There seemed to be, with certain amendments to the wording of that bill which took place, rather universal agreement at the time it was proposed before the war, and then the concern of Congress with the war prevented further action on the bill.

Do you have any comments as to a 20-year bill as modified to spur the inventor to get his application through the Patent Office as soon as possible?

Mr. MAYERS. Well, I suspect the answer to that again ties in with the condition of the Patent Office itself. I doubt if there would be any serious opposition to such a proposal—any opposition on a wide basis.

Broadly stated, it seems to me sound.

My understanding of it, however, is that it has been felt that as long as a very substantial portion of the 20 years is necessarily used up in the Patent Office, it might be unfair to put such a measure into effect at this time.

Mr. CAPLAN. I believe the amendments that were made to it took care of that situation, that the delays inherent in the backlog in the Patent Office would be considered in extending the 20-year period.

Mr. Federico probably has more detailed knowledge of that than I do.

Mr. FEDERICO. The last bill that was considered by a congressional committee had a provision in it that the time consumed by the Patent Office would not be included in measuring the 20 years, so that the delay in the Patent Office would have no effect whatever on that.

Mr. MAYERS. Addressing myself to a bill having that feature, I would doubt that there is any sound basis for opposing the 20-year proposal.

Senator O'MAHONEY. The Chair has just received a summons from his office, so that I shall not now invite any other contribution at this late hour. I shall content myself to announce that tomorrow morning, Commissioner Watson will open with his statement at 10 o'clock. Those of you who have not as yet made statements shall be prepared to follow Commissioner Watson.

I feel that this has been a very productive 2 days. I hope that those of you who have spoken, and those of you who have accepted our invitation—and that invitation goes to all—to submit their papers will include in those papers what you conceive to be the points of importance which have been developed by the discussion.

In that connection I think it only proper that I should announce that the efficient reporters who take the notes of these meetings have copies of the transcript which are available to all who wish to pay for them.

By communicating with the reporters, anybody who desires to have a typewritten record of these hearings before they are printed by the committee—and I might say edited by the contributors or others—can do so. I think it would be advantageous to you and it would help you to prepare your papers.

The committee will now stand in recess until 10 o'clock tomorrow morning.

(Whereupon at 4:50 p. m., the subcommittee recessed, to reconvene at 10 a. m. the following day, Wednesday, October 12, 1955.)

AMERICAN PATENT SYSTEM

WEDNESDAY, OCTOBER 12, 1955

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

The subcommittee met, pursuant to recess, at 10:20 a. m., in room 318, Senate Office Building, Senator Joseph C. O'Mahoney (chairman of the subcommittee) presiding.

Present: Senator O'Mahoney.

Also present: Robert C. Watson, Commissioner, and P. J. Federico, Examiner in Chief, United States Patent Office; Julian Caplan, counsel; John Stedman, associate counsel; and Robert Kilgore, staff member, Judiciary Committee.

Senator O'MAHONEY. Good morning. I hope that everybody has had a pleasant evening, and that we are all ready to move rapidly on to the conclusion of this preliminary part of our hearings.

I hope it is understood by everybody that this is only a preliminary session, that is, these 3 days. They were intended for the purpose of making a record from which the members of the committee, the full Committee on the Judiciary, as well as the subcommittee, could draw suggestions for the nature of the study which should be carried on.

Speaking for myself and the staff, I can already say that these sessions these last 2 days have been very productive. Many good suggestions have been made to us. We have many leads for further study, and we propose, of course, to go into executive session to analyze the material which has been presented, and out of that to come possibly the agenda for investigation and future study.

I want everybody who has not had an opportunity as yet to speak to know that these 3 days have not been intended particularly to deal with individual cases. There are, of course, many instances which have been brought to our attention in which individuals feel that their patents were not properly handled in the Patent Office, that dealers, corporations, and others have not justly handled their cases, and all of that. It is obviously impossible for us to deal with such matters at a session like this.

It is necessary, in the first instance, to make an investigation. So if there are any such here, and we have heard the names of several, I want you to give your names to Mr. Caplan, the staff director, and the staff of this committee will check into all such cases to see what can be done.

Our effort has been to make this a full and free discussion of the situation, hoping that it may lead to the development of facts which all can see and which will persuade all of the necessity of cooperation.

We were very happy yesterday to have the testimony of Admiral Colclough of George Washington University, who is heading a private financially supported study of the entire patent system in an effort to get the facts to determine to what extent the system has been successful on the whole.

Judge Hand, as you will recall, testified yesterday that we have a great mass of opinion as to whether or not the patent system is good, but he complained that not many facts have been presented to the courts.

We will ask Commissioner Watson this morning whether facts have been presented to the Patent Office to show whether or not the system itself has been productive of good in the promotion of the arts and sciences. I have my own feeling that it has been successful, but after all, we want the facts.

The testimony of Admiral Colclough suggested to me that perhaps with the Patent Office, George Washington University, and other universities which are engaged in the study of this problem, and research laboratories, and the committee, we may be able to work out, perhaps, together with these various patent law associations, and the National Patent Council, such as you represent, Congressman Lanham, what in the international field is called a treaty of nonaggression, to see if we cannot get together and work out a common basis of facts from which we can build for a bigger and better development of American genius in the production of inventions and discoveries which do promote the standards of living in the United States, and eventually in the world.

Commissioner Watson, we are ready to hear from you.

STATEMENT OF HON. ROBERT C. WATSON, COMMISSIONER OF PATENTS, UNITED STATES PATENT OFFICE, WASHINGTON, D. C.

Mr. WATSON. Thank you, Mr. Chairman, and ladies and gentlemen. I have the kind permission of the chairman to mention something which I should have mentioned on Monday when the committee was discussing the probabilities or possibilities that the individual inventor may have outlived his usefulness and had no more function to play in the invention scheme of the country, that larger corporations had taken it over.

As some of you know we have been holding, at 3- or 4-month intervals, exhibits in the lobby of the Department of Commerce, specifically intended to show how the little acorn has matured into the great oak, with the help of the patent system. Some of those exhibits have demonstrated, in my opinion, in a very impressive manner the fact that in the past, at least, the individual inventor has been most effective in establishing the initial invention, creating the inventive thought which has been backed by capital and has brought about the creation of the great corporations.

It has been the habit of those exhibiting at those periodic exhibits to print leaflets acknowledging the fact that their origin was of that character. I have in my hand, for instance, copies of a few of the leaflets which are distributed freely to the public, and the names of those various exhibitors at those times. We have many more, which I would like very much to place in the record.

Senator O'MAHONEY. Very well.

(Two of these exhibits are as follows:)

VISION—THE DU MONT DIMENSION IN ELECTRONICS

Eight short years in our industrial history have seen the birth of a new age—the "telectronic age." In that time vision has been brought to the electronic art and vision has been added to broadcast reception in 32 million homes throughout the country. In 1946 there was no television industry. Today it provides employment to hundreds of thousands of our citizens. It provides entertainment, education, and information to millions. It is pointing the way to more efficient, lower cost industrial operations.

IMPORTANCE OF PATENTS

How did it come about? What was the background that brought this scientific marvel to the homes of America? Dr. Allen B. Du Mont, television pioneer and president of Allen B. Du Mont Laboratories, Inc., has stated, "The protection afforded by our United States patent system supplies essential incentives to industrial, scientific, and economic progress."

There is little question that our country's leadership in standards of living, modern conveniences, and in industrial progress are all directly traceable to the potential for reward inherent in new developments under the United States patent system.

HISTORIC TELEVISION DEVELOPMENTS

The bringing of vision to the art of electronics is the result of development and discoveries by many men—dating as far back as 1880. The first television patent was filed in that year in England. Although not practical for actual use, that system was the forerunner of the thousands of patents that have refined and developed the electronic art to the point that pictures or data can now be broadcast and reproduced in detail on the face of a cathode-ray tube (television picture tube).

CATHODE-RAY TUBE—HEART OF TELEVISION

Probably the most significant achievement in the field of vision and electronics was the successful development in 1931 of a commercially practical cathode-ray tube by Dr. Allen B. Du Mont in his basement laboratory in Upper Montclair, N. J. This achievement opened the way for all-electronic television as we know it today, for the cathode-ray tube is the heart of television.

THE TELECTRONIC AGE

But that astonishing electronic device, the cathode-ray tube, has many, many other vital uses in addition to its presentation of television pictures. It is the indicating device in the cathode-ray oscillograph, a precise measuring instrument used extensively by science and industry. It is the screen for the presentation of information on radar apparatus. Television is now used in a variety of industrial, medical, and scientific applications. From Du Mont's first commercially practical cathode-ray tube in 1931 has come this entire era of vision combined with electronics to produce "the telectronic age."

THE DU MONT EXHIBIT AT THE DEPARTMENT OF COMMERCE, WASHINGTON, D. C.

Allen B. Du Mont Laboratories had its beginning in Dr. Du Mont's laboratory in 1931 when he first developed a practical cathode-ray tube. Through constant research and development in visual electronics, it now operates in every phase of television. The company is a leader in the manufacture of television picture tubes, special cathode-ray tnbes, cathode-ray oscillographs, radar equipment, television-broadcast equipment, television receivers, multiplier-phototubes, and mobile radio equipment. In addition it operates three television stations and the Du Mont Television Network. The company employs more than 5,000 people, and occupies 6 large plants in northern New Jersey, plus television studios throughout the United States.

Included in the Du Mont exhibit at the Department of Commerce are the following items of historic and current interest in the field of electronics:

The first practical cathode-ray tube to be developed—made by Du Mont in 1931.

The first all-electronic television receiver marketed in America—the Du Mont type 180, made in 1937.

A display of industrial-type and multigun cathode-ray tubes.

An action display of a cathode-ray oscillograph on which voice patterns of the exhibit visitor are displayed on the face of the oscillograph.

A display of multiplier-phototubes.

An action display of a multiplier-phototube in which the light from a radium watch face is multiplied 1 million times and activates a switch to turn an electric light on and off.

The Du Mont radar set, APS 42, used by the United States Navy in military transport operations, using indicating cathode-ray tubes with long persistence screens.

A Nipkow disk, the mechanical type of television receiver used prior to Du Mont's development of the cathode-ray tube.

The Du Mont Chroma-sync Teletron—the first large-screen color picture tube to be publicly shown. A 19-inch tube, it was demonstrated by Du Mont in April 1954.

A 14-inch black-and-white television picture tube made by Du Mont in 1938 and used in the first all-electronic receivers marketed in American.

A modern television receiver manufactured by Du Mont, the Belvidere, featuring a Du Mont 21-inch rectangular picture tube and advanced electronic circuits for best fringe area and urban reception. The Belvidere is a full-door console with traditional styling.

Photographs of Du Mont's color multiscanner for the televising of color motion picture film; a photo of a modern Du Mont image-orthicon television camera.

PATENTS

Certainly the growth and development of Du Mont Laboratories and its technical achievements reflect the progress that is possible under the United States patent system. The Du Mont exhibit at the Department of Commerce reflects the product of many patents dealing with improvements in processes or design of cathode-ray tubes, color television picture tubes, certain radar principles, television cameras, principles of television receiver design, and cathode-ray oscillograph circuits.

As of January 1, 1954, Du Mont owned 205 United States patents and 181 more were pending, most of which deal with some aspect of visual electronics.

KEYS TO PROGRESS

"Section. 8. The Congress shall have Power * * *

"To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries;"

One hundred and sixty-five years ago, the foresighted men who created our Nation also established the United States patent system. Their purpose, as expressed in the clear language of the Constitution, was "to promote the Progress of Science and useful Arts."

To implement this simple phrase, Congress enacted laws under which a patent is regarded as a contract between the United States Government and the inventor. This contract takes the form of a grant "securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries." In return for this right which, for a period of 17 years, excludes anyone else from using his idea without his permission, the inventor must publish a full disclosure of his invention. At the end of this period, his right expires and his invention becomes public property. Incidentally, patent rights are granted only for new inventions. The patent system has never deprived the American public of anything it already had.

From its beginning, more than a century and a half ago, the United States patent system has become a keystone in the structure of American business and industry. It is today a dynamic and beneficial force in our way of living.

Why is this so? Mainly because our Founding Fathers realized that the progress of the Nation they had created would depend in large measure upon the products of creative minds. They realized, too, that few individuals would

invent simply for the fun of inventing. Men capable of unfettered, imaginative thinking would have to be encouraged, they would have to be given a reason, an incentive to undergo the dogged, costly labors, the discouragements, and failures that attend the creative effort.

By granting exclusive rights for limited times, the founders of the patent system appealed to human desires that are as strong today as they have ever been. These are the desires to contribute something to society; to make one's mark in the world; to be the first to do something different; to gain prestige and prominence; and to win financial rewards which will not only pay for past effort but will also support future activity.

But, as you may say, the men who established the patent system had in mind the individual inventor. They could not possibly have foreseen today's great research organizations, units like Esso Research & Engineering Co., where almost 3,000 people spend $30 million a year searching for new and improved products from petroleum and for better and cheaper ways of making them.

How does the patent system work today? The fact is that in any research work, ideas come from individuals. It is still individual initiative which must be encouraged, the "yankee ingenuity" of our forbears.

The United States patent laws recognize this and provide that whether the inventor is working alone or as part of a larger group, inventions still must be made by individual inventors. So even though today's inventor is often a member of a group of individuals who work together as a team, the system works just as it has through the years.

Whether team member or individual, the inventor who wishes to bring a discovery into commercial use has the choice of three courses of action—he can manufacture in secrecy, hoping all the while that no one will discover his secret; he can publish the facts about his invention; he can ask for a patent.

It is obvious, especially today when so many thousands of researchers are in the hunt in all fields, that secrecy offers poor protection. It is equally obvious that free publication without patent protection is an outright gift of time, money, and effort to potential competitors. A patent is the inventor's best protection.

The first step in obtaining a patent is to file with the United States Patent Office an application, accompanied by a description of the invention and a list of claims setting forth precisely those features of his invention which the inventor believes are new. Applications are taken up in order received. Technical literature and existing patents—more than 2,500,000 are on file—must be considered. The inventor is sent a report, after which he may amend or rework his claims. Finally, the inventor will be told which, if any, of his claims are allowed. Those turned down are explained in detail.

At this point the inventor must decide whether or not the claims allowed are important enough for him to make the full, public disclosure that will be required if he takes out a patent. He must weigh the prestige which the new patent may bring him. He must also try to judge the income which will be his during the 17-year life of the patent. This is a bit tricky because the patent is no guaranty of profit. The only reliable measure of an invention's financial worth is what the public is willing to pay for it.

Suppose the inventor takes out his patent. Then it might be assumed that the patent will be tucked away out of sight and the inventor, unnoticed, will live happily ever after, enjoying the profits of his invention and puttering away at new ideas. Such an assumption would be wrong, of course.

For one thing, a full disclosure of the invention has been published. Moreover, the Patent Office files of issued patents are open to anyone to study and printed copies of any United States patent issued can be had for just 25 cents each. Many public libraries and many institutions, both public and private, maintain complete and active files of Patent Office literature. These, in turn, are thoroughly reviewed and abstracted by a large number of trade and professional journals. Thus patents present a rich source of information to anyone interested enough to dig into it—and many people are.

The United States patent system is one of the most potent stimuli to competition yet devised. The inventor himself, protected by his patent and supported by the income from the commercial use of his invention, is encouraged to press forward with his creative efforts. He may try something entirely new or he may attempt to improve his own invention. In a sense, he may actually be competing with himself.

At the same time, publication of his new patent instantly alerts all competitors who watch the patent literature closely. In the constant search for something

better, the new patent may show them a whole new field for research and exploration. Believing the new invention may reduce their own manufacturing costs, they may decide to pay the inventor for its use, even as they drive ahead with their explorations. Whatever course of action is chosen, the consuming public is in the long run the beneficiary. Here are a few examples of how competition, stimulated by patents, actually works.

Nowhere is competition keener than in the oil industry. Volumes are large, unit profits are low and every company constantly strives to make better and lower cost products, and more of them, from a given amount of crude oil. Of all the products contained in a barrel of average crude oil, gasoline is the biggest income producer. But, normally, gasoline makes up only about 20 percent of the barrel. However, this figure has been expanded to 50 percent by refinery processes which break down or "crack" heavier products, such as fuel oil, into gasoline.

It had been known for years that cracking oil in the presence of a solid chemical agent or catalyst can produce a gasoline of greatly improved quality, but these processes had remained almost a laboratory curiosity. The trouble was that the catalyst used was either consumed, or covered over with a tarry deposit which could not easily be removed. However, some 20 years ago a research group solved this problem by developing a successful method of regenerating one of these catalysts. Their discovery was a long step forward in the art of refining. They proceeded at once to install the process on a commercial scale, and secured patents covering it.

Standard Oil Development Co., now known as Esso Reseach & Engineering Co., was very much interested in these developments. But the new process was inherently more expensive than normal refinery operations, and the royalty charges involved in obtaining a license were enough to justify a research program looking for a less expensive process.

The result of this research was an entirely new process which came to be known as fluid catalytic cracking, and is based on an astonishing state of matter which must be seen to be believed. A bed of solid particles is mixed with a little gas and proceeds to act partly like a liquid and partly like a gas. It flows, it boils, it mixes readily, it expands and contracts. The study of this queer behavior brought engineering discoveries which were entirely unpredictable on the basis of what was known before, and turned out to be ideally suited for the catalytic cracking process. Esso Research & Engineering patented this process and put it into commercial use.

The circumstances which had started this Esso research program also inspired a number of other oil companies to carry out their own explorations in catalytic cracking. Some of them shared in the further development of fluid catalytic cracking, installing it in new refinery construction and joining with Esso in licensing the process to the entire petroleum industry. It was widely accepted, as shown in the annual growth chart above and today accounts for 70 percent of the total installed catalytic cracking capacity in the United States.

Another company developed still a different process. The patent system has protected these developments so that each has received a royalty income which supports further research, and the public has three commercial processes for catalytic cracking where none existed before.

Another example of competition stimulated by research and patents is rubber which is consumed in huge quantities in the United States. Before World War II, our country was completely dependent upon sources thousands of miles away in the Far East, South America, and Africa for this vital material. National security demanded that a substitute be found. Moreover, a substitute better than rubber was needed because the natural product has serious weaknesses. The chief of these is that exposure to sunlight, air, or other oxidizing agents tends to dry out natural rubber so that it cracks and becomes useless. Chemists had succeeded in making synthetic rubbery materials by various methods, but these seemed to require expensive raw materials and the product was not even as stable as natural rubber.

One day, two Esso Research chemists, Robert Thomas and William Sparks, discovered that a new process for building up polymers or giant molecules from iso-butylene derived from petroleum could be modified by including in the mix a small amount of a reactive material like iso-prene, which is one of the building blocks of natural rubber. The resulting polymer could be vulcanized to give an elastic material having rubber-like properties and much greater stability. Plenty of iso-butylene was available as a byproduct of catalytic cracking. The new product was called butyl rubber.

The basic patents on butyl covered both the new rubber and the new process of synthesis, but there were other problems to be solved before it could get into commercial production. Special equipment was needed to handle the very low temperature polymerization process (below —100° F.) which had never before been used in industry. For large-scale operation, continuous production would obviously be much cheaper than the batch process first developed and ways had to be found to handle the sticky polymer without clogging the pipes and apparatus. Even as these problems were being worked out, tests found that butyl was excellent for holding air, a much better material for inner tubes than natural rubber. The processing difficulties were overcome and the results obtained were published in the form of improvement patents.

This research project was worked out just prior to World War II. The process was turned over to the United States Government and butyl became an important factor in our wartime supplies of synthetic rubber. Its use expanded rapidly to cover military needs and then supplies for civilian use. From this new industry have come better inner tubes for substantially all United States passenger cars. The annual consumption chart shows the rise of other uses, as in electrical insulations. Improved product availability is now expanding the use of butyl in many other applications. Continuing research on butyl under the protection of the patent system is developing modified products and methods of handling which should result in important new uses, and a cheaper product for all.

Fluid catalytic cracking and butyl rubber are just two examples of how the United States patent system has benefited the American public. In both cases, patents have made it possible for an expensive research program to contribute to its own support. The growing use of petroleum as a raw material for agricultural chemicals, paints, solvents, plasticizers, and synthetic fibers depends upon an expanding knowledge of the chemistry of crude oil and its products. Improvements in the major refinery products such as gasoline, fuel oil, and lubricants depend upon the same knowledge and its engineering application. This knowledge will continue to expand for the public benefit, so long as the patent system protects and encourages creative minds. For patents are the keys to progress.

Mr. WATSON. We have a further exhibit on the first of November or thereabouts, in which mechanical devices are the matters to be exhibited. We have had electrical, chemical, and pharmaceutical exhibits, and now we are coming to the mechanical.

Senator O'MAHONEY. May I interrupt to say that the committee will, of course, be glad to receive some of these exhibits for printing in the record. We cannot receive them all, obviously, because that would make the record so bulky that it might destroy its usefulness as a document for research and study.

So I will ask that you and Mr. Caplan, our chief of staff here, make the proper selection.

Mr. WATSON. Yes, I will be very glad to do that.

Continuing with my report, which is based largely upon the pamphlet which has been prepared by the Patent Office, and copies of which have been distributed, practically every aspect of the operation of the Patent Office is discussed in the pamphlet.

My testimony will be confined to the operations which take place within the four walls of the Patent Office. Instead of leafing through the pamphlet, calling attention to the graphs and the statistics which it contains, the statements of needs of the Patent Office, I will first discuss a number of questions which have appeared in the printed matter disseminated by the committee and which seem to me to be particularly directed to the Patent Office.

First, how to reduce the mounting backlog of pending patent applications.

Second, how to reduce the time of pendency of applications.

Third, how to improve classification and search facilities.

Fourth, how to preserve and expand an experienced examining corps.

Fifth, the wisdom of dual appeals from the rejection of applications.

Sixth, how to improve examining procedures in order to reduce the number of patents subsequently held invalid by the courts, with the view to imparting more certainty to the rights granted inventors.

Those questions seem to me to be directed particularly to the operation which we perform, and I will do my best to answer them, with the aid of the pamphlet to which I will make reference from time to time and with reference to certain other matters which are not discussed in that pamphlet.

How to reduce the mounting backlog. As of October 1, the backlog comprised 222,567 applications, and the tendency to increase still continues. That tendency to mount has endured now since about May of 1953.

The Patent Office has no means at its disposal for ascertaining why it is increasingly popular, why the public participates in the filing of applications to an ever-increasing extent, but it does have before it the problem of disposing of them in a timely manner and in accordance with law.

The first thing that would suggest itself to one faced with that problem would be to consider whether the examining staff is sufficiently large. And the answer, of course, is that to cope with the situation the examining staff must be increased.

We have considered the problem of the timing of the increase of the staff and have evolved a plan for its increase which is reproduced in brief in the pamphlet which you have, on page 19. And here I refer to what we call our 8-year plan for the disposal of the backlog and its reduction in size to that of a backlog which appears to us to be a reasonable one.

I may say that when I came to the Patent Office, I found there had been developed by earlier Commissioners and staffs a proposal that the backlog of the Patent Office should be reduced in amount to about 100,000 applications which, with an examining staff of about 850 men, would make it possible for an inventor who submits an application to have a reply from the Patent Office within the period of, say, 3 or 4 months; and not only that, but after he had filed his amendment and argument following a rejection he would have another reply from the Patent Office within a period of 3 or 4 months.

Whether or not 100,000 applications is the ideal number to have available—whether or not 850 examiners is the ideal number—I cannot be quite certain, but I have accepted the theory. I see no better objective toward which to work.

And so this 8-year plan is based upon the proposal that as soon as reasonably feasible, the backlog in the Patent Office shall be reduced to approximately 100,000 applications.

Senator O'MAHONEY. Commissioner Watson, what did you say it is now?

Mr. WATSON. It is now, as of October 1, 222,567.

Senator O'MAHONEY. Do you think it would be possible, or advantageous, to reduce it by considerably more than half, and then try to keep it current?