AMERICAN PATENT SYSTEM

HEARINGS

BEFORE THE

SUBCOMMITTEE ON
PATENTS, TRADEMARKS, AND COPYRIGHTS

OF THE

COMMITTEE ON THE JUDICIARY
UNITED STATES SENATE

EIGHTY-FOURTH CONGRESS

FIRST SESSION

PURSUANT TO

S. Res. 92

ON

THE AMERICAN PATENT SYSTEM

OCTOBER 10, 11, AND 12, 1955

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SYNOPSIS OF HEARINGS OF SUBCOMMITTEE ON PATENTS, TRADEMARKS, AND COPYRIGHTS

October 10, 11, and 12, 1955

MONDAY, OCTOBER 10, 1955

MORNING SESSION

Chairman Joseph C. O'Mahoney, in his opening statement, said that the hearings were not an investigation but a study in which the best minds in the patent field are being requested to contribute their suggestions for the modernization of the patent system. The central patent issue is the relation of the individual inventor and the business concern which puts inventions on the market (2).[1] There are at least six phases to this problem. First, the business problems of the inventor in financing research, obtaining patents and marketing inventions. Second, achieving a satisfactory working arrangement between industry and inventors to the benefit of the public, the inventor, and the producer. Third, the high percentage of patents held invalid. Fourth, the cost of obtaining patents and of patent litigation. Fifth, the time consumed by the courts in reaching decisions. Sixth, the adequacy of the administration of the Patent Office (3).

The chairman stated that Commissioner of Patents Robert C. Watson and Mr. P. J. Federico would cooperate in the preliminary work of the committee (4).

Donn Bennett, director of The Big Idea, Station WCAU-TV, Philadelphia, described the nature of his television program which gives the independent inventor a chance to demonstrate his invention, tell the story behind it and ask for help in promoting it. In 6½ years, 1,600 inventors have presented their ideas and of that number 27 percent have sold their inventions, receiving from a few thousand dollars a year to, in 3 instances, into the millions. Twelve thousand companies have written in requesting information about the program. Approximately 36,000 inventors have submitted their ideas (5).

William C. Brennen, representing John W. Anderson, president of the National Patent Council, stated that his organization is an association of inventors, small research laboratories, and corporations who have an interest in the patent system. Mr. Brennen emphasized the lag that exists between the time that a patent application is filed and the time that a patent is granted. This tends to decrease the incentive the small inventor needs to produce his work (6).

Alvin M. Marks, an inventor from Whitestone, N. Y., stated that in some cases it is not desirable to rush a patent application through the Patent Office because the inventor may not be ready to market it and

[1] Page reference to hearings.

that we must leave to economic effect which patents are used and which are not used and that one cannot tell when he applies for a patent whether it will win its way in the market.

Albert I. Kegan, professorial lecturer on patents in Northwestern University Law School, emphasized the difference between a patent and an invention. In his opinion, every patent serves a useful purpose when it is printed by the Patent Office, because it makes the knowledge disclosed in the patent available to the public. If the patent discloses an inferior invention, nevertheless it renders a service in that it keeps other inventors from spending time and money reinventing the same subject matter. He agreed that steps should be taken to lessen the lag in pendency of patent applications in the Patent Office.

Hon. G. Fritz Lanham, representing the National Patent Council, and formerly chairman of the House Committee on Patents, stated that his 25 years of service on the House Committee on Patents led him to the conclusion that the prosperity of the country, industry, and otherwise depends upon the independent inventor (13). The important thing is to preserve and promote the incentive of the individual inventor. The incentive is being impaired by reason of the fact that the inventor must wait 4 years to get final action on his patent application. In response to a question from the chairman, he suggested that larger appropriations be made to the Patent Office so that the backlog of pending applications can be lessened. The chairman pointed out that the salary of the Commissioner of Patents is not as great as the heads of other bureaus in the Government and that the highest civil-service grade for patent examiners in the Patent Office is grade 13, whereas other agencies pay higher salaries for comparable responsibility. Mr. Lanham stated that he thought the Patent Office should be independent of the Department Commerce (14). He further stated that the incentive to the small inventor must be maintained and the functions and operations of the Patent Office should not be impaired.

Frank Hyman, an inventor of Baltimore, Md., stated that when companies adopt inventions they should at least issue invitations to the inventor to bid on manufacturing items involving such inventions (15).

Mr. Kegan stated that raising the salaries of Patent Office examiners would not prevent industry from hiring Patent Office personnel. He recommended that corporations maintaining patent departments should adopt the policy of hiring men out of engineering school or law school and training them themselves rather than taking men out of the Patent Office. The Commissioner of Patents stated that an arbitrary prohibition preventing examiners from leaving to seek private employment would make it difficult to recruit examiners in the first instance. He stated that the German Patent Office has no difficulty in increasing its staff merely by announcing that positions are available and qualified applicants having proper educational and industrial experience apply (16). In Germany, the patent examiner has prestige and salary such that there is no problem of recruitment. The Commissioner stated that the principal difficulty in retaining personnel in the United States Patent Office is in the higher salary grades. When an examiner reaches the GS–12 grade he finds it difficult to progress further, and leaves the Patent Office in order to better himself.

Herman Cohn, an inventor of Baltimore, Md., wishes to encourage inventors by securing the cooperation of colleges (18) in furnishing

out that previous congressional inquiry had established that 17 percent of applications for patents were submitted by big business and 83 percent by individuals and small businesses (25).

Maurice W. Levy, patent attorney for Hoffman-La Roche, Inc., stated that in the pharmaceutical field he had had experience with universities, hospitals, clinics, and research institutions, including the Research Corp. When his company makes expenditures of money to a university for research, in a majority of cases no patents result from the collaborative work. Mr. Levy emphasized that there is no distinction in the Constitution between the independent inventor, little business, and big business (25). All have the same problems. The independent inventor frequently has nothing to offer. In 10 years of work, his company has yet to accept its first contribution from an independent inventor, because they have not been helpful. In lines other than pharmaceutical he believes that the same situation exists. Dealing with these inventors takes up considerable time and embarrassing situations arise when the company has already been working on the same project (26).

Hon. Thurman Arnold, former Assistant Attorney General in charge of the Antitrust Division and member of the District of Columbia Court of Appeals, stated that the patent law has, in some instances, been greatly abused in violation of the fair principles of American democracy.

Alvin M. Marks pointed out that the individual creative mind creates inventions and further measures are required to foster creativity. There are different types of inventions, such as gadgets and others which come out of more subtle technical knowledge. Although individuals frequently accomplish their preparation for the latter type of inventions by association with colleagues at institutions, nevertheless the invention may arise after the inventor is no longer associated with such groups. Often much money must be spent in research and development of complicated ideas and therefore the individual inventor in most cases cannot use the fruits of his mind (29). Simple patents attract capital; complicated inventions do not as readily attract risk capital. Tax benefits should be permitted to the private inventor to enable him to enter into venture capital expenditures more readily. Inventor finance corporations should be set up to furnish a partial guaranty to private investors. The Bureau of Standards might form a nucleus for this purpose, also the National Science Foundation.

Judge Arnold referred to a statement by Dr. Charles T. Kettering before the TNEC that it is impossible to separate out the individual inventor in corporate group research (30). Mr. Marks rejoined that it was wrong to operate in the inventive field differently than in other fields by rewarding only an entire laboratory as distinguished from the creative inventor. Judge Arnold stated that the large research corporations have such a high level of technical research that there is no standard of invention outside the work of the corporation.

Jo Baily Brown, patent attorney, Pittsburgh, recounted that formerly a large part of patent law practice was concerned with the individual inventors (31) who came in with little inventions made in their everyday experience but that this no longer prevailed. The reason for this, according to Mr. Brown, is the decisions of the Supreme Court hostile to patents. Some of the lower courts follow the Supreme

by a neutral party. Once inventors understand the problems of industry in getting inventions on the market, they are usually reasonable and business arrangements can be negotiated (41). The thing that inventors lack is the method by which their inventions can be gotten into the hands of the public. He hopes that his program may turn out to be a vehicle by which this can be done. Most of the ideas submitted to his organization are not crackpot ideas (42). Of 36,000 inventors who have submitted ideas to Mr. Bennett's program, more than 14,000 were rejected by letter. Of the remainder, he has been able to get but 10 percent, or 1,600, on the air in 6½ years. Of that number, almost 500 inventions have found their way into the market place. Some of these have been extremely successful.

Roy C. Hoffman, of the Product Assistance Division of the Office of Procurement and Technical Assistance of the Small Business Administration, explained that his division is interested primarily in products, processes, and new inventions. Its purpose is to help the small-business manufacturer to find a new product or a new process which will help him. Inventors also seek assistance in finding a manufacturer or distributor (42). Inventions are listed in a circular published periodically which goes to small manufacturers throughout the United States. The Administration also has regional and branch offices which send inventors' ideas to the Washington office. The purpose of this service is to keep the small manufacturer in business by filling up his idle plant capacity. There have been a number of good results and many manufacturers want to be on the list to read of new inventions (44). The subject of venture capital for establishing new businesses as distinguished from old businesses taking on new ideas has come up a number of times. Manufacturers frequently will not take a new product until there has been a demonstration of its market potential. Another problem is patent cost amortization, in that small-business firms are reluctant to take on patents because they become obsolete during the course of their manufacturing while there is considerable life left in the patent. Some of the ideas submitted to the Small Business Administration are impractical and cannot be used but because of being a Government agency, it is necessary to list everything, regardless of practicality.

Alvin Marks pointed out that there is a class of complicated inventions which requires a great deal of capital to bring to the point of successful demonstration and which is more complex than the type of invention publicized by Mr. Bennett (45).

G. Wright Arnold, patent attorney of Seattle, Wash., stated that stimulation of invention by the patent system is necessary in order to maintain the liberties and freedom of this country because we are outnumbered by others hostile to our form of government. In the present patent system there is no uniform measurement or standard to determine patentability. The Patent Office uses the test of obviousness which was enacted in statute form in 1952, and the courts use other tests, thereby resulting in diversity. The Patent Planning Commission stated that the most serious weakness in the present patent system was the lack of a uniform test or standard to determine whether a contribution merits a patent (46). The Patent Office examiner in determining patentability must imagine what a man "skilled in the

pany maintains a large research staff, the independent or individual inventor has a function in certain phases of its activities. One illustration is a type of pressure cooker which was developed by an outside inventor. Mr. Bennett offered other instances of assistance afforded independent inventors by this company (58). Mr. Ballard mentioned payments made by other companies to inventors. Mr. Schmeltz stated that with respect to complex and highly technical fields, individual inventors are not particularly likely to be aware of the target at a given time of a research and developmental organization. He reviewed the story of the development of the Aluminum Co. from the inventions of Charles Martin Hall, while a student at Oberlin College (60). If the Patent Office had attempted to adopt a standard in awarding Hall a patent on the basis of whether there was a possibility that the assignee of the patent might at some time have too much power, it would have required a crystal ball because there was no way of determining that that particular basic application in years to come would serve as the cornerstone of a new industry. Judge Arnold stated that patent attorneys draw up a patent claim to obtain as broad coverage as possible even though some of the claims are not intended to be exploited. The Commissioner of Patents remarked that some applications for patents run to 1,200 pages of specifications, 350 sheets of drawings, and several hundred claims. However, such applications are legally no different from those submitted with one claim. It is impossible to predict which of these claims, in the future, will be the ones upon which the patentees rely. The Patent Office has no facilities for forecasting the commercial future of an idea (61).

Mr. Levy mentioned that companies working in highly technological fields, such as pharmaceuticals, do not require independent inventors to sign release forms such as Mr. Bennett mentioned, but welcome collaboration from the outside (62).

Harold S. Silver, Allis-Chalmers patent attorney, mentioned that his company had acquired licenses on a number of inventions of independent inventors and had paid two of these quite handsomely (63).

Giles S. Rich, patent attorney of New York City, stated that from his point of view the individual inventor has no other problems than those which the great corporation has so far as the patent statutes and Patent Office are concerned. Expenses and delay are economic problems which he faces in other fields of life. There are four kinds of inducement offered by the patent system: The first is the inducement to invent; the second, is the inducement to disclose the invention, and this is important whether the inventor is using only 1 of the 10 inventions which he discloses; the third, and most important, is the inducement to invest risk capital in developing and commercializing inventions; the fourth, is the negative inducement—that others are given an incentive to invent around a patent which has been granted (64).

Williard C. Hayes, patent attorney of Washington, D. C., representing the American Patent Law Association, stated that the plight of the individual inventor is not as serious as some people had testified. There is nothing fundamentally wrong with the patent laws today. Improvement of conditions in the Patent Office would help the individual inventor. More important, however, is a better thinking by the courts in sustaining patents that come before them. How Congress can remedy this situation is problematical. It is difficult if not impossible to define invention (67). However, the committee can

possible, yet the Patent Office has only so much manpower available to examine the applications. The examiners are highly conscientious and many of them believe that they cannot do the kind of work that will turn out patents of high quality until more time is available to do a thorough job (88). It is up to Congress to say how good patents shall be and to furnish the money to achieve that standard.

The chairman inquired of Mr. Whitmore whether the conclusions were to be drawn that (1) 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 piled up. Mr. Whitmore replied that the building up of the backlog is the result of the feeling of every examiner that he should do a conscientious job rather than a superficial one. In general, the pressure to turn out the work rapidly is hard to resist and the examiners are doing the best they can. It is a matter of degree whether or not the work in the Patent Office is so hasty that the courts are right and the Patent Office wrong in turning out patents (90). Whether a certain claim in an application defines something patentable over what was previously known, when in reasonable doubt, should be resolved in favor of the general public rather than the inventor. There is a need for alertness that the patent system is being operated for the public good.

Mr. Ballard stated that 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. This result is also partly due to lack of equipment and men (91).

Mr. Wahl, president of the Patent Office Society, stated that the current system of classification has been in use for the past 10 years (92). Prior thereto the classification system was based upon an alphabetical arrangement which was difficult to understand. Many of the classes in the Patent Office date back 50 years. So long as the classification system is defective, then we will continue to have a backlog. The tendency is to put all available men on examining applications rather than classifying patents.

Mr. LaPointe, a member of the Patent Office Society, referred to the working conditions of examiners, specifically the lack of space and lack of privacy (93).

Congressman Lanham stated that there has been a lack of understanding on the part of Congress of the importance of the patent system. He referred to the fact that prior to the Congressional Reorganization Act there were separate committees on patents in the House and Senate. The present system does not bring out the congressional experts in the Patent Office and its needs. The Patent Office should be independent of the Department of Commerce, according to Mr. Lanham (94).

V. C. Farrell, an inventor of Washington, D. C., referred to a weakening of the moral fiber of the country which was evidenced in infringement of patents. He suggested that theft of ideas should be a penal offense (95). He also referred to the necessity of adequate protection against infringement during the pendency of applications in the Patent Office and to the necessity for simplification of the system of writing patent claims to speed up prosecution and reduce the amount

secret the information now contained in patents (107). He also stated that theft of patents occurs because of the difficulty of enforcing them.

Bartholomew Diggins, patent attorney of Washington, D. C., recalled an instance of oppressive patent litigation where three complete trials were conducted on a patent ultimately held invalid. There is a tendency in the Patent Office to turn out applications and the Office does not apply the same standard of invention now applied by the courts. The courts are too strict and to some extent the Patent Office is too lenient. A standard of invention somewhere in between is desirable. The decisions of the Supreme Court and other courts almost eliminate the matter of patentability of mechanical combinations, yet the Patent Office is issuing patents on mechanical combinations daily (108). As remedies, Mr. Diggins suggested that Congress should set more definitely the standards of infringement to be applied by both the Patent Office and the courts in the same way. Cost of litigation can be reduced if trial courts were more familiar with the subject matter of patent litigation and were more amenable to some of the summary and preliminary procedures available under the Rules of Civil Procedure. Mr. Diggins expressed doubt whether there should be a special patent court. Technically trained judges would be of value, but few members of the Patent Bar ever become judges (109).

AFTERNOON SESSION

Hon. Learned Hand, retired chief judge of the United States Court of Appeals, Second Circuit (111), suggested a thoroughgoing examination of how the present patent system works to the extent, for example, of compelling corporations maintaining laboratories and all others to present testimony as to how far the present system contributes to the underlying purpose of promoting the arts on which civilization has come to depend for its very existence. The first test of invention was that passed by Congress in 1790, namely, that a patent be for an invention which was "new and useful." Later the Supreme Court laid down an additional standard of invention: whether a new combination was within the capacity of a man skilled in the art or of the ordinary skilled artisan. This is a difficult test to apply. The judge has to construct imaginatively the figure of the skilled artisan and then must endow the suppositions artisan with an acquaintance of all the existing prior art (112). The decisions do not offer much enlightenment in applying these tests. Investigation may establish that specialized research laboratories depend for their existence, in large measure, on the grant of patents. On the other hand, others contend that slow, step by step improvement will occur regardless of patent protection and that the patent system should only encourage inventions which require genius. Judge Hand expressed doubt whether the latter view was correct for the reason that truly great inventors or great discoverers are like great artists: their inventions come out and they are not appreciably moved by the fact that they get a patent monopoly.

Judge Hand also suggested a distinction between copyright monopolies and patent monopolies (114). Copyright prevents an infringer from copying the verse, sonnet, or other subject of the copyright, in other words, from using the brain of the author. This is

best methods of collection thereof. Representatives in the field consult manufacturers, laboratories, and inventors to develop questionnaires to obtain information. Response to questionnaires has been good. Material has been gathered on a small scale with the feeling that in order to develop methodology the foundation should approach obtaining information on a pilot basis. After the material is gathered, the staff of the foundation will analyze it and come to tentative conclusions (128). The foundation has an advisory board and an executive committee and uses the facilities of other universities. Under questioning of the chairman, Dean Colclough stated that studies dealing with the position of the small inventor as related to the research laboratory are implicit in several of the projects but are not separate therefrom.

Lawrence Biebel, president of the American Patent Law Association, remarking on matters raised by Judge Hand, referred to the fact that great painters of former times were subsidized by the court or a wealthy family. Today geniuses must have support from other sources. This should not be done on a subsidy basis, but rather on a more satisfactory basis, enabling them to exploit their inventions themselves or license industry. The patent system serves a most important and useful purpose (129). Mr. Biebel continued that most patent lawyers, from their contacts with inventors and businessmen, place considerable value on the property right acquired by inventors. The difficulties in applying the test of invention in the patent field are not much greater than applying similar tests in other branches of the law.

John H. Bruninga, patent attorney, St. Louis, Mo., stated that the education of the examining corps of the Patent Office is now considerably greater than when he entered the Patent Office in 1905. However, the personnel is not familiar with the practical end of the industries in which they are examining applications. The Patent Office should send men into the field to be educated. With respect to patent litigation, special patent judges are not required, nor are technical advisers to the court necessary, but a knowledge of physics and chemistry is desirable (131). The requirement for good patent judges is for good lawyers, not for technically educated men. The same is true of the Interference Division of the Patent Office, where the personnel are technical men, but have not had law practice. With respect to patentability, the courts should decide cases on the evidence and not on personal opinion.

Judge Hand stated that it might be desirable to have one court of patent appeals with the proviso, which Judge Hand regarded as critical, that it should be a rotating court, not a court of specialists (132), and judges should sit only for a limited period of time. With respect to the appointment of experts by the court, the bar did not avail itself of this facility when a rule of the southern district of New York so provided and the rule was subsequently repealed. Lawyers were of the belief that the experts were committed one way or the other. Judges are at a disadvantage in attempting to understand technical subject matter, although the attorneys offer assistance (133); but when there is a controversy of fact about the intricacies of technical subject matter, it is necessary to get some sort of help.

Mr. Levy questioned Judge Hand about the analogy between copyright- and patent-infringement actions. With regard to stimulating

would be determined, as now, by the broadest claims. Within that scope, if the court found that the inventive concept disclosed had been used, then it would indicate the validity of that scope of the patents. Under questioning of the committee counsel, Mr. Robertson stated that the abuses to which patents have in the past been subject had a very strong influence on the courts in holding patents invalid. The Supreme Court may not be aware of the extent to which the patent system has been improved as the result of antitrust enforcement (141).

Ray M. Harris, patent adviser, Office of the Assistant Secretary of Defense for Supply and Logistics, made reference to the Inventions Awards Board which is covered by House bill 2383, now referred to the Senate Judiciary Committee. At the present time the Department of Defense will only pay an inventor under a valid patent which is infringed, but where the inventor merely submits an idea, it cannot render payment. The bill would remedy this situation (142). Under questioning of the chairman and the Commissioner of Patents, Mr. Harris brought out that the bill contemplates an award to the inventor rather than a grant of monopoly upon submission of an idea, regardless of the question of invention (143).

Jennings Bailey, Jr., patent attorney of Washington, D. C., explained the organization and workings of the section of patents, trademarks and copyright law of the American Bar Association. This section has a membership of over 1,500. The work of this section is done by committees who prepare reports and resolutions and submit them to annual meetings of the section which are attended by 100 to 250 members (145). The method whereby the section makes recommendations to Congress was described. The opinions of the section are developed by the interchange of the opinions of members. However, information from the public is not solicited except insofar as the committees may investigate and make recommendations (146).

Mr. Biebel made a similar statement as to the method by which the American Patent Law Association arrives at its conclusions and recommendations (147).

Mr. Brennan made a similar statement for the National Patent Council (148).

Harry R. Mayers pointed out that long pendency of patent applications in the Patent Office not only inconveniences the applicant but also occasions difficulty for the manufacturer who wishes to begin to manufacture a new product and who does so today at considerable peril of finding that after manufacture has begun he will be confronted with the last minute issuance of a patent, which will occasion him embarrassment. Thus, General Electric Co. recently marketed a household appliance which required investment of several million dollars in equipment for production. A month after the first item was put on the market advice was received from a competitive concern of the issuance to them of a patent which was alleged to be infringed which had been pending approximately 4 years. Giving the Patent Office additional personnel to reduce the backlog and reduce the time of pendency of the average application was suggested. If the work of the Patent Office can be brought reasonably under control, a proposal to reduce from 6 to 4 months the time within which the applicant must respond to an action from the Patent Office should be considered. Mr. Mayers stated that the proposal for a 20-year bill seems sound (151). However, if a very substantial portion of the 20 years

Another step taken to reduce the backlog is to permit those examiners who are well trained and thoroughly qualified to act upon their own without supervision, to work overtime.

Under the leadership of the executive examiner, Mr. Rosa, and with collaboration of the supervisory group, the Patent Office evolved a number of expedients which encourage production by making it unnecessary for the examiners to give their time and attention to trivialities (166). In addition, the Patent Office has placed those patent applications which have been twice acted upon by the examiner in a special status, so they will be examined ahead of others and the prosecution terminated as rapidly as possible. In addition, the interviewing of examiners on Friday has been restricted (169).

Under questioning of the chairman, it was brought out that the conducting of interviews with examiners was one of the best ways of expediting prosecution of applications; whereas in interference practice, it is not customary to have Patent Office representation at the taking of testimony. This poses the advisability of having interference testimony taken before a Patent Office official.

Mechanization of searching operation is a long-term proposition. Manufacturers of equipment have indicated that proper machinery will take a long time to develop.

One problem of the Patent Office is the preservation of experienced examiners. Large numbers of grades GS–12 and GS–11 examiners have left the Patent Office (171). Grade GS–13 examiners are assistant chiefs in the Patent Office in the examining divisions and act partly in a supervisory capacity. In a recent executive pay bill, unfortunately, the Commissioner of Patents was not advanced in grade and salary as were heads of other branches of the Government.

With regard to improving the validity of patents, because of the enormous workload, it is necessary, in effect, to limit the time which the examiner can spend in the examination of cases (172). It is always impossible to conduct the sort of search which an outside attorney conducts when a client is threatened with infringement litigation. There is a limit to the amount of outside research which an examiner can accomplish and still turn out his regular work. However, the Patent Office has initiated seminars in which the primary examiners meet and discuss mutual problems. The Patent Office also permits examiners to go outside the Patent Office to visit exhibitions of note and also on occasions to inspect inventions where the nature of the invention requires physical inspection for full understanding. The Commissioner suggested that the committee consider whether funds should be made available for the increased education of examiners, particularly in the arts in which they are engaged (173).

The Patent Office has two courts which review its decisions, the Court of Customs and Patent Appeals and the District Court of the United States for the District of Columbia, with the court of appeals above that court. From the standpoint of affirmances of the rulings of the Patent Office, both tribunals are about on the same level. Over a 10-year period the Court of Customs and Patent Appeals in ex parte cases has affirmed the Patent Office in 79.9 percent of the appeals, and the district court in ex parte cases has affirmed in 78.3 percent of the cases. The time elapsed from filing appeal to decision is about 1 year in the Court of Customs and Patent Appeals and about 2 years in the district court. The workload on the Solicitor of the

invalid. The most common ground for invalidation of the patents was lack of invention or anticipation. Prior public use as a separate and distinct ground for holding the patent invalid was used in seven patents, although in each of these the ground of lack of invention was also used. Inoperativeness of the invention disclosed was used in the case of three patents. Lack of disclosure in the specification was used as the sole ground in three instances.

With regard to whether the references relied upon by the examiner were the same as those relied upon by the courts, such a determination is possible in the case of 40 patents. Of these 40, in 6 cases the patent was held invalid over the same prior patents which had been cited by the examiner. In 34 cases, new references which had not been cited by the examiner were used or referred to by the court. In 6 instances of the 34, the court made a specific point of the fact that references it used were not considered by the Patent Office. In 11 others, all the references used by the court were new. Thus, in 17 of the 34 cases in which new references were used, the decision is directly due to this fact. In the remaining 17 cases the holding of invalidity may or may not have been caused by the new references (183).

Upon questioning by Mr. Bruninga, the Commissioner stated that he had no knowledge of taking of testimony in Patent Office interference proceedings in the Patent Office. There was one instance where, by stipulation, the testimony was taken elsewhere in the presence of the Solicitor of the Patent Office (209).

Thoger G. Jungersen, an inventor, testified that he had been an inventor all his life and came to the United States from Denmark in 1927 because of the incentive furnished by the United States patent system. Mr. Jungersen criticized the tendency of courts in passing upon patent matters to disregard the decisions of patent examiners on technical subjects (211). Mr. Jungersen's patent was held invalid in the decision of the United States Supreme Court in *Jungersen* v. *Ostby & Barton*, wherein Mr. Justice Jackson, Mr. Justice Frankfurter, and Mr. Justice Burton dissented. The district court had originally held the patents invalid and the court of appeals had affirmed, with Judge Learned Hand dissenting. Prior to the decision of the Supreme Court, the patent had been regarded as valid in 20 other countries, but the effect of the American decision has practically destroyed all of Jungersen's income from that invention all over the world. Prior to the decision of invalidity, there were almost 100 licenses issued in the jewelry manufacturing industry and other industries. Jet engine development, gas turbines, and the aircraft manufacturing industry used the patent (212). The invention is now being used to the extent of $200 million per year, giving employment to over 50,000 Americans (213).

Elliott L. Biskind, attorney for Mr. Jungersen, stated that as a result of his experience in this litigation, he feels very strongly that the courts should not be empowered to pass upon the invalidity of a patent. The Patent Office should determine in the first instance as a matter of fact whether it is valid and that determination should be final (216).

Judge Thurman Arnold stated the reason for the American courts' changing attitude toward the patent system and the validity of pat-

tude of the courts toward the validity of patents, the TNEC did much good in exposing bad situations from the antitrust angle. Unfortunately the backwash of that proceeding seems to be the idea to whittle down the patent grant in order to hit antitrust violations (230). The individual inventors have been discouraged by the current tendency to hold patents invalid, and many of them have ceased functioning. Congress intended to encourage patents in adopting the new patent code, but if the courts say that Congress did not mean what it said, then perhaps Congress should say it again in more definite language.

Elwin A. Andrus, patent attorney of Milwaukee, Wis., stated that the patent laws must of necessity deal equally with all inventors whether they work in the attic by themselves or in a corporate research laboratory. There has been an increase in the number of small corporations being formed to go into business utilizing inventions. The use of corporations in industry is increasing and hence there is an increase in the number of patents in the hands of corporations. Many corporations are created by inventors and risk capital getting together in order to start a new business. If we could command a better respect for patents, venture capital would be more willing to enter into the field of promotion of inventions than it is today. If the patent sytsem were abolished then there would be a lack of stimulant for invention, and private investment in research would not survive for long, except in those fields and for those business units that were large enough to adequately protect things by secrecy. In the research laboratory, the individual inventor is the all-important man just the same as the individual inventor is on the outside. If you curtail the rights which the research laboratory has in obtaining patents for improvements, because of portfolio conditions, then you are curtailing the rights of the individual inventor in the laboratory with respect to his job (232).

Mr. Andrus took exception to those court holdings that fail to treat the property right of the patent grant with the same respect as other forms of property right, such as those based upon the patent to a mining claim. He regards it as anomalous that our antitrust laws are for the purpose of maintaining competition in the commercial world and yet those laws are used to strike down in many instances the patent grant and the patent system which is the only means of maintaining competition in the field of development and inventive effort (234). Another type of court decision with which he takes exception is that invalidating patents for lack of invention. This is, in effect, giving the public a free ride on somebody's investment. It may be the investment of years of work on the part of an attic inventor or it may be the investment of hundreds of thousands of dollars of stockholders' money for research personnel and facilities. If the test of patentability is held so high as only to be met by that class of inventions of such technical character that are understandable by a person with a doctor's degree in science and not by a layman, such as the patent attorneys or the courts, then we can truthfully say that the patent system is merely for a class, merely for the genius or super-educated man. The patent system was intended by Congress to function at all levels of education, all levels of economic effort, and at all levels of use. By statute you cannot define invention better than the present

SYNOPSIS OF APPENDIX TO HEARINGS OF SUBCOMMITTEE ON PATENTS, TRADEMARKS, AND COPYRIGHTS, OCTOBER 10, 11, AND 12, 1955

Frank L. Ahern, Jr., Patent attorney, Los Angeles, Calif. (pp. 239-241)

The Patent Office Board of Appeals should be responsible for the classification of patents. To make this workable, it will be necessary to have the preamble of a claim definitely considered as a limitation thereof. The limitation will tend to make the rights of the patentee more certain and it will greatly facilitate the classification of patents. A new use is in the nature of a discovery and it should be patentable even though it relates to the new use of a known machine or manufacture. Provision should be made for the Patent Office to furnish expert witnesses for the guidance of the courts to aid them in deciding questions of patentability. If this were to be too expensive, then provision should be made to take the deposition of an appropriate official in the office for this purpose or to permit any party to obtain an affidavit from such an official. This is to bring the findings of fact made by the Patent Office more in line with such findings made by other administrative agencies when the same are made subject to judicial review.

Harry C. Alberts, patent attorney, Chicago, Ill., The Patent Statutes and Their Iniquitous Interpretations (pp. 241-243)

The courts find inventions to be old based upon technical defenses where the defendant's reliance upon the prior art has found no practical appeal in industry or were never before considered to be of any commercial value. There should be no compelling force in attributing any particular significance to this material as a defense because (1) the defendant profited from a patented disclosure and (2) was never spurred into his alleged infringing practices by the prior art or knowledge now relied upon as a defense. Lack of impression which the prior art made upon the defendant or others in the field should dilute the effect thereof as an invalidating defense and the presence or absence of patentable invention factually determined on this basis is a more certain satisfactory determination than the abstractions being practiced by the courts in attempting to define "invention." This constitutes a much more realistic basis upon which relief should be granted or denied in any proceeding charging patent infringement. The courts can, and do, give relief to anyone who makes an unpatented disclosure to another in confidence under circumstances of the latter using such contributions without making any satisfactory arrangement with the former, such being termed a breach of confidential disclosure. To be consistent, recovery on a patent should also be on the basis of inequities involved in the contribution that assisted the infringer.

There is no justification for the dual standards in these two situations. If anything, a patent grant should be given more protection than indefinite, vague, and loose proposals that have been used as an instrument of confidential disclosures. The patent laws should be changed to liberalize the conditions under which there should be a recovery for the patentee and give preference to patent protection and less effect to unpatented disclosures made to entrap the unthinking or the novice. The law relating to confidential disclosures, on the other hand, should be codified so that certain rigid requirements have to be met before the court may grant relief and thus restrict these to situations which are worthy and meritorious.

Elwin Andrus, patent attorney, Milwaukee, Wis. (pp. 243-245)

Patents are our only means for enforcing competition in the field of invention. By recognizing and respecting the right of property in inventive ideas can we derive the necessary public benefit from our patent system. The Supreme Court, in its decision of the Great A. & P. case, did harm by reason of the public's reaction toward patents generally. Invalidating patents only gives the thief his freedom

patents in this few were simply discarded in advance; however, many were shelved because they would have ruined existing industries.

William R. Ballard, patent attorney of Jackson Heights, N. Y., "The High Mortality Among Patents (pp. 259–260)

The courts have an antipatent attitude which tends to destroy the patent right, despite the fact that the patent system has contributed importantly to our standard of living. Destruction of the patent right is against public interest because it discourages risk capital and competition in improving useful arts. The solution to this problem is primarily a question of education rather than of legislation.

William R. Ballard, patent attorney, of Jackson Heights, N. Y., As to Defining "Invention" (pp. 260–262)

Whether invention exists is a matter of judgment based upon the circumstances in each case. The court must decide whether a purported invention is within the knowledge of a man skilled in the art although it can devote only a short period of study to the question and must base its decision only upon the available testimony. Mr. Ballard proposes first, to give the Patent Office all it needs to do its job as well as is humanly possible, and, second, require the courts, once they have found novelty, to accept the Patent Office ruling as to invention except in the rare cases where it can be shown that there was a clear error in the Patent Office, or a clear abuse of discretion.

Wenell B. Barnes, Administrator, Small Business Administration (p. 361)

The Agency has furnished a report of the results of its circulars listing inventions available for further development and production.

Lawrence Biebel, patent attorney, president, American Patent Law Association, Dayton, Ohio (pp. 262–263)

The patent system contributes to the overall economy and is important for all of us. It is important we maintain the patent system so that it will be alive and vital in the simple arts. Each invention should be considered in the light of all of the surrounding circumstances. The delay is too long in the Patent Office and the work should be brought to a current level. Each application should receive more study in the Patent Office. All of the pertinent prior art should be cited and considered by the examiner. The Patent Office staff and facilities should be modernized and expanded to make an adequate search. The committee should endorse the broad principles served by the patent system.

A. Arnold Brand, patent attorney, Chicago, Ill. (pp. 263–265)

Certain recent reasoning of the United States Supreme Court is destroying valuable property rights in patents. The Supreme Court misreads the Constitution. That Court implies that only great scientific contributions are patentable on the theory that unless inventions are scientific advances, patents therefor are unworthy. Most of the useful arts of Constitution-framing days would be gadgetary under today's reasoning. Thus deplorable decay in values daily deepens for failure to appreciate the inherent drama and value of the United States patent system. Congress should recapture the days when patent property was protected regardless of how unscientific it might be.

Donald Brown, vice president and patent counsel, Polaroid Corp., Cambridge, Mass. (pp. 265–267)

Mr. Brown prepared his statement with Dr. Edward H. Land, president. Mr. Brown presents the history of Polaroid Corp., its present size, the fact that, as of October 1955, it holds 439 unexpired United States patents and more than 150 pending United States patents applications. Its business is very largely dependent upon its patent structure, and it has from the outset followed a vigorous patent policy. There is no question that Dr. Land's success in commercializing and developing his inventions in light polarizing materials was to a large extent due to the patents obtained on those inventions. The strength of the patents was largely instrumental in securing adequate capital to finance Polaroid Corp., and the strength of the company's patent picture in the photographic field has permitted the company to develop that field and to safely spend large sums on research and engineering in this and other fields. The present shortage in Patent Office personnel makes it impossible for the examiners adequately to search the art if the work of the Office is to be kept on a reasonably current footing. There is a tendency on the part of the examiners to base actions, where possible, upon

transfer the case to another district for greater convenience of the parties. Mr. Bruninga further suggests the following amendment to section 145:

> "In such a case the court shall determine the question of patentability of the subject matter on the evidence before it as a case de novo, by a preponderance of the evidence, giving due consideration to the decision of the Patent Office."

and an amendment to section 146 by adding:

> "In such a case, the court shall determine the question of priority of invention on the evidence before it as a case de novo, by a preponderance of evidence, giving due consideration to the decision of the Patent Office."

The article ends with a comment on the inventor's status and patent monopoly.

Frank Campbell, patent attorney, Washington, D. C. (pp. 277–281)

In order affirmatively to define what shall constitute a patentable invention: (*a*) a case of patentability shall be deemed to have been established when the idea of doing the thing is new, and the device of the application achieves a new and useful result, which no single prior device is capable of producing and which result goes beyond mere increased excellence of workmanship: (*b*) a case of patentability shall also be deemed to have been established where a new assembly and relationship of parts accomplishes an old result in a markedly more facile, economical, and efficient way, provided that the claims do not read upon any prior unitary device—clearly define the invention and distinguish the invention from each and every unitary, prior art, device, or method. It is better to grant a patent in a doubtful case than to deny one, because if the claims are so phrased as to define something never before known, then the public suffers no loss. Restoration of confidence upon the part of the inventor which would come with the adoption of a definite standard of patentability, would accomplish two important results: (1) It would quickly render the Patent Office self-supporting, and (2) it would enable the Patent Office to bring its work up to date within 2 or 3 years by removing the principal bone of contention between the examiners and the attorneys, to wit, the presence or absence of invention.

Herman Cohn, inventor, Baltimore, Md. (p. 281)

To encourage, protect, and assure adequate reward for the independent inventor, the assistance of colleges throughout the country could be invoked. An individual inventor could disclose his idea to the college and the college process the idea for its practicability, give advice, aid, and negotiate a sale. For this, there should be a contract between the inventor and the college. If no funds are forthcoming from foundations, the Government should subsidize this plan.

T. T. Collins, Jr., Palatka, Fla. (p. 281–282)

Mr. Collins comments that the Patent Office does not treat laymen with the same consideration as attorneys. The Patent Office examiners are not competent in the practical arts. We have a loss of knowledge because we do not publish abandoned or disallowed files. The small inventor with limited funds is at a disadvantage as compared with large corporations. He suggests that some system should be devised to lay patents open for examination and criticism by the public for a few months before they are granted. The Patent Office should give consideration to prior art submitted to them by outside parties.

Floyd H. Crews, patent attorney and president of the New York Patent Law Association, New York City (p. 283)

The following tentative conclusions from the hearings of the subcommittee: That the patent laws are now serving the small inventor well except for delays in the Patent Office; that the small inventor has a serious marketing problem; that there is a need for a market place where the individual inventor may market his invention; that this need has been filled in part by Donn Bennett and other organizations, such as Research Corp. and Southwest Research Institute. Mr. Crews also suggests that an inventor fair be promoted. He believes that such a venture should be undertaken by private capital and that some kind of subsidy ought to be provided for the first years. He also feels that a tax advantage might be provided temporarily to get such a project underway.

Hon. Logan R. Crouch, Jackson, Miss., Invention and Discovery (pp. 283–286)

"Invention" is two things: invention and discovery. Discovery is the broadest term and includes both and is used in the patent section of the Constitution. The revised statutes of 1952 reemphasize that there is a difference between these

interferences. Changes in procedure, special efforts, and training have avoided unnecessary interferences. The percentage of interferences declared during the 4 years 1952 to 1955 was about 0.5 percent of patent applications filed. At the time when motions in the first group of interferences were filed and decided, 17 months and 6 days had expired. Appeals were taken in 8 of the interferences and the duration of the appeals period for these 8, averaged 27 months and 26 days. Such appeals were abolished in the case of interferences declared after October 8, 1939. In this case, 21 months, 17 days represents extensions of time requested and granted. The principal legislative change which has been recommended in the past, and which has not been enacted, which would have an effect on the lapse of time in this case is the so-called 20-year bill, which would provide that a patent will expire not more than 20 years after the date of the filing of the application, and if the application is pending a long time the term of the patent will be correspondingly curtailed; provided that delays during the pendency of the application is not chargeable to the applicant were not to be included in determining the curtailment of the term of the patent. Such an act and provisions would have the effect of eliminating numerous delays since applicants would be anxious to have their patents issue as soon as possible so as not to have the term curtailed.

P. J. Federico, Examiner in Chief, United States Patent Office, Supreme Court decisions (pp. 291–293)

Mr. Federico provides a comparison of the file record references with the references used by the Supreme Court in holding patents invalid from May 29, 1944, to April 23, 1951. In all of the cases the patents had been sustained in some other court. The first case involves patent No. 1,537,593, issued May 12, 1925, to Gustav Eglof; the Seventh Circuit Court of Appeals had held the patent not infringed without ruling on validity; the district court had held the patent invalid, and the third circuit had held the patent had been valid and infringed. The main reference used by the Supreme Court was a patent to Dubbs which had not been cited by the examiner. Four other United States patents are mentioned in the Supreme Court's decision but none had been relied on by the examiner.

The second case involved patent 1,877,504, issued September 13, 1932 to Grebe et al. The Court of Appeals for the Sixth Circuit had held the patent invalid; the Tenth Circuit Court of Appeals had held the patent valid and infringed. The Supreme Court decision cited 11 United States patents and a prior use by another company. The main reference had not been cited by the examiner and only 1 of the 10 other patents had been cited by the examiner.

The third case involved patent No. 2,087,190, issued July 13, 1937, to A. E. Gessler. The patent had been held valid and infringed by the Second Court of Appeals. The decision of the Supreme Court mentions 4 United States patents, only 1 of which had been cited by the examiner, and 2 publications which had not been cited by the examiner.

The fourth case involved patent No. 1,687,510, issued October 16, 1928, to M. Pipkin. The Supreme Court affirmed the decision of the Third Circuit Court of Appeals which had held the patent invalid. The patent had been held valid and infringed by the Second Circuit Court of Appeals and by the Sixth Circuit Court of Appeals. The United States Supreme Court decision cited 2 United States patents which had been cited by the examiner, a domestic publication, and several foreign publications.

The fifth case involved patent No. 2,156,519, issued May 2, 1939, to C. P. Walker. The patent had been held valid and infringed by the Ninth Circuit Court of Appeals. The Supreme Court held the claims involved to be invalid because of their form and not because of prior art.

The sixth case involved patent No. 2,200,532, issued May 14, 1940, to V. S. Bond. The claims had been held valid and infringed by the Seventh Circuit Court of Appeals. The ground of invalidity was essentially that only an unpatentable discovery had been made. Two judges dissented from the decision of the majority.

The seventh case involved patent No. 2,236,387, issued March 25, 1951, to J. H. Wallace. The claims had been held valid and infringed by the Seventh Circuit Court of Appeals and invalid by the Second Circuit Court of Appeals. The decision of the Supreme Court cites 4 prior United States patents, only 1 of which had been cited by the examiner.

The eighth case involved patent No. 2,118,468, issued May 24, 1938, to T. G. Jungersen. The second circuit held the patent invalid, affirming the district court, but Judge Hand dissented. In the third circuit, the district court held

Gordon Hueschen, patent attorney, Upjohn Co., Kalamazoo, Mich. (pp. 298–299)

The courts frequently invalidate the broader generic claims and seldom interpret such a claim in a manner to save its validity. It would, therefore, seem that subgeneric, or intermediate breadth, claims should be encouraged, as these might well stand as valid claims where broader, more generic, claims might be thrown out by the courts. The Patent Office should allow more claims of intermediate scope by eliminating some of the strictly procedural practices. Any schedule of fees based on the number of claims in an application would have a result opposite to that recommended. A substantial increase in the appropriations for the Patent Office should be made as soon as possible. Additional moneys required for the operation for the Patent Office should be provided by direct appropriation. An increase in Patent Office fees would discourage many individual inventors from filing patent applications.

Charles C. James, inventor, Los Angeles, Calif. (pp. 311–312)

Mr. James points out the numerous difficulties encountered by inventors and the disadvantage under which they operate in dealing with large corporations. If these difficulties were remedied, it is believed that inventors would resume research activities with a new zest and add to our culture and civilization.

Thoger G. Jungersen, inventor of Summit, N. J. The American Patent System (pp. 299–302)

Formerly courts respected the Government's obligations in issuing patents and this created an incentive to gifted individuals to patent ideas in the United States, thereby creating employment and prosperity. This incentive has been impaired because patents are good only so long as they are not contested in the courts and the expense of patent litigation is excessive, thereby favoring the large corporation. The Patent Office is the world's greatest gambling institution, in which the chances of winning are slim. By invalidating patents the courts are destroying our only natural check upon industrial monopolies. Large industries do not need patent protection. Patents can be misused by, for example, giant corporations taking out an abundance of patents covering minor details. In the case of the individual inventor it is often a matter of life or death to have a valid patent so that a new product may be developed for marketing in sound competition with large industries. Lack of respect for patents discourages risk capital. Mr. Jungersen suggests the following improvements: First, a realization that the patent system is created for industrial progress and benefit of all the people; second, our patent laws must be changed so that unscrupulous individuals or firms are not encouraged and rewarded for their efforts to destroy inventors' property by litigation. The courts must be instructed not to invalidate patents unless fraud has been committed and other grave errors have been made in issuing the patent. A patent once issued must be considered valid. Even where a defendant in litigation produces evidence that the invention is not absolutely new in the sense that it is not published or generally known to the public, he should receive a nonassignable license to continue to use only that which he can prove beyond any doubt he used prior to the inventor's application since he did not contribute to industrial progress. A time limit should be placed upon actions seeking to declare a patent invalid. Infringers should not be allowed to continue to exploit technically incompetent judges, so that the courts destroy progress as effectively as might an enemy army. Our country cannot continue as a leader among nations without encouraging and protecting inventions.

Albert I. Kegan, patent attorney, Chicago, Ill. (pp. 302–306)

Patents promote progress. As media for the dissemination of information, patents have proved superior to other publications. In recent years the Patent Office classification system has become inadequate to the task. A thorough investigation should be made to discover and appraise new techniques for classifying all the valuable information in every patent, scientific, and engineering publication, and for processing this information to quickly obtain all the known knowledge available upon each specific new item under investigation. Mr. Kegan recommends extensive examination of the working of our laws relating to plant patents in various particulars as the United States is the only country to have any commercial experience with a plant patent system. An ad hoc committee of experts in horticulture, plant research, and patent law be appointed to investigate amending the plant patent law to prevent the extinction of patented varieties of plants. The plant patent statute imposes a

salary structures for the examining corps of the Patent Office. Delay and costs involved in obtaining and litigating patents should be reduced by reducing the backlog of pending applications and better classification. Delays in litigation seem to be less serious now than heretofore. He also feels that the Patent Office cannot and need not be self-sustaining, and any attempt to increase fees to the point of rendering the Patent Office self-supporting will stifle rather than stimulate both invention and progress.

George H. Lee, patent attorney, Oak Ridge, Tenn. (pp. 308–309)

Mr. Lee suggests amendment of title 35, United States Code, section 252, with respect to intervening rights against reissue patents. The omission of certain wording in section 252 was inadvertent and the present statute does not codify prior case law. An example of the injustice that may result from the present wording is as follows: Due to an incomplete search on the part of the Patent Office, an original patent issues with a broad but invalid claim. The applicant would be entitled to a narrowed reissue after he learns of uncited prior art and invalidity of his broad claim. Meanwhile, a manufacturer may build a plant to carry out the patented process exactly as taught in the patent and is free to continue practicing the invention, subsequent to the grant of the reissue by virtue of the intervening rights which have accrued. This is inequitable and inconsistent with the historical purposes of the reissue laws and the intervening rights doctrine. Mr. Lee suggests specific changes in the wording of section 252.

Carl B. Lutz, patent attorney, Pittsburgh, Pa., Constitutional Aspects of Patent Law (pp. 309–311)

Some erroneous ideas have been advanced relative to the patent clause of the Constitution. One is the idea that the Constitution sets up a standard of invention and the other involves reading the word "science" as part of the patent clause of the Constitution. In the first place, there is no standard of invention written into the Constitution, and, in the second place, the Constitution does not say that patents must serve the ends of science. The mere presence of the word "inventor" in the clause implies there must be a standard of invention; however, historically, the facts do not support this view. In 1789, the word "inventor" meant nothing more than one who produces something new. An official utterance that could be interpreted as a standard of invention was a statement made in England in 1774 that any material advance, call it an improvement or call it a discovery, merited a patent. A study of the history and background of the Constitution should convince anyone that any standard of invention at that time was a low one. In the early thirties the idea emerged that patents are the instrument of certain abuses by big business and that the way to attack these abuses is to attack patents. This philosophy is no doubt responsible for the development of an attitude of the Supreme Court striking down substantially every patent that comes before it. The new Patent Act of 1952 contains language which would specifically countermand "flash of creative genius" decisions and other decisions unfavorable to patents and restore the patent system as it had previously existed. If the courts decide to use the power left to them by Congress in such a way as to nullify the patent system, then Congress should take further action as may be necessary under the power given it by the Constitution fully to restore the patent incentive. Congress has full power to set up a standard of invention by legislaion, if needed.

L. A. MacEachron, patent attorney, Des Moines, Iowa (pp. 312–314)

Only a fairly wealthy individual can really afford the gamble of attempting to patent something with the uncertainty of the present law. The definition of "invention" incorporated in the 1952 codification of the patent laws, United States Code, title 35, section 103, requires a purely subjective determination by the administrative tribunal or court called upon to decide whether disputed claims define a structure that a person skilled in the art could have devised had he put his mind to it. A tough attitude on patents aids the big research organization with its almost unlimited resources. The author suggests substituting the verb "creates" for "invents" in United States Code, title 35, section 101. Secondly, title 35, United States Code, section 103, should be amended by striking the first sentence thereof, since it fosters subjective determination of novelty. He also suggests additional standards of invention and points out advantages to adoption of such standards.

ent Office was 2,000 man-years behind, and it is his belief that such a condition still prevails. This workload could be overcome by employing either 100 additional classification examiners for a period of 20 years or 200 classification examiners for a period of 10 years. The time required for examination could be materially reduced if the original examination was a complete and thorough one so that the majority of the patent art would be cited in the first action. The Patent Office examining corps should receive greater remuneration to retain an experienced and competent staff. A beneficial effect toward patentability could be had if there were a more liberal attitude in holding patents valid and a strict interpretation with respect to infringement. Adequate patent protection is necessary so that small business and independent inventors will not hesitate to enter into the manufacturing field. It is his belief that the courts appear to be adequately equipped to try patent cases and have the privilege to consult experts in the various technical fields where it is necessary to assist the court in determining only differences in construction. It is his conclusion that there is nothing wrong with the Patent Office that more money, men, and space cannot cure and that patents can be further strengthened by means of legislation.

Maynard D. McFarlane, inventor, Corona Del Mar, Calif. (pp. 324–326)

To protect one's patents, litigation is a necessity, and to a small enterprise a financial impossibility. The present patent system is not for the little man or the individual inventor. A patent requires expensive litigation to enable the owner to enforce the property rights of the patent grants. A proposal is advanced for improving the status of a United States patent by assuring its validity by virue of a complete Patent Office search and procedure. The grant of a patent shall be proof of validity in all patent litigation. This proposal takes nothing from the public but operates for the public benefit by improving the patent structure, simplifying patents jurisprudence and encouraging inventors to dedicate their inventions to the public at the end of the limited life of the patent.

Foorman Mueller, patent attorney and chairman of National Council of Patent Law Associations, Chicago, Ill. (pp. 321–324)

The small inventor would have no protection without the patent system and to abandon the patent system would take us back to secrecy of progress and cause a great reduction in industrial progress. In the last 20 years the courts have raised the standard of invention; it has been almost impossible for someone backing the inventor or a small business to expect that patent protection will make his investment reasonably safe and sound. If adequate classification were present within the Patent Office, more references would be available and would not show up only when a patent is litigated. Mr. Mueller points out the growth of technical art, the number of patents issued between 1935 and 1955; the increase in the number of engineering departments, of laboratories and engineers, and invention stimulated tremendously by the recent two wars. It is his feeling that Patent Office appropriations and expenditures for classifying this mounting mass of technical material have not kept up with the times, and, coupled with less experienced personnel, patents have issued without the quality of examination which would influence a court to depend upon the validity of a grant as courts once did. He also feels it important to consider the patent provisions of the Atomic Energy Act. There is an urgent need of wider and freer dissemination of technical information and for prompt, healthy patent prosecution wherein the patent issues from the Patent Office with a better examination due to up-to-date classification and competent examining personnel. A more realistic viewpoint by the courts would provide earlier protection, would permit industry to release information earlier and provide patent protection in relation to the investment capital necessary to accomplish new discovery or development.

James M. Naylor, patent attorney, San Francisco, Calif. (p. 326)

A reasonable effort should be made to give greater sanction to the work of the Patent Office in its examination and issuance of patents. Our patent system would be immeasurably strengthened if we could cause, by appropriate means, the following words of Judge Orr, of the United States Court of Appeals for the Ninth Circuit, to be universally adopted and realistically applied. Speaking in *Patterson Ballough Corp., et al.* v. *Moss, et al.* (201 F. 2d 403, 96 U. S. P. Q. 6208), Judge Orr stated:

> "The presumption created by the action of the Patent Office is the result of the expertness of an administrative body acting within specific fields and can be overcome only by clear and convincing proof."

fused thinking about monopoly, we will be far along the road to overcoming current complaints about the operation of the patent system.

Dr. Estelle Ries, author, New York, N. Y. (pp. 331–336)

Dr. Ries describes the experiences undergone by an individual inventor, her father, Elias Ries, in obtaining patent protection. There are two major types of invention—a simple affair or novelty, readily produced, promoted, and adopted; the other, far more important, is highly original and fundamental. The latter inventions are ahead of their time and require the art to grow up to a point where they can be successfully used. They require an investment from sources other than the inventor before a practical demonstration can be had. It is common knowledge and practice that people are unscrupulous enough to infringe patents. The inventor must get lawyers to protect his property right. He must wait a number of years, in many instances, to prove that he has sustained damages by the infringement of his opponent. The patent system should be strengthened by making it mandatory upon the courts to sustain patents. Objectors should be given a chance to protest before patents are granted. The patent should belong to the inventor for 17 years after its actual utilization in industry, so that royalties would be effective a total of 17 years, which is the intent and spirit of a patent monopoly as granted. It is suggested that the inventor be compensated whenever his invention is used by industry even after its 17th year. This would mean that manufacturers would not hold up purchase in anticipation of the expiration of the patent. It would speed up progress and assure just compensation to the inventor. Only patents of value would come under the new arrangement as nobody would want to use valueless patents anyway. A small fee to cover the work of the Patent Office is reasonable. The Patent Office might better depend, perhaps, for its chief support upon fees deducted from profit resulting from commercial disposal of the invention. One or two percent deducted from the profit that manufacturers make on the use of inventions for the 17 years of active life of a patent would be a real resource to the Patent Office. It would enable the Government to put the Patent Office staff on a far more substantial basis. The Government could pay and maintain the most efficient experts to bring its work up to date. Such a tax might also be used as a source of sponsoring research scholarships and other benefits to creative thinkers and inventors. The Supreme Court, which does not know much of the subject matter of a patent case, usually holds the patent to be invalid. If the Patent Office would make a more thorough examination before awarding a patent, it would reject large quantities and issue fewer and better patents that would be far less subject to infringement, interferences, and other ills. Court costs to the inventor would be reduced. If larger funds were available for the Patent Office, more complete investigations could be made before issuing a patent. It is one thing to invent a device, another to obtain a patent for it, and still another to sell it. Powerful corporations find it easy to circumvent a poor inventor. This has been overlooked in present patent practice. It would seem desirable to have one patent appeal court instead of the present procedure. It is suggested that there be a class of patent engineers to whom an inventor might apply for technical and market advice before he ever approaches a patent attorney. This could eliminate many devices which clutter up the time and energy of patent attorneys, delay the work of the Patent Office, and give rise to false hopes among would-be inventors. The patent courts should be manned by persons educated in electricity, chemistry, or other science specialties as well as in law. If judges cannot be found with this facility, then the courts should have a judge and an engineer as this work cannot be honestly or effectively performed by either skill alone.

Hon. Simon Rifkind, attorney and former district court judge, of New York, N. Y., A Special Court For Patent Litigation? The Danger of a Specialized Judiciary (pp. 336–338)

Judge Rifkind opposes the proposition that the judicial product of patent litigation would be improved if the trials were conducted by judges specializing in patent cases. He is opposed to patent courts with patent judges. Judge Rifkind states that patent law is part and parcel of the whole body of our law; that patent license agreements are essentially contracts subject to the law of contracts; that infringemens are essentially trespasses subject to the law of torts; that patent rights are a species of property rights; and that proof in patent litigation is subject to the laws of evidence. Changes in all these branches of the law have an effect on the patent law as well. One cannot segregate patent

to the above effect be incorporated as part of each amendment; that a statement giving the attorney's field of search and the references cited to the applicant prior to the filing of the application be contained in each application, or, alternatively, a statement that the inventor desired no search to be made prior to the filing of the application.

Harold S. Silver, patent attorney, Milwaukee, Wis. (p. 347)

There have been literally thousands of proper uses of the United States patent system which have benefited the inventor, businessmen, and the general public for each abuse of the patent system. The inventor benefits from patents granted on his inventions because his ideas are protected from exploitation by others and he gains increased recognition among his fellow workers. The businessman or corporation benefits because patents help pay the cost of development by preventing others from using the development without paying for it. The general public benefits because patents are an incentive to provide better products so that people can have more and live better.

Freeman Smith, inventor, North Hollywood, Calif. (p. 348)

The number of patents appalls one. The number of patents that are useless also appalls one. However, many patents are good. It is suggested a scholarship be granted by the Government to individual inventors to encourage them to create.

Samuel B. Smith, patent attorney, San Francisco, Calif. (pp. 348–349)

Independent inventors are ready to pay additional fees in the Patent Office if by so doing they can obtain quicker action in pending matters. Consideration should be given to the possibility of encouraging risk capital in promoting inventions. Congress could aid in this respect by giving to bona fide investors in inventions additional tax benefits. The individual inventor is handicapped and the corporations are in an awkward position when the independent inventor submits material without solicitation when there is so much chance that the corporation is working on inventions similar to that presented. The work of the Patent Office is jammed by many applications which define inventions not of proved worth. Lack of foresight on the part of the inventor with respect to the practical and economic aspects of goods that the public will buy works against him and is a far greater threat than even critical courts ready to hold so many patents invalid. An inventor loses out many times because he demands too much money for his contribution. We should educate the private inventor to the thought that patents are granted to promote progress, and that as such, there are very few patents which remain important for 17 years. Most patents are superseded by alternatives prior to their expiration, unless they are fundamental in character. The private inventor would be helped a great deal if our laws in bringing declaratory judgment actions were amended. The patent profession could do a great deal for the individual inventor by generally discouraging litigation.

Cyril A. Soans, patent attorney, Chicago, Ill. (pp. 349–350)

The present Patent Office backlog cannot be reduced unless the Patent Office is supplied with additional manpower and additional facilities which are so greatly needed. Mr. Soans states that he is well satisfied as far as the basic patent principles are concerned; that Congress will not depart from its traditional belief in the value of our patent system as an inspiration and incentive to our inventors in their efforts to promote the progress of science and the useful arts. Patent reform should be delayed until there has been time to obtain the views of the Supreme Court on the recent codification of the patent statutes and until more experience is gained in the working of the new statute.

Emmett G. Stack, patent attorney, Portland, Oreg. (pp. 350–351)

Conditions in the Patent Office have not improved over the years but have gradually grown worse, especially in regard to the delay in acting on applications. This delay is detrimental to the inventor, who cannot afford to make an extensive search and cannot sell his invention before he has his patent. The corporation makes an exhaustive search and knows exactly what to expect in the way of an allowance before it files its application. Further, it takes advantage of every delay allowed by the Patent Office in order to extend the monopoly many years beyond the usual 17. A large corporation can also charge all patent costs to the expense of doing business. A raise in fees would not make any difference

publication should be found undesirable, so that the public would have notice of the pendency of patent applications delayed by this proceeding. Mr. Woodward also proposes that Congress provide that no person shall be prevented by estoppel or contract from showing that a patent for which he is licensed or a patent which has been assigned by or to him is in fact invalid. He comments that a strong patent in weak hands creates a position by which the owner may raise money and hire specialized professional services to develop his valuable property and enforce his property rights.

James Worsham, inventor, Long Beach, Calif. (p. 360)

An outside business firm should survey the Patent Office to see if there is any undue delay occuring. If it is practical and not too expensive, branch offices of the Patent Office could be distributed around the country, to reduce the expense of personal interviews with examiners.

AMERICAN PATENT SYSTEM

MONDAY, OCTOBER 10, 1955

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

The subcommittee met, pursuant to notice, at 10:10 a. m., in room 424, 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, and John Stedman, Associate Counsel; Robert Kilgore, staff member, Judiciary Committee.

Senator O'MAHONEY. The subcommittee will come to order.

I believe that it is best for me to open with a brief statement, to indicate the nature of the proceedings today.

This hearing is not an "investigation" in the sense that word has to be used to describe a congressional search for scapegoats. It is a study in which the best minds in the patent field are being requested to contribute their suggestions for the modernization of the patent system.

The authority of encouraging inventors by appealing to the profit motive was written into the Federal Constitution in 1787 by the wise pioneers of popular government. They granted to Congress the power—

> to promote the progress of science and useful arts by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries.

The patent law, therefore, was intended to stimulate the activity of inventors who were gifted with the ability, the industry and the perception to produce works and discoveries which might never be undertaken if the author or inventor were without the protection of law to shield him from becoming the victim of those who would unscrupulously pirate his work.

The Congress did enact such a law, and exclusive rights for limited times were granted to authors and inventors.

The question that now presents itself is whether the individual inventor still enjoys the sort of protection the drafters of the Constitution had in mind. The Senate by its adoption of a special resolution authorized the Judiciary Committee to undertake what was conceived to be a necessary study to determine what changes should be effected in the patent law if new frontiers are to be opened to the in-

oratory ursurping the function of the garret inventor; and, if not, how can we bring the inventor down from the garret and into the living room and eventually into the dining room, where he can pick up the profit? The problem comes up in several ways.

First, we find the practical business problem of the inventor in financing the research he must undertake and his cost of obtaining patents and marketing inventions.

Second, is the problem of the dealings of organized industry with inventors in order to achieve a satisfactory working arrangement which can best convert the fruits of the inventor's mind into merchantable commodities whose introduction into the market will benefit the public, the inventor, and the producer.

Third, is the problem of high mortality of patents—the fact that our courts so frequently hold patents invalid. What is its effect upon the inventor and the manufacturer? What is the underlying reason for this situation? What can be done to remedy it?

Fourth, is the cost of obtaining patents and of patent litigation. What is the effect of these costs upon inventors and industry? How can they be reduced consistent with maintaining a sound patent system?

Fifth, apart from financial costs, how adequate are our present court procedures both in terms of the time it takes to reach decisions and in terms of the correctness of those decisions? Are our courts equipped to handle the complex technical subjects involved in patent litigation; do they need the benefit of consultation with independent experts, or do we need special courts to hear patent cases?

Sixth, how adequate is Patent Office administration in terms of the time it takes, the results reached and the issuance of patents that our courts will enforce. How can this administration be improved to the advantage of the inventor, the businessman, and the general public? Do we need more patent examiners? Do they need better working conditions so they can work more efficiently, and do they need better salaries so the Patent Office does not lose them to private industry after they have been trained? Can Patent Office procedure be improved, especially with respect to classification?

We cannot, of course, canvass all the problems in these 3 days. Consequently, such difficult problems as the relationship of the patent law to the antitrust laws and the overall problem of Government patent policies will be left until a later date. If we can cover these preliminary matters, we shall be able to have a better understanding of the nature of the problem, and better able to undertake the more detailed studies which will follow.

I think it appropriate to add that the committee staff includes among its members first, as the chief of staff, Mr. Julian Caplan of San Francisco. Mr. Caplan is a graduate of the University of Michigan Law School. He was at one time a member of the staff of the Department of Justice and is now an active practitioner of law in the field of patents. Mr. John Stedman, a graduate of the University of Wisconsin Law School, a law teacher there in the patent field, is associate counsel. Also, we have Mr. Robert Kilgore, who has been a patent examiner, who is also on our staff.

We have tried to select a staff of competent, objective people, whose only interest is the interest of the committee; namely, to help us lay

observe the rules of orderly procedure, everybody will have an opportunity to be heard.

I might also make the announcement that Mr. Bennett, who was the first to be called to the table after the Commissioner and Mr. Federico, has brought a film with him today, and will exhibit that film this afternoon at 2 o'clock. It is a film which he prepared in the pursuit of his work as an agent for inventors.

Mr. Bennett, would you please make the announcement with respect to exactly what this film is? I want it to be known, so that we may have to move up to the caucus room to accommodate the audience.

STATEMENT OF DON BENNETT, DIRECTOR, THE BIG IDEA, STATION WCAU-TV, PHILADELPHIA, PA.

Mr. BENNETT. It is a pleasure, Mr. Chairman. This is a half-hour film which it is proposed will be used, beginning very shortly, to further the work of the independent inventor. We have worked for about 6 or 7 years now on this television program, known as The Big Idea, which gives the little fellow a chance to demonstrate his invention and tell the story behind it.

At the end of his brief demonstration he is given a chance at asking what he wants. If it is a million dollars to promote it, he asks for that. If he wants manufacturing help, he asks for that. If he wants distribution or investors, whatever it may be, he asks for that.

In 6½ years of this program, being sponsored by a Philadelphia bank, the Philadelphia Savings Fund Society, there have been about 1,600 inventors presented, 4 a week, roughly. And of that number, 27 percent have sold their inventions, receiving from a few thousand dollars a year to, in 3 instances, into the millions. We hope now there are several more coming along who will soon join that million-dollar class. In effect, it makes it probably the million-dollar jackpot program instead of the $64,000 one.

It is not our purpose, as producers of this program, to enter in, in any way, with the inventor for the proceeds of his invention. Once we start him on his way and pass along the information that comes in, it is up to others. Some 12,000 companies have written in, starting with the foremost names in American industry. Once they are started on their way with those companies, through their own patent attorney or legal counsel and that of the company, they deal for themselves.

We are there with a complete file on some 36,000 inventors, and their inventions, for anyone who wishes to see them at any time, to investigate those files. And this, again, has happened with many hundreds of companies who have come to us to look through the various categories of inventions, to select those things that they want. That is the purpose of The Big Idea.

Senator O'MAHONEY. Mr. Bennett, so that you may have full recognition by the press, will you identify yourself, please?

Mr. BENNETT. Yes. I am Don Bennett, president of Don Bennett Productions, Inc., of Philadelphia.

Senator O'MAHONEY. And subject of a recent article in the Saturday Evening Post?

Mr. BENNETT. It was written about the program; yes.

May I add one further fact?

Senator O'MAHONEY. Certainly.

Senator O'MAHONEY. May I ask you to repeat for the benefit of all present what you consider to be the primary subject that ought to be clarified?

Mr. BRENNEN. The primary subject might be difficult to state, but we feel that one of the primary subjects that should be considered here is the lag that exists between the time that a patent application is filed and the time that the final patent is granted.

As we all know, everybody here probably knows it better than I do, this period can amount to many years. For a small inventor who is seeking the security of the patent protection, this lag can be almost fatal. We are very much concerned with it, and we are sure that everyone here is. We feel this should be one of the primary points of investigation.

Senator O'MAHONEY. You feel that Congress and the Executive should do whatever they can to accelerate the examination and action by the Patent Office upon which applications which are filed with them?

Mr. BRENNEN. Quite definitely.

Senator O'MAHONEY. Does anybody want to make any special comment upon that suggestion?

STATEMENT OF ALVIN M. MARKS, WHITESTONE, N. Y.

Mr. MARKS. Mr. Chairman, my experience has been that in some cases it is not desirable to rush a patent through. In many cases you are not quite ready to market it. Research and development is going on. There is at the present time a procedure for granting priorities to those patents which are needed for protection against infringement.

Possibly such procedures should be studied to a greater extent, so that the priority system could be developed to accelerate those patents which require acceleration, and to leave those patents aside which can remain unissued for a while without harming anyone.

Senator O'MAHONEY. Then your feeling is that the application of the inventor who does not want prompt action should, under some procedure, be withheld from action?

Mr. MARKS. That is right.

Senator O'MAHONEY. In other words, you want to set up a priority for nonaction?

Mr. MARKS. Not quite that.

As I understand it, there is at present a procedure for rushing the patent through if there is a danger of infringement. It is called an application to make special, and then the Patent Office considers it more rapidly, as in one of my cases recently.

At other times I have been unhappy that the patent has been acted on so quickly, because it was still being developed. To grant the patent immediately under these circumstances would result in the period of the actual commercial use being cut down.

Senator O'MAHONEY. What is your response to that, Mr. Brennen, to the suggestion of Mr. Marks that the system now affords a procedure for special treatment?

Mr. BRENNEN. Well, all I can say to that is that special treatment such as has been mentioned requires extreme necessity.

STATEMENT OF WILLIAM R. BALLARD, REPRESENTING THE NATIONAL ASSOCIATION OF MANUFACTURERS

Mr. BALLARD. Mr Chairman, in pursuance of the invitation or the request, I have filed with the counsel a very brief statement of what seemed to me to be the controlling consideration.

Senator O'MAHONEY. You mean that you filed it with the committee; did you not?

Mr. BALLARD. I prepared it, and I think that I filed it. The invitation suggested that we do that; I did prepare such a statement.

Senator O'MAHONEY. Yes; we have such a statement here.

Do you wish to have it entered in the record at this point?

Mr. BALLARD. I do not care at all, sir. That should accord with your own procedure.

(The prepared statement of Mr. Ballard is as follows:)

STATEMENT BY WILLIAM H. BALLARD, ADVISER TO THE COMMITTEE ON PATENTS OF THE NATIONAL ASSOCIATION OF MANUFACTURERS

My name is William R. Ballard. I am adviser to the committee on patents of the National Association of Manufacturers, a voluntary organization of over 20,000 manufacturers, 83 percent of whose members have less than 500 employees each. This statement is filed on behalf of that association in pursuance of the request contained in the letter of Senator O'Mahoney, dated September 29, 1955, setting times for informal conferences on the subject of patents, trademarks, and copyrights.

The guiding star for any study intended to improve our patent system must, it seems to me, be the basic fact that the whole plan, including the Patent Office itself, has been set up entirely for the benefit of the public, and for no other purpose—and in particular, not for the benefit of inventors.

This fact is clear from the constitutional provision itself (art. 1, sec. 8) which authorizes Congress to grant patents. The single purpose there stated is to promote the progress of the useful arts. By useful arts was meant the things we use in our daily lives and our ways of doing things, all of which go to make up what we call today our standard of living. So the whole purpose is to improve the standard of living of our people by offering an inducement and reward to those willing and able to make the improvements. The period of exclusive right which we call a patent is intended to be just that and nothing else.

The public's interest in the matter is to get the improvements made—as many as possible and as soon as possible. Who makes them, or how they are made, is of little importance. The public is not even concerned with who owns the patents, because, at most, a patent can only prevent others from practising the invention for 17 years and this much the public has already conceded.

The increase in the number of inventions coming out of organized company research in recent years is not an evil. Many of the most striking improvements in our standard of living could not have been achieved in any other way because of the cost involved. The more we can get from these sources, the better.

On the other hand it is an undeniable fact that many of the greatest single advances in the useful arts come, and have always come, from individual, or so-called independent inventors, and it is certainly important, from the public's viewpoint, that the inducement offered by our patent system should be such as to reach these individuals. Otherwise we are quite certain not to get all the inventions possible, or as soon as possible. It is mainly in this area that there is room for improvement.

There is nothing wrong with the substance of our patent law. The experience of 160 years shows this beyond question. The trouble is in its administration. There is too much delay in getting the patents issued. Their validity after issuance is too often subject to question. The cost of getting patents is perhaps too high. And the cost of enforcing patents in the courts and the delay involved are certainly much too great. Also, for the past 20 years or so, we have been suffering from misunderstanding about patents, in our courts and elsewhere.

The difficulties in the Patent Office have been mentioned. They are ones that bear heaviest on the independent inventors, and the difficulties of enforcing in the courts those patents, and the delays, bear very heavily on the independent inventor.

There is just one other thought which I might call the converse of the thought I first mentioned that I would like to speak of. That is this: When I say that the patent system was set up entirely for the benefit of the public, I would like to call attention also to the fact that the Constitution in saying that patents should be issued to inventors, pointed out that Congress is the one that promotes the progress of the sciences and the useful arts and not the inventor *after* he gets his patent. There is an immense difference.

The Constitution itself says that Congress may promote the progress of the useful arts *by granting* patents. And there is the crux of it.

After you invent and get your patent you merely have your pay for doing what the public asked you to do, and you do not have to use it, otherwise than you would if you got a monetary reward.

Senator O'MAHONEY. Your statement may be summarized that you are for more and better inventions and more rapidly than is now possible?

Mr. BALLARD. Yes.

Senator O'MAHONEY. And that Congress should take some further steps than has heretofore been taken to promote the utilization of such patents as are issued?

Mr. BALLARD. That I did not say, and I would not say it. Congress does its chore when it provides for the issuing of the patent, thereby promoting the progress of the useful arts and of our standards of living, because it has offered a reward to those willing and able to do the work. After the inventor gets his patent that is merely his pay.

I do not think we should be concerned with forcing him into any channel of development or otherwise. It would be a good deal like taking a paycheck of any other public servant and making him use that money for the public benefit. He has rendered his service to the public by his public service.

Senator O'MAHONEY. Does that mean in your opinion the law is now perfect, that it should not be changed or improved?

Mr. BALLARD. The fundamental law needs no improvement in my opinion. The administration of the law limps because of many things that have already been mentioned. It is in that field we find room for improvement. Some of it is hard. Some of it is easy, relatively.

The troubles in the Patent Office can be relatively easily reduced by giving that office enough force and enough equipment to do its job as well as humanly possible.

Senator O'MAHONEY. Let me ask Mr. Federico, out of your experience, what proportion of the patents that are issued by the Patent Office under the law provided by Congress ever find a useful market?

Mr. FEDERICO. That is an extraordinarily difficult question. We do not get reports on what inventions are used. So we do not know except in individual cases.

From time to time, however, I have looked at estimates made by various people and reports filed by different companies in different proceedings—and tried to make an estimate. Various people have stated different percentages.

or electrically is inferior to something already known, and whether or not the invention shown in the patent is rendered obsolete quickly by some succeeding invention.

Senator O'MAHONEY. You agree with Mr. Brennan that steps should be taken to lessen the lag in action upon patent applications in the Patent Office?

Mr. KEGAN. Most emphatically, yes.

Senator O'MAHONEY. Is there any other comment?

Congressman Lanham, it is very pleasant for me to see you here, sitting around this table. You were a Member of the House and the head of a similar committee years ago when Congress acted upon legislation affecting this system. I was the opposite Member in the Senate.

STATEMENT OF HON. G. FRITZ LANHAM, A FORMER REPRESENTATIVE IN CONGRESS FROM THE STATE OF TEXAS

Mr. LANHAM. Mr. Chairman, it is very gratifying and it is very pleasant for me to see you here. I appreciate your kind and gracious statement, Mr. Chairman, and it brings to mind many happy experiences I have had in my association with you in trying to promote our patent system.

I also represent the National Patent Council, an organization of the smaller manufacturers interested in the promotion and protection of our patent system.

My 25 years of service on the House Committee on Patents led me to the conclusion that the prosperity of our country, industrially, and otherwise, has depended upon the small inventor, the independent inventor.

Let us bear in mind that most of the big business of this country started as small business. Not only is that true, but many of the big businesses of this country today are dependent upon the products that are manufactured under patents held by small concerns. And I cite the automobile industry in particular.

The important thing is to preserve and promote the incentive of the individual inventor, the small man in particular, because it is this incentive which has led to inventions that have made our country preeminent industrially and otherwise among the nations of the world. That incentive must not be impaired.

It is being impaired today by reason of the fact that an inventor has to wait 4 years to get final action upon his application. Because of the backlog of applications; the research in the Patent Office is such that he cannot afford such a delay in final action upon his discovery.

Bear in mind that the Appropriations Committees have in recent legislation increased by $2 million the appropriation for the Patent Office in order to get started on the elimination of this great backlog. And it is contemplated that similar increases will be made from year to year until we get the system in such working order that patent applications can be acted upon much more promptly.

So under the existing circumstances the small inventor, the man of small means, cannot afford to wait 4 years. He has to seek other fields of employment and endeavor in order to make a living.

I think we must remember that most of the men who have invented things of greatest use in this country have been individuals who started as little fellows. Thomas Edison, for instance, hoped from one of his early inventions to get as much as $2,000. He sold it for $40,000. Nothing in his educational background or otherwise forecast his wonderful contributions to this country.

Of course, that could be duplicated in many, many instances of small inventors.

So the incentive to keep our country preeminent among the nations in the world is of vast importance. The incentive to the small inventor must be maintained. And I think it is important also, incidentally, Mr. Chairman, that we see that other legislative proposals that are made, if they impair the functions and the operations of the Patent Office, should not be enacted. I think they should be very carefully scrutinized. And I think that perhaps there are some pending along that line that deserve very careful study and consideration.

Senator O'MAHONEY. Does anybody want to comment on the comments of Congressman Lanham? It is hard to get you fellows worked up into any sort of a debate.

STATEMENT OF FRANK HYMAN, INVENTOR

Mr. HYMAN. My name is Frank Hyman, of Baltimore, Md. I hold patents on safety devices that keep gasoline tanks and volatile tanks from exploding.

I saved the Government over 5 million pounds of brass during the war.

The thought that I have in mind is that when the inventors submit their inventions and start to manufacture, the companies should have the courtesy to call on us at least to allow us to bid on these units. There are certain instances where a lot of the fellows will bear me out on that.

These large organizations will integrate our product into their setup. And if they called on us we could save them millions of dollars, but they take it on their own.

I have a letter from a very prominent manufacturer stating that my item is very good, they are manufacturing it, and yet they do not allow me to bid on my own product.

Senator O'MAHONEY. I do not quite understand what you mean.

Mr. HYMAN. I made the devices that went on the fighting tanks. It is a safety device that keeps the gasoline tank from exploding under any condition. The tank people are using it. And I never hear from them, so far as calling me in or asking me to submit bids on that particular item.

Senator O'MAHONEY. You mean for the manufacture of the item?

Mr. HYMAN. For the manufacture of that particular item.

Senator O'MAHONEY. Are you equipped to manufacture?

Mr. HYMAN. Yes; I am.

Senator O'MAHONEY. Well, of course, it would be difficult for Congress to legislate on the subject of courtesy, as you first suggested, in the industrial and economic field. These things proceed theoretically, at least on the basis of who knows whom.

Mr. HYMAN. Being a good Democrat, I might have lost out this time. I do not know. [Laughter.]

that a great many of the men and women who work in the Government do so out of a devotion to public service rather than a desire for large compensation, and I am sure Mr. Federico knows and has known many men in the Patent Office during the long term he has served there who have had opportunities to go into more remunerative employment outside who have not done so because they want to remain there. Am I right?

Mr. FEDERICO. Yes, sir.

Mr. WATSON. May I say——

Senator O'MAHONEY. Yes, Commissioner Watson.

Mr. WATSON. Any arbitrary prohibition which would have the effect of preventing the examiners from leaving to seek private employment and thereby improve their status in the world might have an effect, if pushed to extremes, of making it more difficult for us to recruit examiners in the first instance. So that subject should be given very careful consideration.

Senator O'MAHONEY. Isn't it a fact, Mr. Commissioner, that under the German system, at least at one time, the German Government pursued the policy almost of drafting competent people to serve in the Patent Office, brought them from industry into the Patent Office?

Mr. WATSON. I am not sure of that, but I was recently in Munich and I ascertained that there was no difficulty whatsoever in enhancing the staff of the German Patent Office. All they have to do apparently is to announce that there are positions available in the patent office and qualified applicants having all the customary German degrees plus 5 years' industrial experience will apply, and that apparently is because of the fact that the level of industrial return to the worker there is maintained below the level of the patent office remuneration, taking into consideration the fringe benefits, the retirement benefits and also the dignity of the office.

In Germany a patent examiner is quite a personage in his community and is highly regarded.

Senator O'MAHONEY. The Germans have a very high reputation for their capacity in this field, have they not?

Mr. WATSON. Most excellent.

Senator O'MAHONEY. And they have applied, as you describe it, their profit system to recruiting the highest type of patent examiner.

Mr. WATSON. Well, they raise the money and they pay the examiners sufficiently well to have no problem of recruitment.

Senator O'MAHONEY. When the time comes for you to speak, I gather from what you have said, you will be speaking for bigger and better salaries for the Patent Office?

Mr. WATSON. In certain of the grades. Our principal difficulty resides in the higher grades. The young man who enters is well paid, I think, and makes progress for a number of years. When he reaches the GS–12 grade—and there are more examiners in that grade by far than in any other grade—he finds it most difficult to progress further. That is at the time when he is in the greatest need of money. He will by that time have acquired a wife and half a dozen children and other expenses, paying for a house, and so on.

Those men are of very great value to the Patent Office. Inasmuch as they have had behind them years of experience, their work can be absolutely relied upon. They need very little supervision and if some

Furthermore, it gives anybody in whatever walk of life, a chance, no matter where they may live in the country, from coast to coast, to go into these particular accredited colleges that exist and have them help them with their patents, scientific, and then help them to obtain patents through a lawyer of their own choosing, or perhaps a lawyer that the college wishes to say, "This is the man," and also help him to market it.

One gentleman before me, Mr. Hyman, complained regarding a manufacturer. That isn't a Patent Office matter, I know that, but this is to some extent a small inventor's business. If I have an idea pertaining to a patent that is very valuable and it is submitted before it is patented, patent is pending, I know as an inventor of a number of patents, there are so many ways to get around it.

I am not pointing out General Motors or Du Pont or any other organization of that kind. Why have a chance to be remunerated in a manner that one should be? But you let Johns Hopkins University apply for a patent for you and they will get recognition, and they won't do it unless it has merit.

Therefore, if I were to sign a statement with Johns Hopkins University or the University of Maryland—I live in Baltimore, so they would be the colleges I would go to—their statement would say, "We think this is worthy and we will work with you and when we are ready, we will work it out. You will sign this statement. If there is a royalty, it is on a percentage basis after all expenses are deducted."

Senator O'MAHONEY. What would be the incentive to universities and colleges to establish such a cooperative research?

Mr. COHN. The incentive would be the very same incentive that I as an individual inventor have. If they think well of it and they will be remunerated for whatever remuneration there will be, they will receive probably on a 50–50 basis, if they want equal remuneration incentive.

You know that a lot of universities are endowed with patents, or their professors have patents in various fields and are remunerated, and how many of the corporations demand signed statements that any of their employees would turn over any patent they happen to patent while they are in their organization?

This is remuneration enough. I think that is basic. I don't see where you need the Government in this. It is just a matter of suggestion. I think every university would be glad to have a chance to come in on some of these patents if they could. You would solve your problem of the small inventor.

Senator O'MAHONEY. You are not making any suggestion——

Mr. COHN. This is my suggestion. I suggest that every accredited college, or I would say every accredited——

Senator O'MAHONEY. You are making this recommendation to a committee of Congress. What legislation do you think Congress could pass to effect this objective?

Mr. COHN. Well, if Congress wishes to, I would say help the colleges; and I don't know what law it would take.

Senator O'MAHONEY. That would mean a subsidy, would it not?

Mr. COHN. Yes. I am not particularly in favor of a subsidy. I think each college could take care of itself in that respect because they would be remunerated. It is just a matter of presenting the picture

help to the independent inventor in the area outside of Sinclair's field of interest.

Senator O'MAHONEY. Thank you very much, sir.

Mr. WOODWARD. Mr. Chairman.

Senator O'MAHONEY. Yes, sir.

STATEMENT OF WILLIAM R. WOODWARD, PATENT ATTORNEY, NEW YORK CITY

Mr. WOODWARD. My name is William R. Woodward, sir, and I would like to say that these remarks prompt me to call attention to the fact that the Research Corp. in New York, which does have arrangements with most universities for developing the inventors' inventions that they may be submitted by members of the university staff on a kind of a royalty-sharing basis, does accept proposals from independent inventors for studying the invention and giving a little help. If they find that it has possibilities, they go ahead on a royalty-sharing basis.

Senator O'MAHONEY. Are you not associated with the A. T. & T.?

Mr. WOODWARD. Yes; I am. But this particular remark was based from my study of the Research Corp. when I was working for the Department of Justice.

Senator O'MAHONEY. Would you define that Research Corp.?

Mr. WOODWARD. It is known as the Research Corp. and it was established by Frederick Cottrell with a grant of certain patent rights which he obtained upon the development of the electrostatic precipitator. Mr. Cottrell was a distinguished inventor and was very much interested in promoting the development of inventions. In his later life he served as an expert to a number of Government departments and at all times was much interested in developing inventions.

I had the good fortune of meeting him shortly before his death in 1940.

The corporation still runs the precipitator business on the one hand, but runs the considerable general patent development business along the lines intended by Mr. Cottrell and his cofounders.

Senator O'MAHONEY. Do you know whether the corporation is represented here?

Mr. WOODWARD. I haven't heard of it being represented. I am very well acquainted with its counsel.

Senator O'MAHONEY. Mr. Palmer.

STATEMENT OF ARCHIE M. PALMER, NATIONAL RESEARCH COUNCIL

Mr. PALMER. I am not representing the Research Corp., Senator. I am with the National Research Council which, as you know, is an independent organization here in Washington which aids Government, industry, and universities, as well as individual scientists. We have been working in this field and have published a number of books and articles on the subject of nonprofit research and patent management.

Research Corp. is a striking example of a nonprofit patent management foundation which aids inventors and universities and other nonprofit organizations. Research Corp. was established in 1912, with the generous grant of the patent rights of Dr. Frederick Cottrell, as a nonprofit organization to promote and advance the sciences and to

periences I have had the opportunity to observe a good many of the problems involved in the development and handling of patentable discoveries and inventions.

I have been interested and shall continue to be interested through these days and on beyond in what may develop in this field, because I have a very strong feeling that behind it all is the recognition of the rights and equities of the various parties concerned, and particularly the inventor. That is what in our work at the National Research Council we have been endeavoring always to bring out for the benefit of industry, Government, and the universities, how to recognize the rights of the inventor himself in his productivity, and at the same time to give him the necessary incentive to continue his inventive productivity.

Senator O'MAHONEY. Who are the other parties concerned?

Mr. PALMER. The other parties concerned are naturally the employer because he has certain rights and equities in the invention, and then maybe some third party that may be aiding in financing the research through a contract or grant. For instance, the Government may be contracting with an industry or with a university in a piece of research out of which the invention grows.

Senator O'MAHONEY. You speak——

Mr. PALMER. And, of course, in the last analysis it is the public too that must be considered.

Senator O'MAHONEY. Like all the rest of us you speak in terms of the individual person. You speak of the employer as such. Frequently the employer is not "he," but "it," a corporation or an institution.

Mr. PALMER. By the same token the inventor may not be a "he." It may be a team of workers in various disciplines participating in a research project as it is related to their fields.

Senator O'MAHONEY. That is right. In other words, the organized aspect of the patent problem is one to which we must give a lot of attention, don't you think?

Mr. PALMER. And the interrelation of the parties, not merely in the sense of individuals but as parties to the development and evolution of a patent.

Mr. LANHAM. I think it would be interesting to know the percentage of patent applications that are made by individuals, the percentage made by small business and the percentage made by so-called big business. I think that would bring to the fore the fact that the great preponderance of applications are submitted by individuals.

Senator O'MAHONEY. Yes, but how about the patentee?

Mr. LANHAM. If the application is submitted by an individual, the patent would go to the individual. What he would do from the standpoint of getting compensation under that patent after it is issued might involve other people, but he becomes a patentee himself.

Senator O'MAHONEY. But how about the application which is filed under an obligation to make an immediate assignment?

Mr. LANHAM. Of course, it is impossible, I imagine, to estimate that number, but I do think it would be helpful to have the information as to those various proportions of personnel.

Senator O'MAHONEY. You recognize that there is that possibility of assignment, do you not?

institutional research. We don't have such records, but ordinarily when an invention is made by an employee of a corporation or of an institution, under obligation to the corporation, the application will be assigned to the corporation or institution.

The assignment occurs some time during the life of the application or shortly before the patent issues. We are able to tabulate representative samples of the patents issued, showing whether or not they are assigned to corporations, and a table was furnished to the committee with a chart showing that during recent years, say, during the last 10 or 15 years, the number of patents issued that are assigned to corporations at the time of issue average about 60 percent of the total patents.

Mr. LANHAM. Mr. Chairman, my inquiry was prompted by the fact that at a congressional committee hearing in 1947 there was testimony from the Patent Office to the effect that 17 percent of the applications for patents were submitted by big business and 83 percent by individuals and small business concerns, the far greater number being by individuals.

Mr. FEDERICO. This tabulation does not separate the types of corporations because it would require investigating tens of thousands of corporations, so the present table merely shows the proportion of patents assigned to corporations, but there is available a study that was made in 1938 for the preceding 17 years, dividing the corporations into categories, large and small and medium, and showing the number of patents assigned to each of those groups. I don't have a copy of that here. (Transcript, TNEC hearings, pt. 3, p. 1127.)

Senator O'MAHONEY. Mr. Bennett.

Mr. BENNETT. This may further bear out a statement I made earlier. I do not recall a single instance in almost 500 inventions sold through the efforts we are involved in where a single invention was turned down because it had not received its patent grant as yet.

This record then indicates that some 60 percent are assigned to a corporation at the time of issuance might be considered corroborative evidence that they make agreements that the patents shall pass from the individuals to the corporation at the time of the issuance of the patent. This doesn't alter the fact that individual inventors must do all the primary work that must be done and get it across into the hands of public knowledge and into the hands of those who shall decide whether they shall use it or not.

Senator O'MAHONEY. One of the things we are trying to develop here is whether or not the inventor, the individual inventor, is sufficiently protected by the present law. I have no judgment about the matter, and your testimony, Mr. Bennett, has been very illuminating.

I notice that Mr. Levy down the line has given indication of a desire to get into this discussion, and hasn't had the opportunity. I am going to bring him in now.

STATEMENT OF MAURICE W. LEVY, INVENTOR, HOFFMANN LA ROCHE, INC.

Mr. LEVY. My name is Maurice Levy, for the record.

I should like to address my remarks to what Mr. Cohn has suggested and to the remarks of some of the other gentlemen here.

My main experience has been in the pharmaceutical field, and there we do have experience with universities, with hospitals, with clinics,

devoted his attention to other fields in which inventions and discovery are made?

Mr. LEVY. Clearly not at all. I can merely add for whatever it is worth that I have spoken with people in management and in patent fields in other industries, and I think they find—I believe they do, although maybe I am wrong—the same situation to exist, that they do not get an overwhelming number of useful ideas.

At least they do not get those that they haven't already been working on themselves, and a good bit of time is taken up considering these ideas, and some very embarrassing situations arise, I must admit, where so-called little fellows feel the big corporations will eat them up.

The company I work for is a small one. I doubt the independent inventor is taken advantage of as much as people are prone to believe.

Senator O'MAHONEY. Have you had any experience with the possible violation of antitrust laws in the patent field?

Mr. LEVY. Not in the patent field.

Senator O'MAHONEY. I asked that question because of the very fine introduction you made to your statement, that the Constitution was concerned primarily with the public good; that is to say, the good of the country, and not particularly with the good of the inventor, per se, or the user, per se, or the corporation, or the manufacturer, or the distributor, but with the overall good of the country as a whole.

I think that that statement everybody would agree with, but it is a fact, is it not, that there have been obstacles raised between the inventor and his invention and the public good on various occasions?

Mr. LEVY. I believe, sir, that that particular question raised has been looked into several times in past years by Congress. I have had the pleasure of reading some of the hearings. I did not have the pleasure of attending them.

I believe that there has been no majority opinion that the patent laws have been abused in any such way. If anything, I think the thinking of the country now is that the patent laws have been perhaps unjustly accused of having just such implications. At least, the new Patent Code of 1952 has sections which seem to bear me out on that.

Senator O'MAHONEY. I notice at the other end of the table a former Assistant Attorney General, former Head of the Antitrust Division, former member of the District of Columbia Court of Appeals, Judge Thurman Arnold.

Would you care to make any comment on this subject?

STATEMENT OF HON. THURMAN ARNOLD, WASHINGTON, D. C.

Mr. THURMAN ARNOLD. I think it is an argument which can go on indefinitely. I certainly would not agree to a statement that the patent law hasn't been in the past and, to a large extent, in the present greatly abused in its use, perhaps some of it not in violation of the antitrust laws as construed, but in violation of the fair principles of American democracy.

To explain that further would require a little preparation, review of cases where I attacked patents, and I don't think it would be appropriate just at this moment.

So in such an instance where we have complex devices developed and conceived by the human mind, very often a lot of money must be spent in the research and development of them. The individual inventor is very often unable to use the fruits of his mind in such cases.

In my own experience, I found that the simplest patents, which are readily and commercially usable, can attract men of capital and be successful. Those patents which might be even more valuable are withheld because of the fact that no mechanism presently exists for the individual inventor to attract risk capital to the large ventures. Such developments almost always proceed from corporate groups with which he affiliates himself.

To encourage the further development along those more subtle technical lines we must suitably and surely reward inventors in that more subtle and complex technology which can be of the greatest benefit to our Nation, to the end that we become not just a nation of gadgeteers but a nation which can harness the power of the sun, a nation which can use the fusion reaction of hydrogen, a nation that can possibly develop new forms of aircraft, and so forth. These are the things that we should try to foster to the greatest benefit of ourselves, not to the exclusion of the gadgets which are necessary for our everyday amenities, but in addition to them.

In connection with fostering basic research development and inventions of the more subtle and complex type the Government has been kind and generous to corporations by offering them research contracts, has been kind and generous to universities by offering them research contracts, as for example in atomic energy, radar, etc.

I know from my own experience as an individual inventor, with several worthy ideas, I believe, that the individual is quite unable to receive help from the Government. I know it was within the spirit of the original grant from the Constitution which started the patent system, that such a thing as direct Government grants to inventors was encompassed. As a precedent I might cite the case of Samuel Morse, for whom the Government put up the money for the telegraph line.

Then, in those cases where private investment should be fostered, tax benefits should be permitted to the private inventor and the investor in inventions to enable them to enter into venture capital expenditures more readily.

In addition to that, possibly there could be some form of Government Inventor Finance Corporation set up for worthy inventions. One approach might be a partial guaranty of private investors who would put up money for certain worthwhile developments. I know this has been done in international commerce where people have invested in foreign countries, and they are guaranteed their return on their money. Possibly something like that could be done in the field of worthwhile internal developments.

Senator O'MAHONEY. The Bureau of Standards, which is another office in the Department of Commerce, has been noted for great contributions it has made to trade and industry by tests which have been carried on by the experts who are employees of the Government.

I throw out, firstly, whether the Bureau of Standards, whether its work could be expanded to make it a useful instrument for the inventor of the type we have been discussing, Mr. Marks.

I am agreeing with you that the individual should be rewarded. I don't know the answer to this thing, but I thought it would be pertinent to bring this out.

Senator O'MAHONEY. Thank you very much.

The gentlemen on this side of the table have been distinguished by their silence thus far this morning. It is now a quarter after 12. I announced that at 2 o'clock this afternoon we would have the session at which Mr. Bennett's film would be displayed, and it may be that it would be too late to wait until after that for you gentlemen to make your summary contributions. Would you care to do it now before we recess?

This is not "speak now or forever hold your peace," but is merely an invitation.

STATEMENT OF JO BAILY BROWN, PATENT ATTORNEY, PITTSBURGH, PA.

Mr. BROWN. My name is Jo Baily Brown, Pittsburgh, Pa. If I may be indulged, I would like to make a few general remarks if it is in order. I was invited to the meeting.

Senator O'MAHONEY. Of course you were. Come around here so we can hear you better.

Mr. BROWN. I have been in patent practice since 1912 continuously except for about a year and a half——

Senator O'MAHONEY. Your distinguished career has been well known.

Mr. BROWN. This is not self-laudatory, but I wanted to preface what I wanted to say. During that time my firm has been continuously in litigation. We have represented many of the largest corporations and we have represented many individual inventors. I think we have represented about as many plaintiffs as defendants in patent litigation.

This question of the individual inventor which I assume is the order of the day primarily, I would like to say that back in the twenties and even in the teens, because I go back to that, a very large part of our practice was the individual inventor who came off the street, as we say, the motor man, the garage mechanic, the policeman, et cetera, who would come in with little inventions which they had made out of their experience, working with tools every day, and they found some better way of making a tool, or something like that.

I think Mr. Lanham said the same thing. I think the encouraging of the individual inventor is a very important thing. That is one of the things I think you have before you properly.

I think with the exception of lack of manpower, and so forth, the Patent Office has done an excellent job over the years. They have been honest. With all my experience, I have never seen any crookedness in the Patent Office or anything I thought was bad, nothing that was disgraceful. We know there have been a few little instances of that kind, but they were not things I had to do with.

Coming down to the individual inventor from the teens and the twenties, when we had lots of them, they have almost disappeared in our office. It is very exceptional now when a man off the street comes into our office and wants to file a patent application. By exceptional

That hurts the patent system, and hurts industry, and hurts the public in effect.

I don't have a recommendation on that. That is a personnel and policy problem. I think it arises because the Supreme Court tried to usurp the powers and province of Congress and to direct an economic reform that should have been made by law and not by judicial decision.

Now, sir, that is my opinion.

Senator O'MAHONEY. Before you leave that, Mr. Brown, I have known a number of judges who are not averse to having a copyright of their writings.

Mr. BROWN. I have heard of such statements.

Senator O'MAHONEY. And on the Supreme Court, too.

Mr. BROWN. I have heard of such instances.

Senator O'MAHONEY. What is the difference between a copyright which is granted under the same provision of the Constitution and a patent?

Mr. BROWN. I don't quite see the pertinency of the question.

Senator O'MAHONEY. Let me put it this way, then. You spoke about the objections of some people to monopoly and their feeling that since a patent is a monopoly for a limited time, it is per se bad, since it is a monopoly. I see no difference between the monopoly of a copyright and the monopoly of the patent.

Mr. BROWN. They are both statutory monopolies, I will agree with that.

Senator O'MAHONEY. Then isn't the question relevant?

Mr. BROWN. I don't know how to answer that question because I I don't know what you have in mind. I believe in both monopolies. I believe in the patent monopoly.

Senator O'MAHONEY. You are complaining because the Supreme Court has, as you have said, usurped the power of Congress with respect to patents. But I have been endeavoring to point out to you that the Supreme Court apparently has not usurped the power of Congress with respect to copyrights, but many of the members have enjoyed that monopoly, and I can see no reason why a person who is making the argument that you are making should not pick up that suggestion.

Mr. BROWN. Frankly, I know very little about copyrights, and I don't pretend to know much about that field. It is a different form of monopoly. It is not based on invention. It is based on writing and printing and publishing. But this question of invention and the protection of invention was the thing I thought we were talking about here. My thesis is that it is distinctly to the advantage of the Government of the United States and the economy of the United States to encourage inventions in all stages, and particularly in the individual.

Now coming back to the Supreme Court, in one of their decisions they have cast doubt on whether or not there can be a patentable invention growing out of research. If you please, Senator, suppose, as I believe one of the gentlemen spoke for one of the big petroleum companies, there is a problem, for example, of making higher octane gas, which is in great demand. Suppose they put their research laboratory on it and spent millions of dollars, and they developed a gas bet-

Senator O'MAHONEY. The committee will not stand in recess until 2 o'clock when it will assemble in room 318.

(Whereupon, at 12:30 p. m., the subcommittee recessed, to reconvene at 2 p. m. of the same day, in room 318, Senate Office Building.)

AFTERNOON SESSION

(The subcommittee reconvened in room 318, the caucus room, Senate Office Building, at 2 p. m.)

Senator O'MAHONEY. The hearing will come to order.

Mr. Bennett, do you care to make some remarks before you put your film on?

Mr. BENNETT. Thank you, sir; I would like to.

The film that you are about to see contains the demonstrations of six inventions of inventors who have come from all over the country to us. This program has four protected, but as yet unmarketed, inventions available for sale, and two as a result have previously appeared on a program, The Big Idea, and were sold to industry. And because of the interest of colleges this morning in this subject, I am glad that there is one on there for you to see, because it was through the interest of MIT that that one got on the market. The other is with a large company in Chicago.

The most important thing I wish to bring out is my feeling that the inventor needs, more than anything else, the services of whoever will join together to let his demonstration and display be known to the general American public and to business and industry in America, for in this manner will they buy the things, the fruits of his labor.

And so I am particularly pleased, because only Friday of last week did I learn that industry in recognizing the wealth of ideas locked within the independent inventor, with a dozen companies or more joining with the Thomas Alva Edison Foundation to provide, at their expense, this program to be given to utilities and banks and institutional concerns in every television market in America, so that these inventors will thus have a chance to display and demonstrate these big ideas, the thought being that they will sell them or get what they need from them.

I think we can run this program now, and afterward, if there are any questions, I would be happy to answer them. You will notice a few breaks, because I did not want to leave any commercials in. We have taken those out and have clipped the film at that point, to remove them.

Senator O'MAHONEY. You might fill in the breaks yourself, Mr. Bennett.

Mr. BENNETT. Thank you, sir.

(The film, The Big Idea, was shown.)

Mr. BENNETT. The only additional thought is that Secretary Weeks, as have all of the guests who are appearing on subsequent programs, made an additional 10-minute talk, which is offered to schools and to universities around the country on the opportunities through invention and research, and opportunities in industry for young people at a later date. These 10-minute films go right in conjunction with this 30-minute film.

Senator O'MAHONEY. Mr. Bennett, I think that Mr. Caplan would like to ask you a question or two.

When we start these men on their way, or women, too, with this patent activity, they follow through. We feel, through the moral and ethical action of the American Patent Law Association, they are all served well.

Once they are on the program, they are then protected. In a rare case does it happen that a patent attorney has advised an inventor, "Do not seek patents yet on this. Let us get all prepared for it." And if at that time it should prove, after appearance on the program, to be worthwhile, and there is some demand for it, then we will take immediate steps to go forward with this, in which case we ask for a letter of indemnification from that man's attorney covering that one point.

I do not believe in 7 years that we have had more than 3 or 4 of those.

Mr. CAPLAN. Do you find that as far as the receptiveness to accepting inventions from the outside that there is in industry such a receptiveness—do you find certain types of industry are more receptive than other types?

Mr. BENNETT. I have found that in industry, from the smallest man in business, with maybe 20 employees or so, to the giants of American industry, that we have had reception, an interesting reception, from them. And I submit here for the record a list of names that you might see and know. These are photostats of letters from corporations that have written in, as they must. They may not call. They have written us, giving us evidence of their interest in this certain invention—General Motors, International Business Machines, American Viscose, Shell Development, Thompson Products, Bendix Aviation, Oakridge Laboratories, Carbide & Carbon Chemicals, Campbell Soup, International Latex, Gulf Oil Corp., Texas Co., Westinghouse Electric, Crown Cork & Seal, B. F. Goodrich—these letters, more and more and more, have piled up, 14,000, 15,000 high, from all over the world on inventions such as you saw here.

Two of them, as indicated, were taken up, one by the professors at MIT. They found the investment money in Boston for it. The other was taken up by the Allen Co. in Chicago. Each found it out through their representatives who saw The Big Idea.

Mr. CAPLAN. I heard the sentiment expressed this morning that independent inventors from outside really cannot contribute anything insofar as the problems to which a number of large companies are seeking solution.

Mr. BENNETT. That is not the case. You saw there one company that had written to us and said:

> Can you find among your inventors someone who can provide for us 5 months of activity in our plant? We are a losing concern today only because we cannot keep our plant open and operating. We have dropped from 750 employees to 25, a maintenance crew, because 5 months of the year this whole plant and its machinery is idle. Find anything we can put in here. We will put additional plant space up; we will invest capital to keep these people at work and this plant working.

A wheel manufacturer in Wisconsin said:

> Find us a new brake among the inventors. We are thinking down one line too hard and too straight. Find us an inventor who can provide a brake that will stop a ton-and-a-half automobile, racing down a high-speed toll highway at 70 miles an hour, and stop it within reason today, so as to stop maiming people, and for safety for the drivers.

and accessories of the house away, because we think that you might walk out with them."

It puts the inventor on his guard. Yet I know this is not the reason for this form at all.

Mr. CAPLAN. It is very generally used in industry today.

Mr. BENNETT. It is, unfortunately, yes. I think it limits many types of the offerings that a man would like to make to a large corporation. If corporations could get together and make a simplified form that the layman could understand and read and feel secure by, I think he would like it. And industry would find many more things coming into his hands.

Mr. CAPLAN. I wonder if you could express for the record here what type of form you are talking about that is used for submission of ideas.

Mr. BENNETT. All large corporations today, and rightfully so, because of this feeling among independent inventors, "The big company will take my invention,"—because the big companies must protect themselves from this attitude of the erring inventor, in this case, they have come up with forms several pages in length with much fine print that says in effect, "If you wish to submit your invention to us we will be glad to see it, but only on the following terms. You submit your invention at your own solicitation, not ours. We will investigate it at our good time. Once we have investigated this, and we find it is useful for us, we will be the judges of its merit. If on the other hand, we are already working on something of a similar nature, we wish to be released of any responsibility against taking yours, because we may be developing our own."

These are some of the things that have made the independent inventor seemingly wary. It is unfortunate, because I know this is not the case, actually. I know it, because I have called upon big industry when inventors have said, "I need parts. I need pieces of electronic gear, electronic tubes. I need this, that, and the other thing."

And I pick up the phone and talk to them. I have never talked to them before. And I tell them that an inventor needs a hundred dollars worth of electrical equipment, and they give it to him without any question at all. I have never been turned down in several years of asking help of this kind for an inventor. And they have all benefited from it.

So I am sure that this complicated form could be simplified and still remain a legal document for the company to protect itself with, but at the same time to give some feeling of confidence to the independent inventor.

Senator O'MAHONEY. How are you going to simplify away the doubt that an inventor may entertain when he reads on the form:

> We reserve to ourselves the right to drop your invention in the event that we are already working on one that is similar and better.

How are you going to eliminate the doubt in the inventor's mind when he sees such a provision in the document?

Mr. BENNETT. I think that there is only one way and that is to make it a third-party document, so to speak. As I said before, I find myself in the third-party position between two opposing forces, where I have no ax to grind with either one.

Mr. CAPLAN. Mr. Bennett, of course, this committee will be considering patent legislation. Do you have any suggestions to the committee as to legislation that would improve the lot of the inventor?

Mr. BENNETT. Only this: That in this morning's discussion it seemed that we all took the attitude that the inventor is failing, or that his goods are not getting out on the market; he is not given attention because of some problem with the patent laws. I do not feel this is entirely the case.

The inventors, as it comes to me, feel perfectly secure that the thing they have is being moved forward properly for them. The thing that they lack is the method by which it can be gotten into the public's hands some way, that is, from that workshop in the attic or the basement or the garage. There is a tremendous abyss between that and the spot where he finally sits down at a desk with a man to start talking about his invention in serious terms. It is this abyss that must be gapped and bridged in some manner. That is why I hope that this program may turn out to be the vehicle by which it can be done.

If manufacturing concerns, industrialists, the general population, can see weekly displayed these things in their living rooms across the Nation, it will mean much more to the inventors.

So I feel it is not so much a change in legislation from the standpoint of what the patent laws may further regulate—the inventor has gotten his benefits or gets his benefits from that, I think—what he needs beyond that is the merchandising, the display and the demonstration, and the opportunity to sit down and talk to the people.

Mr. CAPLAN. That does not depend on legislation?

Mr. BENNETT. Not at all.

Mr. STEDMAN. I assume, as a result of the publicity your program has received, that you have a great many submissions to you. Do you have any thoughts on the extent to which the proportion of these ideas that come in are what you would call big ideas, and to which extent they are merely crackpot ideas? There seems oftentimes to be the suggestion that there may be some good ideas, but it is like looking for a needle in the haystack. Is that the impression you get?

Mr. BENNETT. I recall one that we turned down only because we thought it may have had that connotation, that that connotation might be placed on it.

A man came to me from New York one day wearing a pair of glasses, and he took out of his pocket a little wire device, about 4 inches long, with a mirror on the end of it, and he wound it around his glasses and said, "There is my invention."

I said, "What is it?"

He said, "It is a mirror so that you can see who is following you." [Laughter.]

Well, I do not know, maybe he has people following him. We did not accept this, I might add. But people follow him, apparently.

I find very few that do not some place along the line have that seed of thought that I can feel is worth while. Maybe it is because I love inventors. My father was an inventor, a very fortunate one. He never sold his invention. He gave it away, but for about the following 15 years he was awarded by that company a very nice check every single year. He was one of the fortunate ones. He needed no protection, it turned out, because he dealt with a very fine company.

the Products List Circular. The primary purpose of this publication is to help the small-business manufacturer find a product or a process which will help him to diversify or to fill up idle lines in his production facilities. Inventions described in the circular are offered by their owners for commercial development and distribution through license, outright sale, or other agreements.

Although the circular was designed as an aid to the manufacturer, it does help the inventor as well, by helping to bridge the gap between the man with an invention and the manufacturer who is looking for a product. As so emphatically pointed out by Mr. Bennett, sponsor of the big-idea program, this is one of the major hurdles of an inventor today.

Of course, there is no guaranty that our circularization of a description of an invention will result in finding production and marketing facilities for it. We publicize its availability in the circular, which is distributed to a national mailing list, and further communication is left to the parties directly concerned.

We have about 40 field offices located in the major cities of the United States. An inventor or patent owner can submit a description of the invention to his nearest SBA field office, where it is forwarded to the Washington office for publication in the circular.

Mr. Coffman, one of the inventors from this area who appeared on the big-idea program last year in Philadelphia, came to our agency for assistance in locating a manufacturer to produce a foot-and-ankle brace that he had invented for his little daughter who was crippled as a result of infantile paralysis. His invention was listed in the circular. Mr. Coffman reported that he was getting many inquiries and orders for his orthopedic invention throughout the eastern United States.

I certainly was impressed with Mr. Bennett's movie, the Big Idea, and with his talk afterward, because so many things that he said are the things that we are facing daily in our operations here in Washington.

We endeavor to help the manufacturer but we are not always successful. Another problem is to bring the inventor and manufacturer together. They cannot always agree as to terms.

Senator O'MAHONEY. Have you had any results?

Mr. HOFFMAN. Yes; the large number of inquiries received about the Products List Circular from small concerns as well as inventors is a fair indication that it has partially resulted in filling a need.

Senator O'MAHONEY. But have you succeeded in moving an invention into a vacant plant?

Mr. HOFFMAN. Yes; we have requested the owners of inventions who have listed their products in the circular to report the inquiries they receive from interested firms. A considerable number of favorable reports have been received by the agency. However, since these reports are on a voluntary basis, and due to the short period of time the program has been in active existence, a judicious evaluation of its effectiveness cannot be made at this time.

Senator O'MAHONEY. Would you be good enough to see that a paper is prepared by the Small Business Administration for the use of the committee, in the nature of a report, on what the results have been and what additional results might be obtained?

Mr. CAPLAN. Do you find that is the bulk of the work that you do?

Mr. HOFFMAN. Well, no. I do not know, really. I would not venture a guess on what percentage. The question is, what is good and what is not. Someone has an idea, he has a patent on it, and to say that is not a good idea, and we cannot use it or put it in our circular, is tantamount to saying that it will never succeed. That could have been said of Thomas Edison at the time he was working on the electric light bulb.

Mr. CAPLAN. I did not mean by "gadget" something that was impractical. I meant something that is simple, as distinguished from something that is scientifically complex.

Mr. HOFFMAN. We get across the board everything. There are quite a few, I think, that are very simple. In fact, that makes it difficult for us. Some of them are crackpot ideas, and we cannot use them.

To reduce the number of inventions of this type to a minimum, the established policy is to accept only those inventions for listing in the circular which are patented, or for which a patent application has been made at the United States Patent Office.

Mr. MARKS. My name is Alvin Marks, of Whitestone, N. Y. Mr. Bennett's work in connection with the type of inventions you demonstrated only points up the necessity for something of the same nature for those inventions which do not fall within the readily commercializable devices, such as simple devices which were shown today.

There is a class of invention, as I tried to point out this morning, that requires a great deal of capital to bring it up to the point of successful demonstration, and they are generally of the more complex type, which would not necessarily fall into the classification of Mr. Bennett's inventors.

Mr. Bennett is doing a great service to those that fall within his classification who can reach the public and have an immediate market, but the problem I tried to point up this morning is what is to be done with those other inventions which are more complex and require a great deal of capital and a great deal more exploitation than would ordinarily be possible with the type of program and type of exploitation which Mr. Bennett is doing so very well.

Senator O'MAHONEY. Thank you sir.

I have here, I think, the list of the gentlemen who were seated around the table this morning, when it was originally established who were not called upon, and who should now have their opportunity.

Is Mr. Lawrence Biebel here?

Mr. BIEBEL. Yes; here.

Senator O'MAHONEY. You were one. Now let me get the others. And Mr. James Burns?

Mr. BURNS. Here.

Senator O'MAHONEY. And Mr. Hayes?

Mr. HAYES. Here.

Senator O'MAHONEY. Mr. Rich?

Mr. RICH. Here.

Senator O'MAHONEY. Mr. Silver?

Mr. SILVER. Here.

Senator O'MAHONEY. Mr. Schmeltz?

Mr. SCHMELTZ. Here.

proceeded on the basis of a protective security in the form of a patent issued to them by the Federal Government. The Commission, therefore, recommends the enactment of a declaration of policy that patentability shall be determined objectively." (P. 15, Report of the National Patent Planning Commission, 1943.)

At the present time it seems incredible, but the situation is simply that the test applied by the Patent Office examiner is: Is the improvement obvious? The examiner has before him prior patents that he has found by reason of classification, and over here the applicant, and he has to look and decide whether or not it is obvious to do what the applicant proposes in view of the prior art. What is obvious, it is very manifest, depends upon what knowledge he has. He must imagine—they say he must imagine—one "skilled in the art." After he imagines one skilled in the art, he must imagine whether or not that particular imaginative figure would say, "This particular invention is obvious."

Well, here are two bits of imagination as the basis for a judicial decision. That occurs in the courts, as well.

Justice Jackson made the statement, and it has been quoted and referred to in, in *Jungerson* v. *Ostby & Barton* (80 U. S. P. Q. 36 (335 U. S. 560)):

> It would not be difficult to cite many instances of patents that have been granted improperly, I think, and without the adequate test of invention by the Patent Office.

And, parenthetically, let me state that I will state that the Patent Office will come through in a bigger percentage of the cases with justification than we have had from the Supreme Court in the last several years.

To continue the statement of Justice Jackson:

> But I doubt that the remedy for such Patent Office passion for granting patents is an equally strong passion in this Court for striking them down, so that the only patent that is valid is one which this Court has not been able to get its hands on.

This was in a minority decision, mind you, an indictment of our patent system. I think that indictment should ever be remembered, because it behooves us to take steps to correct it.

After the passage of the recodification act, we had Judge Galston of the district court, eastern district of New York, stating:

> Now after waiting years for a new patent statute, section 103 of the new act leaves the same American judges in the handicapped position referred to by Justice Frankfurter, the conclusion to be drawn from the foregoing analysis is twofold. Tests of the invention should be objective. And the presumption of validity should be not mythical, but real.

In these matters we therefore come to a test which I learned under Oden Roberts at Harvard—and his father was George L. Roberts, one of the defenders of Alexander Graham Bell, and for 25 years he was involved in writing his text, patentability and patent interpretation based on the United States Supreme Court decisions themselves. He deduced a test which satisfied all of those cases prior to the writ of certiorari, excepting three, and of those he said they are out of step with the unanimous grand procession of the rest.

That test is the objective test, and it deals with new functional relationships which I shall be very glad to set forth in an article, in a statement which I will present to this committee.

derful means of getting patents allowed, because we come back to a real basis for them and not a theoretical basis, "Is it obvious?"

Senator O'MAHONEY. Has this functional definition survived the Supreme Court of which Justice Jackson was speaking?

Mr. G. WRIGHT ARNOLD. In recent years they have not, they have not undertaken, so far as I know, to give us any objective test. They do not give us any—that is the complaint of the bar association—any objective test. Patents are knocked off, but with no suggestion as to what we are to answer our client as to what is patentable.

We were given one test—it must amount to a "flash of genius." If a man came in and asked me, "Arnold, is this patentable?"

And I said, "Well, I think this is a flash of genius". He would ask me, "Are you crazy?"

One of the things that we are taught as lawyers in our freshman year is that any rule that you lay down as the rule for law to argue and impress upon a court, if you are going to win your case you had better put it on the basis of a rule that can be well understood and well applied and applied justly to all people.

So we do not have any recognized test.

We have had continually the necessity to supply us with an answer as to what is a proper standard or test.

Senator O'MAHONEY. Do you feel that Congress should attempt to define such a test?

Mr. G. WRIGHT ARNOLD. Senator, with all force that I could possibly command, yes. That to my mind is the key to all of this trouble. It will help to clear up the backlog in the Office.

Here is an examiner, and here is this prior art. He must stop and consider and weigh. They have told me that they even call over other examiners to ask them what they think, "Do you think it is obvious to do what this applicant is doing in view of this prior art?" They cannot tell.

And the more conscientious they are the more delay is involved.

We have some of the finest conscientious men in that Patent Office that you will find anywhere.

Senator O'MAHONEY. How do your associates feel about this matter; I mean, this opinion that you are giving?

Mr. G. WRIGHT ARNOLD. In this audience here I have many, many friends. It is a joy to be here with them, to renew old acquaintances.

Senator O'MAHONEY. Let me call upon your friends who are in this audience and who agree with your suggestion to rise. Let us see who they are.

VOICE. Which suggestion—what are we voting on?

Senator O'MAHONEY. Mr. Arnold has suggested to this committee that it is the function of the Congress of the United States to define a test as to whether an invention is capable of being patented. I asked him how his associate and colleagues felt about that suggestion. He said he had many friends in the audience. So I wanted to determine how many of his friends in the audience hold the same opinion that he does with respect to this recommendation that he makes to Congress for legislation on the definition. Do you know what you are voting on?

Mr. G. WRIGHT ARNOLD. We are not suggesting this as the test. We are suggesting this as an addition to section 103.

standard, except how you feel about it. You might have more skill, one person might have another.

Senator O'MAHONEY. I have had many a student in my day in school say, "If I just had another professor, I would have gotten my degree."

Mr. G. WRIGHT ARNOLD. What I should like to add to section 103 is this: "Independently and apart from the above, that is, a patent may be obtained for an invention and patentability shall be found therefor whenever there is established a new functional relationship between any of the factors which are required for rendering an invention in the industrial art practically operative." And that, by the way, is largely right out of the textbook which Mr. Roberts has written. In the examples I gave you I do not believe there was any insurmountable difficulty in understanding what a new functional relationship was.

Senator O'MAHONEY. Or that the flash of genius is lacking.

Mr. G. WRIGHT ARNOLD. Exactly—the flash of genius is lacking.

I have heard for some time that the above test only substitutes one set of terms for another without changing the meaning. I most definitely disagree. I submit there is no set of words, so far as I know, that connote the meaning of the objective test set forth above. It is a test deduced from the Supreme Court decisions by Mr. Roberts. It harmonizes the decisions where the patent was upheld with those where the patent was held invalid—only three remain out of step. No decision of said decisions held a patent invalid where there was a new functional relation between the elements of the claim.

(The following were subsequently received and ordered printed at this point by the chairman:)

Comment communicated by Louis Robertson with reply by Mr. Arnold:

By Mr. Robertson:

"The proposal by Mr. G. Wright Arnold that Mr. Roberts' test of 'new functional relationship' be included in a way that does not preclude finding inventiveness without finding a new functional relationship comes fairly close to overcoming many objections to it. However, two objections remain and I suspect that they account for the bar's failure to give stronger support to this proposal in spite of the universal high regard for its advocate. One is the fear that, no matter how hard the language tries to avoid it, courts are likely to at least presume that there is no invention unless there is a new functional relationship. I think such a presumption would be dangerous. The other objection is that perhaps not every new functional relationship should be deemed inventive. Of course, both of these objections are supercharged by a feeling that, from a practical standpoint, we would largely be substituting one set of ambiguous words for another. To exclude some things which seem noninventive from being held inventive because of a functional relationship new in its exact surroundings, one must say that this functional relationship is not new because the same functional relationship has occurred before in things too similar. Thus, we would lose the simplicity which Mr. Arnold envisions. Maybe our loss is due to lack of an analytical ability Mr. Arnold has developed, but a definition would seem to be dangerous if it would give us this trouble, unless we apply it so indiscriminately that it fails to satisfy our perhaps subjective ideas of what should be patentable. Although a test needing no subjective judgments in its application would be desirable if it accomplished the right results, perhaps the only possible way to evaluate it to decide whether or not its results will be correct to warrant its adoption involves subjective judgment. But evaluate it before adoption we must."

By Mr. Arnold:

"As to the two objections submitted by Mr. Robertson, I submit that he has answered the same. Both objections are 'supercharged' with 'subjectiveness.'

STATEMENT OF MR. JAMES F. BURNS, CHAIRMAN, NATIONAL COUNSEL OF PATENT LAW ASSOCIATIONS

Mr. BURNS. I will comment only briefly on what seems to be the major topic today, namely, facilitating the exploitation of inventions produced by independent inventors.

One of the great problems is the securing of risk capital. If $100,000 in risk capital is put up to do the necessary development work and launch a new enterprise based upon a new invention, the enterprise must prove exceeding successful if that $100,000 is ever recouped.

I think one thing that the committee might do would possibly be to consider a lesser tax burden on risk capital spent in aid of an invention, that is, the exploitation of a new invention, than is applied otherwise.

I know that in the oil industry we have a lot of dry holes drilled, and if my memory serves me rightly, I think that there is a 27-percent depletion allowance to the oil industry. I would compare the development of an invention with the drilling of oil wells. We have dry holes, too. We also bring in a gusher now and then.

Senator O'MAHONEY. But do you have any depletion of brainpower?

Mr. BURNS. I recommend to the committee something in the nature of depletion on risk capital expended in the aid of the development of inventions.

Senator O'MAHONEY. I did not mean to cut you short; pardon me, sir.

Mr. BURNS. I understand.

That is the sum and substance on that aspect of that topic.

Senator O'MAHONEY. Judge Arnold.

Mr. THURMAN ARNOLD. That is, a research laboratory would have the same kind of depletion that an oil well would?

Mr. BURNS. I do not think that here is any special classification with respect to oil wells, Judge. I would suppose that inventors and inventive progress should have the same degree of stimulation that they now have in the discovery of other resources. I think that the development of our intellectual resources, and the production of intellectual property, which is what flows from the stimulation of inventions, is as important to the public good as the discovery of resources in other avenues.

Mr. THURMAN ARNOLD. I am impressed with the suggestion. I had not thought of this before.

You would allow anybody who engaged in research, which is necessarily speculative, to have a tax advantage?

Mr. BURNS. I do not know that I get the significance of the last aspect of your question.

Mr. THURMAN ARNOLD. Suppose that I engage in an industrial concern like General Motors, in a necessary lot of research, and we will assume that they improve automobiles in various ways. We will assume that the Supreme Court, on which opinions differ, strike them down as just not patentable. Nevertheless, they have contributed a great deal. Why would not your tax advantage apply equally to them, whether or not they produced patentable goods?

Mr. BURNS. Well, of course, you can always get into semantics, Judge, and you have proved yourself quite an expert in that area. I do not propose to write the legislation. I propose this as a matter for study to be on the agenda of this committee, with the hope that better

It is nonsense to treat the modern patent portfolio as a lot of little separate inventions. There is no economic justification in giving to a private group a legal monopoly over scientific information. A nation which does so is putting a severe handicap on itself. It is indeed fortunate that the development of atomic energy had to be done by governments and hence escaped the restrictions of the patent pool. There is no reason whatever to allow such research to be monopolized in the future by patents on step by step improvements. In every patent case the first consideration in determining whether the patent should be enforced is the amount of monopoly power which that patent, taken in connection with other patents, gives a great research to organization. I have no quarrel with the subjective standard which must be used by the Patent Office.

I believe that it is perfectly proper to issue patents so long as they are later controlled by courts. But when the issue is brought before a court it must adjudicate not only the invention that has risen beyond the level of the art but also the amount of control which it gives to the organization which owns it.

In my opinion in *Monsanto Chemical Company* v. *Coe*, written when I was on the Court of Appeals for the District of Columbia, I said:

> There is only one possible way to determine the proper scope of protection for a single discovery; that is to examine the actual degree of control which the inventor hopes to gain by means of all of his claims taken as a whole, over competing industry and competing inventions * * *. If an inventor acquires a patent on a can opener the fact that others may not make this particular appliance will encourage the development of other types of can openers and stimulate invention. This furthers the constitutional purpose of the patent grant. On the other hand, if the can-opener patent goes beyond the particular appliance and includes the method or process of opening cans, it may easily become so broad that others are prevented from making or inventing new can openers. This defeats the purpose of the constitutional provision.
>
> * * * * * * *
>
> The scope of a patent is not often discussed by courts as a problem separate from patentability. Yet we submit that this distinction is actually involved when courts deny a patent on a "function" or a "result" or an "idea," and allow one on a method or a process or an application of a principle. There is no clear distinction between these opposing sets of words. But it is apparent from the results of the decisions that when a court calls a claim functional it is simply saying that the claim permits control which will impede science and the useful arts. When it says the claim is a patentable method, it in effect expresses the conclusion that the probable area of control is not too large. We are, therefore, asserting no new principle here. We are simply pointing out that such conclusions cannot be intelligently reached in our complex modern technology without expert evidence from men who know the industrial field and the probable control the inventor may reasonably expect or his competitors reasonably fear from the grant of a functional claim.

In that opinion, I was speaking about multiple claims in single patents. The same consideration should apply to multiple patents accumulated by a great industrial enterprise which has the power to dominate the arts. Mr. F. B. Jewett of the Bell System in a memorandum set out his patent position as follows:

> * * * the patent position to which we had attained was such what (sic) even the outside holders of fundamental patents, essentially of interest to them in connection with the development of radio in fields not of primary concern to the Bell System, could not develop these fields without securing rights under our patents.

The opportunity to monopolize industrial art was recognized by American research organizations over a quarter of a century ago.

Senator O'MAHONEY. Getting back to the question of the gadget that Mr. Caplan raised, I have in mind now the invention shown on Mr. Bennet's film of the funny faces of the children which changed from sour pusses to smiling pusses when the child hung up his or her garments.

That is the gadget pure and simple; is it not?

Mr. BENNETT. Yes.

Senator O'MAHONEY. Was it patented?

Mr. BENNETT. I cannot tell you whether the patent was granted or not.

Senator O'MAHONEY. Is it patentable?

Mr. BENNETT. This I cannot tell you either.

Senator O'MAHONEY. Does it promote science or the useful arts?

Mr. KEGAN. Mr. Senator——

Senator O'MAHONEY. Mr. Kegan.

Mr. KEGAN. May I suggest that the publication of the patent of the funny face does promote the progress of useful arts in making this knowledge available so any manufacturer can provide it for the parents who want to buy it. It is a question entirely different from the merit of the invention.

Senator O'MAHONEY. Of course, that was the point you made this morning, Mr. Kegan, but the question here is: Is a device, a mere gadgetary device, patentable in the sense that the inventor will have an exclusive use for a limited period to that device? Your suggestion is that anybody looking at Mr. Bennett's film and seeing that funny face may build his own funny face and sell it without infringing perhaps. That is where the question of patentability arises.

STATEMENT OF FLOYD H. CREWS, PATENT ATTORNEY, NEW YORK CITY

Mr. CREWS. My name is Floyd H. Crews from New York City. I would like to say a word or two about this gadget business because I think the discussion has gone off on the wrong foot so far as gadgets are concerned. I would like to remind you of a few gadgets that have been patented. One is the cotton gin of Eli Whitney which is nothing but a row of nails through a board. Another that comes to my mind is the telephone of Bell. In two respects it was a gadget. The last step that Bell took over the prior art was a half turn of a screw that was the difference between success and failure.

He couldn't raise the money to put it on the market. It was a toy. Nobody would have anything to do with it. Another gadget was the radio oscillator of DeForest which was invented by moving a coil one-half inch from here to here. Again he couldn't sell it because nobody would have anything to do with it. We were talking about gadgets. We are frequently talking about great inventions.

Senator O'MAHONEY. That is true. But the suggestion was made here that the inventor of certain types of inventions which are called gadgets find that their inventions are not patentable and that is one of the difficulties confronted by an individual inventor.

Do you feel that there is such a condition?

Mr. CREWS. No.

Senator O'MAHONEY. That suggestion has been made to us.

Mr. CREWS. No, I do not. I feel that there has been some danger of their being such a situation in view of the decisions of the Supreme

The difficulty arises in the vague ideas and the ideas in connection with which those who have them do not wish to have submitted to the Patent Office for one reason or another in order to have them crystallized.

As to what difficulty there is in that area, only the experience of a man like Mr. Bennett will really tend to reveal. Most corporations today do and I think, Mr. Chairman, that until there is some common meeting ground arranged will continue to say that they do need protection because the obligations that might arise are quite undetermined in possible monetary value and quite undetermined in point of duration, in point of time. And for those prime reasons the corporations, in my opinion, will continue to try to eliminate those risks. What form of meeting ground can be arrived at, I must say I am not prepared to suggest. Whether or not it would be within the function of this committee and of Congress, I cannot offer an opinion because I don't have a concrete suggestion to offer in order to test as to whether or not it would be within the purview of this committee and ultimately of the Congress.

Mr. CAPLAN. Well, Mr. Schmeltz, you are connected with a large company which maintains a large research staff. Do you feel there is any function for the independent or individual inventor insofar as the manufacture and fabrication and use of aluminum is concerned?

Mr. SCHMELTZ. In my opinion, there most certainly is insofar as the fabrication from aluminum into consumer goods is concerned.

Mr. CAPLAN. Do you have any illustrations of that?

Mr. SCHMELTZ. There is one that I can recall now. I can point to one illustration which is rather outstanding in our experience. It concerns a product that I am certain is known to at least some in the room. It is the so-called Wearever pressure cooker which when it made its appearance after World War II had an elliptical flexible lid made of stainless steel. That development was the development of an independent inventor who came to us prior to the end of the war. It was, of course, an outstanding development insofar as its commercial possibility was concerned. We were happy to enter into an arrangement with him, a license agreement that would permit us to exploit that development after aluminum stopped flying through the air. And as a matter of fact, at that time we went so far as to loan him $100,000 in the way of advanced royalties. But I do wish to say that that is an outstanding example and it is not the sort of occurrence that comes along every day insofar as individual inventors are concerned.

By the time of the agreement, the inventor had formed a small company to which the patent was assigned, and the company was the licensor.

Mr. BENNETT. I have a further comment to make regarding the service that Alcoa has provided for inventors. In one instance I know of an inventor who developed a new kind of solder. He wanted to work on it and Alcoa furnished him with bars and sheets of aluminum he wanted. Unknowingly they were helpful to this inventor in that respect. Since I speak only as a lay person here as opposed to those with legal minds and legal training I hope I did not make a misstatement when I said this morning or indicated what I did about that paper that I know this is the most necessary form that I know most companies must have, I wished to point out that this has brought

The one in particular of consequence in its simplest expression I believe is simply that he discovered that cryolite would serve as a solvent for the refined aluminum oxide known as alumina at a temperature lower than the melting point of the alumina so that the result and the molten bath as it is called could be electrolized and metallic aluminum extracted in that fashion.

Mr. WATSON. Should the patent examiner have refused the grant of the patent because at some time there was a possibility that the assignee of the patent might have too much power?

Mr. SCHMELTZ. I am afraid Mr. Commissioner, that had the Patent Office examiner attempted to use such a standard, he would have required an unusual crystal ball into which to gaze in order to know when he was acting upon that particular basic application that in the years to come it would serve as the cornerstone of a new industry.

I don't think he could have known it.

Mr. THURMAN ARNOLD. Since that was evidently directed to me, I think that I have not made my position clear as to the scope of the patent. If I may have a moment I would like to do it. All patent attorneys when they draw up a patent claim, they widen and widen the claim. That is natural because they want to get as broad coverage as possible.

And out of those numerous claims comes what we used to call "blocking" and "fencing" patents. These claims if they are approved are not intended to be exploited. They exploit the best ones here. Now, what is the problem in deciding whether these numerous claims should be given by the Patent Office? Usually they take them by themselves and determine their patentability.

I suggest that the real issue is whether where you have 25 claims in a patent 24 of which the patentee does not intend to use, you are not blocking the program of the art by allowing the suppression of 24 invention patents in order to protect a single process. Where an applicant intends to suppress a competing method of manufacture the control which that power gives him should be closely scrutinized.

Mr. WATSON. The theory of operation within the four walls of the Patent Office is that we attempt to reward the inventor in a manner commensurate with his contribution.

We do not count claims. Actually each claim is supposed to be patentably distinct from any other claim and define an invention which is entirely separate than that defined in any other claim.

There is no limit and there should be no limit in my opinion to the number of claims which are presented. In some cases one claim is sufficient. In many applications which we receive there is a single claim presented and the inventor from the beginning is quite content if he secures that one.

On the other hand, we have applications which come in containing, say, 1,200 pages of specifications, 350 sheets of drawings, and maybe several hundred claims.

That case is no different in principle from the man who submits one claim. The man who submits the many has made that many different contributions, in his opinion.

And in the event that the various subjects described in those several claims are found to be new and useful and to involve the exercise of invention he is entitled to his patent and who can say which of those

in our own industry, the pharmaceutical industry, some of the most important inventions that we have have come from outside collaborators.

I know your associate counsel is familiar with Harry Steenbock in the vitamin field; we have had it in vitamin B1 and in pantothenic acid.

The carpet is always out even for the ones who don't have the technological skills. Most corporations feel that when they have to work with those inventors they don't know their reputation. They don't know their background. They feel they need some kind of protection. We are dealing with two kinds of inventors and we are also dealing with releases used usually with one type of independent inventor.

Senator O'MAHONEY. Now, Mr. Silver.

STATEMENT OF HAROLD S. SILVER, ALLIS-CHALMERS MANUFACTURING CO. MILWAUKEE, WIS.

Mr. SILVER. My name is Harold Silver. I am from Milwaukee, Wis. I would like to add my experience to that of Mr. Schmeltz and Mr. Ballard. I am in corporate practice, have been for 23 years, and in that 23 years we have been licensed under a number of inventions of independent inventors and at least several—I have 2 in mind especially—have been paid quite handsomely.

I was very much heartened this afternoon to hear a man who has had as much experience with the independent inventor as Donn Bennett must have had say that he sees no need for any change in the patent laws as far as the independent inventor is concerned.

I was also very much comforted to hear Mr. Ballard say that any problem of the independent inventor is merely a part of the problem of benefiting the general public.

Senator O'MAHONEY. Any questions?

STATEMENT OF MRS. NELLIE O. FLETCHER, WASHINGTON, D. C.

Mrs. FLETCHER. I would like to make a statement, please. My name is Mrs. Nellie O. Fletcher, Washington, D. C. My husband, William A. Fletcher, is one of the pioneers in the atomic-energy field, sir. He filed his application in the United States Patent Office on the construction and destruction of matter. I have to disagree with this gentleman and some others here today that the day of the lone inventor has passed. The lone inventor of America still exists. I have said as long as I have breath in my body I will fight for them, for the preservation of their rights. Yes; the backbone of our defense. One of these great men is here today; I am happy and deem it a privilege to introduce to you Mr. William A. Fletcher. This is a wonderful opportunity to let you know him, and also to let you know he has not received his rightful justice from the United States Patent Office. In California Mr. Fletcher was called the second Steinmetz, since in the District of Columbia they have called him crackpot and about everything. Mr. Fletcher came to Washington in connection with his patent applications before the United States Patent Office. We had the pleasure of meeting through mutual friends, this friend asked my husband would he try and help me. I had been injured in line of duty in the United States Federal Government here in the District of Columbia. I was in much pain and suffering and very much handicapped, so Mr.

connection. From my point of view as a private practitioner, the individual inventor, it seems to me, has no other problems so far as the patent statutes and the Patent Office are concerned than those which the great corporation has.

His principal problems of course are the same problems he has in other fields in life, they are economic problems. Expense is always a problem to many.

Delay in the Patent Office is a problem in some cases, although it was made clear this morning that delay is not always something which he deplores. He very often seeks it to the best of his ability. As one example it is almost routine in many offices always to delay the payment of the final fee until a short time before it is due thus adding 6 months approximately to the time during which an application is kept pending.

If an individual inventor wants his patent in a hurry, he can usually get it with reasonable speed; except for the delay caused by waiting for office actions and even that can be overcome by some methods of practice, which we are all familiar with, making cases special, acting promptly and so on.

It seems to me that it may help to draw the sentiments that have been expressed all together if I mention certain fundamental principles according to which the patent system is supposed to operate and does operate. It is axiomatic, I think, to most members of the patent bar that this incentive system, which is operated primarily for the public benefit, provides four kinds of inducement and the first inducement is the inducement to invent. That is the one which most people think of first and usually exclusively.

But that is not enough and that to me is not the main point in the patent system.

The second kind of inducement is the inducement to disclose the invention. I can't help thinking of the remarks of Judge Arnold a moment ago about the 10 inventions, all in the same field, only 1 of them being commercially useful and yet all 10 of them being patented, whereby 1 of them is improved upon; if that other invention or the 9 other inventions had not been patented no one would know about them and no one would improve upon them.

So all these disclosures which are brought out by the existence of the patent system serve to prevent the keeping secret of valuable information and they also serve to feed the knowledge of the art on which others build. Those are the two aspects of disclosure.

The third inducement, which to me is the most important of all, is the inducement to invest risk capital at several different stages of this inventive process. First of all, the investment of risk capital in the development of an invention and in the obtaining of a patent which is not a minor item these days, and, secondly, in commercializing it and marketing it.

And a fourth one which is very seldom thought of is what is called the negative inducement of the patent once a monopoly has been granted, others are given an incentive to invent around it and frequently come up with something better.

I could not help in listening to Judge Arnold in wondering why anyone has an objection to granting to an inventor economic power.

If we don't give inventors through patents economic power, we give them nothing.

STATEMENT OF WILLARD C. HAYES, WASHINGTON, D. C., VICE PRESIDENT AMERICAN PATENT LAW ASSOCIATION

Mr. HAYES. I have nothing further to add to what has been said.

Senator O'MAHONEY. You were one of the first called. Come up to the table.

Mr. HAYES. My name is Mr. C. Willard Hayes, I am a practicing attorney in the city of Washington, D. C. I am a vice president of the American Patent Law Association.

I think that the plight of the individual inventor is not as serious as some people who have testified here today would have us believe. It seems to me that there is nothing fundamentally wrong with the patent laws today. Possibly the things that have been spoken of, the improvement of conditions in the Patent Office will help the individual inventor. More important, however, I think is a better attitude or a better complex, better thinking by the courts in sustaining patents which come before them. How this committee, how this Congress can remedy that situation, is problematical. We have recently had some decisions which seem to be pointing in the right direction, and the courts will perhaps seriously apply the new patent law and sustain patents on the basis of the standard of invention set forth in section 103.

Mr. CAPLAN. Do you think that is something that is susceptible of legislation?

Mr. HAYES. I think it would be very difficult if not impossible to define what is an invention and what is not an invention. That is practically an impossible definition except perhaps by the present negative definition of invention. I think the work of this committee, however, can have an important effect on the manner in which courts treat inventions.

Mr. CAPLAN. In what way?

Mr. HAYES. By the expression of the committee and Congress, offered by some resolution on the subject or some further attempt to liberalize the practice. I have nothing formulated in mind but I think there is an opportunity for the Congress to get the word out to the courts that a more liberal attitude should be taken.

Mr. CAPLAN. If you can think of any way that could be considered other than legislation we would be happy to consider it.

Senator O'MAHONEY. Since you appear to be the last witness, I wanted to venture a very brief summary of what seems to me to be the substance of the general testimony which was produced here today.

No. 1, there seems to be general agreement that the Patent Office itself can be made a more effective institution to serve the purposes of the Constitution by providing the opportunity to the heads of the Patent Office to prevent the loss of expert personnel and to invite new personnel of high qualifications. Do you agree with that?

Mr. HAYES. Yes.

Senator O'MAHONEY. And secondly there seems to be a general agreement that there is lacking a general understandable definition of what a patentable standard should be.

Do you agree with that?

Mr. HAYES. I agree with you but I don't know whether it is possible to define a patentable invention.

Senator O'MAHONEY. I thank you for that comment, Mr. Kegan. I am sure nobody here would disagree with you.

Certainly nobody on the committee. The United States has made great progress, but it has not made sufficient progress to convince other nations in the world that the time is here for world peace, so we have still a lot of work to do and much of it may be done in this very field of encouraging inventive genius.

If we can do that by law, we certainly hope to do it.

Commissioner Watson, as I have told you already, two representatives of a patent employees association have asked to appear and I have told them they could appear tomorrow morning at 10 o'clock.

(Discussion off the record.)

Senator O'MAHONEY. Now are there any others here who expected to be called on today?

Mr. Biebel, who is now gone, was opening a discussion which we will have tomorrow. I might announce that Mr. DuMont of television fame will be one of the witnesses who will appear here tomorrow.

I expect him to arrive at 10:30.

Now, those of you who have not yet been heard will be called in due course as those who were called today.

May I ask you to indicate whether you would prefer to go back to the Judiciary Committee or stay in this room if we are able to maintain this room?

I see a lot of affirmative nods around here that seem to prefer this room.

Mr. Caplan, have you any announcement to make?

Mr. CAPLAN. Only about Judge Hand.

Senator O'MAHONEY. Judge Learned Hand will be here tomorrow afternoon.

The committee will stand in recess until tomorrow morning at 10 o'clock when it will reassemble in this room.

(Whereupon at 4:45 p. m. the hearing was adjourned, to reconvene at 10 a. m., October 11, 1955.)

AMERICAN PATENT SYSTEM

TUESDAY, OCTOBER 11, 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 10:15 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. We have three representatives of the Patent Office Society present with us today. These gentlemen are as the name of their organization indicates, employees of the Patent Office. They desire to make statements to the committee.

I think it only proper to say for the record as I said to Commissioner Watson yesterday, when we discussed their appearance yesterday, it was decided that they should appear here on annual leave and not by grace of the Patent Office.

They are on their own time, and they have the full protection of the Bill of Rights, of free speech.

That suggests to my mind that perhaps we could enliven this hearing a little bit by following somewhat different procedure. I saw all of these patent minds down here gathered at the reporters' table a moment ago. I walked down there and I said that I felt that the microphones were misplaced. We should have had the microphones at that table early this morning so that we would have had an unrestrained record as to that instead of the hesitating record that we tend to develop when you know you are speaking for the public review.

It would have been an interesting revelation, I am sure, of thoughts with respect to this subject which have not yet gotten into the record. I hope to get them there. One way to bring that about, I want to give warning now, I want to call the roll of the various organizations which are represented here, in addition to the Patent Office Society:

The American Patent Law Association; the American Bar Association, patent section; the National Association of Manufacturers; and the National Patent Council.

I shall ask the representatives of these four organizations in due course to tell the committee how they reach their decisions with respect to the policy recommendations which they make to us.

As has been indicated here, there is certainly no need to give us the protection of the Bill of Rights because we operate freely and independently within the Office and usually in very close harmony with the administration of the Office. We do reserve the right to differ when and where necessary.

The Patent Office Society is probably best known for the publication, the Journal of the Patent Office Society. This journal is a medium of expression within the patent system and is a forum for the presentation and discussion of legal and technical problems and is a periodical through which all who are interested in the patent system may work for a common end.

The circulation of the journal, including the membership of the society is probably now in excess of 4,000.

During 1947, the Patent Office found itself in a position that is strikingly similar to that of the present period, namely a seemingly irreversible increase in the backlog.

A member of the society, a patent examiner, discussed the situation with the Commissioner; following that discussion he engaged in quite a bit of research and he had analyzed the factors causing the increase in the backlog. This work was published in the journal after it was made available to the then Commissioner Kingsland. His article appears in the December 1947 issue of the journal and because it appears to be especially applicable today and it complements particularly the first portion of the Commissioner's annual report of the past year, we would like to offer that work in evidence before the committee.

The author of the work is with us today. He is Mr. Harold Whitmore sitting to my right, the immediate past president of the society.

I could have introduced Mr. Whitmore as Dr. Whitmore, since he does hold a degree, juris doctor, but in the Patent Office we have so many men who have a degree in science and a degree in law, many of them holding the J. D., that a doctor's degree holds no particular reverence and certainly no differentiation in pay or rank.

Senator O'MAHONEY. Have you ever made any attempt to analyze the reverence that is accorded to that title in other fields?

Mr. WAHL. I understand it is constantly on the decrease. I would recommend that the committee take this opportunity to hear from the author of this article so that he could point out the pertinency of his article to the problem now before the committee.

Senator O'MAHONEY. We will be very glad to have the article made a part of the record and we will ask Dr. Whitmore to summarize it.

(The document referred to is as follows:)

[From the Journal of the Patent Office Society, December 1947, vol. XXIX, No. 12]

"WHAT'S GOT INTO THE OFFICE LATELY?"

By H. B. Whitmore[1]

Al is a patent attorney. I am a patent examiner. In those younger days when Al and I were first learning the Patent Office ropes together, a common love of weekend campfires bred in us a liking for forthright and searching talk that has not lessened with the years.

Al was out at my home in Washington one evening last week. With that pseudo-calm that foretells a coming storm, he inquired, "What has got into the Patent Office? A hundred and fifty thousand cases awaiting action. Two years behind. And some of the actions I've been getting lately!"

[1] Examiner, Division 48.

Al looked doubtful. "Later, I'm sure these new men can produce. But as I look back upon the years when I was in the Office and recall how I knew all the answers in 3 months, had doubts a year later, and finally after several years felt that maybe I was really beginning to know what I was doing, I realize that not for some years can these 400 or 500 new members of your 900-man examining corps turn out a large quantity of that high-grade work upon which we attorneys can rely. Meanwhile, this deplorable delay is a heavy and burdensome drag upon inventors, upon attorneys, upon industry.[3] Isn't there something that can be done now?"

"What, for example?"

"Well, to be frank with you, I understand the examiners in 1941 were getting out an average of over 9 cases a week per man, while the average in 1946 was less than 7. I can't help wondering somehow if the Patent Office is lying down on the job."

"It does look that way, doesn't it? The same question has troubled many of us in the Office. Yet as I look about me, I doubt whether examiners have ever worked more conscientiously, effectively, or loyally. Is there a valid answer to this paradox?

"I have used several weekends recently making up graphs from data in annual reports of the Patent Office and elsewhere, just to see what light they might give on the causes of the drop. The graphs and other information finally provided an answer which, although it is far from simple, seems both sound and complete.[4]

"Some causes of what appears on the surface to be a drop in production are well recognized. As you know, difficult wartime conditions and division of the Office between Richmond and Washington until 1946 reduced efficiency. Matters arising under Public Law 690 and other war-born legislation in many cases require added time. The huge backlog itself causes added work, such as picking up forgotten threads in cases not seen in over 2 years, and making longer interference searches. Assignment of primary examiners to help reduce the backlog of the Board of Appeals, allowing the assistant primaries less time for acting on cases, has reduced the output of cases. More recently, output of the most experienced men has been lowered by the need for aiding the new examiners. Yet I believe that all of these are minor causes, and that the major causes lie elsewhere.

"Besides those just mentioned, at least seven factors worked together to make the number of patents and the number of actions per man per week in 1946 and 1947 the lowest on record.

"The first four of these, namely, overcrowding, inexperienced examiners, increasing volume of literature to be searched and increasing complexity of cases are easily understood. The last three, the effect of which is not so readily realized, are the contraction of the examining corps during the war years, the extraordinarily high proportion of new cases in the workload, and the rising importance of validity in recent years.

"Let us look at the first one briefly. As you know, examining of patent applications is work that requires intense concentration, freedom from noise and distraction. So long as the present crowded condition exists, so long as nearly 40 percent more personnel occupy 20 percent less office space than before the war,[5] the noise and confusion inevitable when interviews and conferences are prevalent in overcrowded rooms will continue to make continuous work impossible.[6]

"The importance of the second factor is apparent from the fact that about 90 percent of the examining corps in 1941 had from 5 to 20 and more years of experience, while today nearly 40 percent have been with us less than 2 years.

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[3] "When the Office is behind in its work, it is a continual drag on the industries of the country." Annual Report of Patent Office to Secretary of Commerce, 1927.

[4] See charts Nos. 1 and 2 on p. 82.

[5] See the following:

[6] This is no new discovery. The annual report of the Commissioner in 1925 stated: "The examiners should not be so crowded together as at present. Effective work cannot be done in this manner."

Official reports as of	Nov. 10, 1941	Oct. 31, 1947
Office space occupied	189,477 square feet	150,617 square feet.
Number of employees therein	1,360	1,873.

enough, dominant as this factor was in the 1946–47 period, I have found no evidence whatever that its important effect during the last quarter century has ever been noticed.

"To see what that effect is, suppose we look first at the course in the Patent Office of an average application for a patent. In normal times, the normal course is something like this. An application is filed. Some months later, the first Office action is taken, probably rejecting as too broad some of the claims the inventor has made. Five or six months later, the inventor, or the applicant as you and I call him, files an amendment restricting the scope of his claims. Some months after that, the Office rejects some claims as still too broad; but when the applicant narrows further by a second amendment several months after the second action by the Office, the Office finally disposes of the case either by allowing the narrowed claims and issuing a patent, or by finally rejecting if nothing patentable is found in the claims, whereupon the application becomes abandoned.[11] Final disposal of the average case follows its filing by from under 2 years, when the Office is nearly current in its work, to 4 years or even more years after filing under the present conditions.[12] A few cases are concluded earlier than at the third action, as you know, and many later; but in general, cases maturing to the final disposal stage have averaged a fraction over three actions involving widely varying amounts of work.

"The time needed for the first action because of the long search involved may be perhaps 8 hours. The time for the second is usually less, 4 or 5 hours for example. The final action, whether it is a final rejection or an allowance, usually takes little time if the same examiner has handled the case throughout prosecution, often less than an hour. It is self-evident that, as an examiner's docket in a relatively difficult art moves toward one extreme of all old cases ready for final disposal or toward the other extreme of all new cases, an output of 15 cases in the first situation might well require less effort than an output of 5 in the second. The extremes, of course, would rarely if ever be reached; but to realize how widely the proportion of old cases to new cases in the docket can vary, consider the period 1940–43, which includes the year 1941 that you cited.

"As a result of a high volume of applications received during each of the years 1937, 1938, 1939, and 1940, the number of cases maturing for final disposal in 1941 was large. The volume of new applications was falling rapidly in that year, however, and in late 1941 hit the lowest point in a quarter century.[13] The cases handled in 1941, therefore, included an exceptionally low proportion of the more time-consuming first actions combined with a high proportion of the speedier final actions. The inevitable result was a notably high volume of cases handled per man per week and, compared with the low number of applications arriving, a notably high volume of patents issued. The loss of experienced examiners from 1941 on caused the total of actions per man to drop sharply; but the high relative volume of patents issued, which always results when a period of high volume of new applications is followed by a period of declining volume, continued to be felt until 1943, when exactly the reverse situation began to appear.

"In 1943, the curve of new applications turned upward. It has been rising furiously ever since. This means, of course, that the number of first actions to be made now is extraordinarily high. At the same time, the number of cases filed during the war years and now maturing is the lowest in 30 years. The resulting abnormal proportion of new cases to old alone would be enough to make the average time per case abnormally high. This abnormally high average time per case is raised even further, however, because the huge volume of intervening new cases which must be acted upon before an older one is again reached for action results in a spreading-out effect. The applications received in a year, for example, mature over a much longer period. This further lowers the proportion of cases reached for final disposal and raises the proportion of new cases.[14] The current unprecedented backlog with its resulting long delays,

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[11] Some 5 to 10 percent of final rejections are appealed.

[12] Consequently, the patents issued in any given year reflect not the number of applications filed in that same year, but rather those filed over a period some years before. The close conformity of the graphs of applications filed and of patents issued, modified by a 2- to 4-year offset, illustrates this.

[13] The volume sank even lower in 1942 and 1943.

[14] This old-new ratio averaging nearly 3 to 1 in 1941 and 1942, dropped to about 1.3 to 1 by June 1947. Because of a current drive to get off at least one action on new cases, it is now about 0.8 to 1.

"Perhaps this barrage of criticism arose partially as a result of the emphasis within the Office on more patents instead of on valid patents and as a result of the sad state of the presumption of validity which followed upon the neglect of quality that undesirably but inevitably resulted from this continuing emphasis on quantity. Perhaps, on the contrary, it was mere coincidence. Whatever the reason, there began to appear in the late thirties a feeling among examiners and others that patents had better be improved, or else. The damage that too many invalid patents were doing to the patent system and to industry became widely acknowledged. Directions were given in the Office to make first actions and searches more thorough, even though it might take more time. It was indicated that if extra hours on the first action could reduce the number of actions and the total time needed to bring an application to issue and produce a better patent, the extra hours were in order. The longer average time per action would result in a lower seeming production of fewer actions per week; but the actual production, because of less total time per patent and more valid patents, would be better.

"It was about that time too that a member of the Board of Interference Examiners said to me, 'If I were back examining applications now, I'd pay a lot more attention to whether the claims are definite enough, whether they fully comply with R. S. 4888. If examiners would pay more attention to what some of these vague claims we get really could mean, and maybe search a little longer before saying the claims are patentable, a lot of claims would not be allowed. A lot of interferences would never be set up. The proportion of valid patents would be higher; and Office and inventors would all be saved a lot of work and expense.' A member of the Board of Appeals told me, 'Examiners in their statements ought to take time to explain a little more about the background of the invention and the problem involved, and a little more about the recognized equivalents in their arts which they apparently know of but seldom take time to look up and put into the record. If they would do that, instead of assuming that we on the Board are experts in arts we may never have seen or heard of before, more final rejections would be affirmed and fewer bad patents issued.'

"This type of approach, taking more time per action on each case but leading to better patents and higher overall efficiency, was approved and encouraged. Less and less emphasis was laid on quantity. Quotas were seldom mentioned; and in 1945, the Commissioner issued a memorandum which abolished quotas as a criterion of performance because of their effect in emphasizing quantity rather than quality, and charged the primary examiners with responsibility for giving properly balanced consideration to both quality and quantity.

"This seventh factor, this trend toward more thorough and more efficient actions, lowered the number of actions or 'seeming' production even while the actual production was being increased. It is a factor which has had a substantial if not readily visible effect."

Al's reaction to this was fast. "Not in all cases," he said. "Some of the actions I get show that the get-'em-out-somehow spirit of the early thirties still exists. Yet most of my cases have been more carefully handled in recent years. Some recent actions which seemed not up to par were by examiners I did not know, quite possibly some of them new in the Office. I believe I agree with you that this last factor, even though hard to measure, has in many cases and on the whole been an important one.

"No one alone of the dozen or so factors you have listed would explain the drop in what you call 'seeming' production. But taken together, each cumulative with all of the others—I begin to wonder whether the 1946–47 volume of cases per man may have been too high. Such a high volume may have indicated that good searches, so essential to validity, were being dangerously skimped.

"You discourage me, though. Are all these things going to keep on making examinations take longer and longer, with backlog and delays getting worse and worse? Or is there a chance of getting back toward the 1941 situation you spoke of, when the number of patents issued and cases handled was high, when backlog and delay were less than half what they are now?"

"There is not merely a chance; there is certainty. We are on our way back right now. We are slowly getting more space and more examiners. As the Board is catching up on its docket and the number of primary examiners needed there may soon be less, assistant primary examiners may be able to put in more time examining applications. Furthermore, because the new examiners are learning fast and need less help from other examiners as the months pass, the output of both old and new examiners steadily improves.

and under present conditions, maintenance of a standard of examination which results in any presumption of validity is possible.

"Look back for a moment at the various causes of the drop in patents issued and in actions per man and judge what their effect will be over the next 9 months. Two hundred wholly new men are due to arrive, if we can find them. Overcrowding, until much more space is found, will be even worse. The latest arrivals will still be in their period of initial low production. The literature to be searched will be steadily increasing.

"Other factors, fortunately, are slowly turning in our favor; yet in the light of the highly experienced examiners of 1941 compared with the over 40 percent inexperienced examiners of 1947 and of the 1941 low proportion of time-consuming new cases compared with the phenomenally high proportion of such cases handled in 1946 and 1947, the drop in production is clearly justified. In fact, combined with the other causes still operating, these factors fully warrant your questioning whether, under today's conditions, even the existing number of cases handled may be so high as to indicate that under pressure for increased 'production,' the searches so vital to good patents are being dangerously curtailed."

"God help us if that happens," Al interjected. "Do you know that an increasing proportion of my work lately has been defending some of my clients against harassment by the holders of those very patents of the thirties you were talking about? Patents are supposed to be for inventions. When they are granted on some trivial change in design just because the examiner was not allowed time to do an honest and reasonably thorough job on the case, the result is nothing but trouble.[18]

"Look at what happens when you combine such handing of applications with the reasonable doubt doctrine. In the first place, I might say, where the rights of 1 inventor are to be balanced against the rights of 140 million other Americans to whom the accrued fields of knowledge belong, I've never been able to see why in the world reasonable doubts about what is invention should be resolved against the 140 million and in favor of the 1. When you give the applicant not only the benefit of reasonable doubt but also the dubious benefit of an unreasonably skimped search, it seems to me you are both defrauding the inventor and making trouble for the other 140 million. The progress of science and the arts is not advanced. It is hampered.[19]

"When I get a man a patent, I want it to be not just a pretty paper that won't be worth a dime in court, but a *valid patent*. No, sir; the job of the Patent Office is not just to get out patents. It is to issue *valid* patents, for contributions to the progress of science and the arts that are clearly *inventions*. Issuing shaky patents based upon skimped searches is one way of cutting backlog I do *not* want to see.

"I suppose there are ways we attorneys can help lighten your load, as by cutting some of the fat out of our specifications and claims,[20] by making a sincere effort to advance the case as far as possible toward issue with each amendment we file, and in other ways that have been stated before. Provided, the examiners take time to do the same, that is; for let me tell you, nothing burns me up more than having an obviously superficial and hasty action in reply to an amendment I have really labored over. Nothing, that is, except having cited in the fourth action a reference which a reasonable search would have turned up in the beginning. But we were talking about what the Office, rather than the attorneys, could do to reduce the backlog. Aren't there ways the Patent Office could increase production without damaging the resulting patents?"

"Within limits, yes. Suppose we look at what ways there might be. Basically, of course, there are only three. They are to increase the time of work; to increase the pace of mental activity, the intensity of effort during the time worked; and to eliminate from the content of work done both needless duplication of

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[18] The Office has seemed to be improving in this respect. The proportion of applications abandoned, which averaged below 30 percent from 1935 through 1944, rose to 32 percent in 1945, 36 percent in 1946, and 41 percent in 1947. Tightening of Office standards of inventions and more thorough work to prevent the issuance of such patents based upon "some trivial change in design" seems the most likely explanation.

[19] "While the primary function of the Patent Office is to grant valid patents, an equally important duty is to prevent the grant of invalid patents to delay and hamper legitimate industry." Annual Report of the Commissioner, 1925.

[20] One of the attorneys who urged the publication of this material strongly contends that the number of claims covered by the first filing fee should be limited to five, with $5 or more for each additional claim. The load on the Office, he contends, would thereby be sharply reduced, certain objectionable features of the patent system as it exists would be removed, and the worthwhile objectives of the patent system would be better accomplished.

ting hard to live with.' I believe that no substantial gain remains to be accomplished here.

"The third possibility of increasing the number of cases per man, beyond the uncontrollable cyclic factors we were speaking of earlier, lies in eliminating needless duplication of effort and in 'cutting corners.'

"The Commissioner welcomes eagerly any suggestions along this line. He has already authorized certain procedural changes and passed on to the examiners those suggestions found meritorious. He has indicated that he plans to continue his efforts in this respect. For the most part the suggestions appear to reflect improved practices already existing in some divisions but not in all. Their total effect will be helpful, but probably will be small because most of the examiners, by and large a highly intelligent and hard-working lot, have already eliminated duplication and whittled away nonessential corners to the point where few expendable corners are left.[22]

"Further, things which may help output at the moment but will unquestionably hamper the work of future examiners are occurring. Technical lectures to keep examiners in touch with current developments have been severely curtailed. Reading and filing of excerpts from current technical literature, essential not only for the same purposes as the lectures but also for use in searches in relation to future applications, are being skimped. Reading and making notes of pertinent disclosures on patents received for filing, a practice found immensely helpful for shortening searches in the past, is being discontinued by many examiners for lack of time. Other corner-cutting operations of highly debatable wisdom are already occurring.

"Beyond these, can actions per man be further increased? Only by cutting down on the searches. Yet instructions have been clear not to reduce quality of searches. What is the result?

"It is the result usual when people are urged to travel in two opposite and irreconcilable directions. Where the pressure points, they go. To illustrate current thinking within the Office, let me quote a few comments I have heard recently.

"Mr. H, a conscientious assistant primary: 'I'd like to increase my output of cases as he asks—but I've already done all I know how to do to increase it. I see no way of increasing it further, unless validity doesn't count.'

"Mr. L, a P–5 examiner: 'If they tell me I ought to get out eight cases a week, I'll do it of course. But I'd hate to buy a house with a title search no better than the kind of search that can be made on my cases in the time they allow.'

"Mr. X, a primary examiner: 'While no one has actually said so, it looks to me as though they think that anyone who goes outside his own division, even if he knows of places he should search, is doing too good a job.'

"Mr. W, one of the many new men recently transferred from other Government agencies: 'From what I've seen, and the other boys say, there isn't an organization in Government anywhere that is doing a finer and better balanced job. What is all the wailing about?'

"A member of the Board of Appeals, after sending a case back to the examiner for rejection on a substantial ground instead of on a technical ground: 'He just wanted to get off an action.' And, 'There are plenty of instances of reversing a rejection "on the references cited" where we believe that if the examiner had felt he could take time to look, he would have cited added art which would show his rejection correct.'

"Mr. B, another P–5 examiner: 'Right now, the Office reminds me of the resourceful lad who decided he could carry a cow if he practiced on it every day from the time it was a calf. When he found the load getting beyond him, he decided to cut a few corners. First the horns went; then a leg; at last the head; but he suddenly realized it wasn't a cow any longer. The Office has carried a steadily increasing load of granting patents. We've cut off the horns. We're trimming off a leg now, though maybe the patents will still be able to stand up with a little bolstering and gentle handling. But if we cut searches further—they just won't be patents any longer!'

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[22]An exception perhaps more apparent than real is this. The mind of the individual is a tool. Like a complicated machine, it works in long accustomed ways. The efficiency of its processes and procedures often can be greatly improved under the guidance of experts highly skilled in this field; but to achieve a radical re-forming of mental processes without external aid is for most minds so difficult as to be nearly impossible. Any hope that mere pressure for increased volume of output would achieve unaided such a difficult result as this rather than the easier result of curtailing searches would seem based upon inadequate recognition of some of the most basic facts of human nature.

"These comments are typical of many—bits of smoke showing the drift of a wind not yet of gale force but well worth watching.

"The situation in the Patent Office as I see it is this. Comparing what I have called the seeming production of the past year with the last prewar year of 1941, the administration found figures showing a sharp drop in cases handled. The fact that all favorable factors, most of them beyond the control of the Office, converged on the year 1941, the last prewar or normal year which naturally was taken as the basis for comparison, was not appreciated. Similarly, the fact that all the uncontrollable adverse factors converged on the 1946 period escaped notice. With the drop in cases handled an unexplained mystery and with the country in no mood to tolerate any appearance of inefficiency, the administration has perhaps been understandably fearful of criticism. The remedy, however, lies not in attempting to turn out now an increased number of shoddy and superficial actions for the purpose of presenting a false front of accomplishment, but in realizing and presenting the truth.

"The blame for the present condition of our backlog lies neither in the operation of the Office nor in the nature of the American patent system. It lies entirely in the past delay, possibly not wholly avoidable at the time, in expanding our staff to handle the tremendously increased load. The condition is even now in the process of being cured. Perhaps 800 examiner assistants will be needed to carry our current load, assuming no further increase in the rate of filing new applications.[23] How many examiners we have above that number will largely determine the rate at which the backlog will be cut down.

"What then lies ahead? The Patent Office basically does not decide the policies. These are decided by the people through their agency the Congress. It is the duty of the Patent Office as a part of the Department of Commerce to present to Congress the true picture of the alternatives we face and of their effect upon industry, upon the patent system, upon America's 140 million citizens.

"That picture is this. The Patent Office now has a tremendous backlog of work that involves deplorable and damaging delays. It arose not through any laxity of work, but through the delay in expanding the examining corps to handle vastly increased work. As to what shall be done about it, there are two ways out.

"One is to drop the quality of searches, vitiate again the presumption of validity, perhaps even go over to a registration system, in order that the advantage of quick disposal of our backlog may be gained.

"The other alternative is for all involved to grit their teeth and hold on a little longer, until the Office, working as rapidly as the number of examiners and the desired standards of quality permit, has pulled out of the present jam. The examining corps, by direction of Commissioner Kingsland, is concentrating first on new cases so that inventors will have more quickly some initial idea at least as to whether their inventions may be patentable. The drive on amended cases which will follow should see the backlog problem well on its way toward solution.

"If the people of this country want to maintain the advantages of the examination system, if they, through their representatives in Congress, realize that the present mess is not a fault of the system, but merely a sick condition arising from a temporary shortage of examiners in 1944–48 which can be well on the way to a cure within 2 years—if rosy optimism and panicky hysteria alike can give way to steady and honest realism—the system will soon be strong and well again, serving in truth to advance the progress of science and the arts."

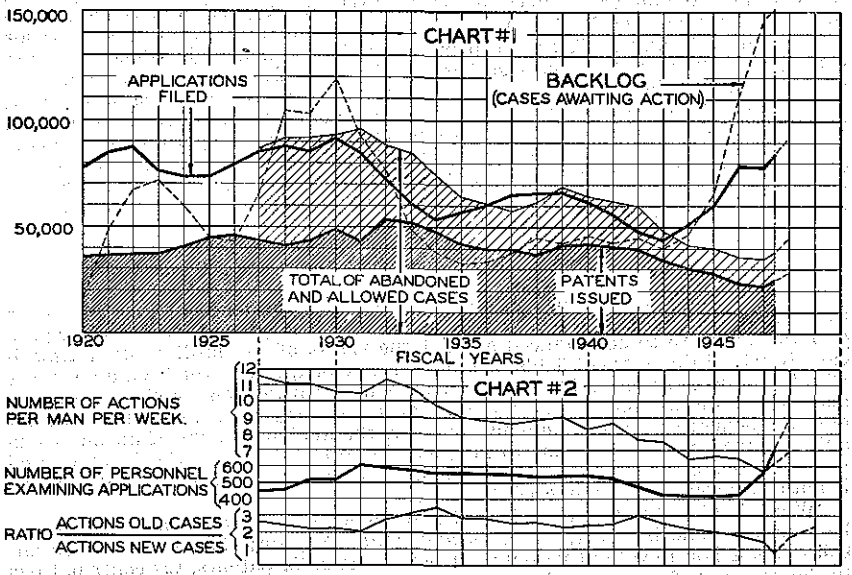
Mr. WHITMORE. Dr. Whitmore is a very unfamiliar sound used only in self-defense in university circles.

I don't think much comment is necessary on the article which will be in the record. As I read through it last night, the circumstances with which it dealt at that time are amazingly close to the circumstances today. The causes for the backlog, the tremendous pileup of unfinished work, are almost identical. A few of the wartime factors

[23] In the similar 1920–32 period of intensely active technical development, applications averaged about 80,000 per pear, with the number of examiner assistants averaging not far from 600. Allowing for increasing complexity of the work and a correspondingly increased force of classification examiners to keep the enormous masses of technical information in shape for the most rapid and effective searches possible, this figure for examiner assistants seems adequate to keep the work current, once the backlog is wiped out."

effort and those desirable but not wholly essential items which may be omitted without appreciably increasing the possibility that the patent may be invalid.

"Can the time of work be increased, either within or beyond the regular 40-hour week? As in every large organization, there are some people who, while they would never think of stealing the Government's money, would not hesitate to 'borrow' a little time now and then for catching up on the morning news or for stretching the lunch period to get in a little shopping. The proportion is not large; and since all supervisors are under strict and continuing orders to see that all employees put in their full 40 hours a week, it is believed that no measurable gain can be accomplished in this direction.



"Beyond the 40-hour week, overtime work is a possibility. However, the 48-hour week during the war when compared with the current shorter workweek does not seem to have produced a commensurate gain in output, because of slowed rate of work resulting from greater fatigue or other causes. Further, when the most experienced and valuable examiners find that 'time-and-a-half' pay for overtime work turns out to be considerably less than their regular hourly rate, less in fact than they would frequently have to pay laborers for doing work they themselves would otherwise be doing at home, the resulting sense of unfairness might not improve either morale or production too much.[21] For these or perhaps other reasons, the administration of the Office has apparently felt it unwise to resort to overtime work as the solution of the backlog problem.

"As to the second possibility, the intensity of effort, the mental pace of searching, thinking, and writing can be stepped up within limits, at least pending the arrival of chronic ulcers or heart failure. The continuous pressure in this direction has already brought many examiners toward the state typified by the remark of one examiner, 'My wife says I've been so jittery lately that I'm get-

[21] For example, typical official rates for the more experienced examiners, most of whom have degrees both in science or engineering and in law, are as follows:

Grade	Regular hourly rate	Total overtime hourly rate
P-6	$3.41	$1.51
P-5	2.84	1.61
P-4	2.36	1.79
P-3	1.99	1.93

"The third and fourth factors I mentioned, namely, increasing field of search and increasing complexity of both applications and patents, are probably irreversible. The fields of human knowledge will continue to expand, and the proportion of complex cases may continue to increase. But the fifth and sixth factors are already beginning to work with us instead of against us.

"The fifth factor, you will recall, involves the slowed work and lowered output which results from the continuing study and research necessary when examiners have to broaden their work to cover larger and previously unfamiliar fields. When the examining corps expands, of course, the opposite occurs. As new examiners become expert in those portions of the arts which are transferred to them from older examiners, each one of the enlarged corps of examiners will be able to concentrate his work in a smaller field. He will be able to curtail greatly both the amount of expanding study and research necessary and the average amount of time spent per case. This factor is just beginning to increase the average number of cases each man can handle.[17]

"The sixth factor, the relative proportion of new cases and old, is just passing its worst point, and very soon will be operating in our favor. I said earlier that perhaps fewer than 30,000 patents will issue in 1948 because of the few applications filed in the war years. Late in 1948 and in 1949, the graphs of past and present trends indicate, there will come a rapid rise in the number of patents issued, and a lower proportion of new cases to be acted upon. The graphs predict that the end of the fiscal year 1949 may find the number of cases handled per man-week automatically moving on toward 8, and the number of patents rising possibly to above 50,000. There will come, too, a large decrease in the delay between the filing or amendment of a case and the time it is reached for action."

"Does that mean that we attorneys may expect the backlog to drop immediately?"

"Yes, and no. Past experience suggests that if we were current in our work, a force of about 800 examiner assistants handling the present incoming load would keep us current. With 900 examiner assistants, therefore, we can start cutting down on the backlog.

"To see the effect on the backlog, notice first that a backlog has two aspects, that of volume, and that of delay. Because so high a proportion of the cases handled now are new cases and practically all new cases are amended at least once, the expected increase in number of actions now will simply mean an equally increased number of receipts of amended cases 6 months from now. With receipts of new cases and amendments continuing during the intervening period at their present rate, this may mean actually an increase in volume of backlog a year from now. Not until these applications are finally disposed of, most often on the third action, will the volume of backlog drop steeply. Only the delay will begin to decrease immediately. Given then a force of 900 or more examiner assistants and space in which they can work, the delay aspect of backlog will begin to decrease immediately; and the volume of backlog will be dropping moderately by late 1948 and steeply a year later.

"The answer to your question as to whether 'something can be done now' seems then to be this. If we wish to maintain or improve the quality of actions and have patents free from the criticism of the past decade, we can cut the backlog deeply by 1950, or sooner if the number of examiners above the 800 necessary to break even is somewhat increased. If, however, under the distress of a condition which by 12 months from now will be starting to improve, we frantically swing the emphasis back toward quantity as certain portents now suggest, we could cut the backlog somewhat sooner. But would the patent system survive another such attack as followed the similar swing toward quantity and, inevitably, away from validity, back in the early thirties?"

"What do you mean when you say, 'Certain portents suggest'?"

"I mean that the symptoms of the late twenties are reappearing. The exhortations to increase output again show traces of an unrealistic and faintly panicky intensity; always, of course, with the proviso that the quality of the action must not be reduced, an insistence which, while unquestionably wholly sincere in motive, is oddly suggestive of whistling in the dark. The question many examiners are asking is not whether reasonable quality is desired, but whether, if an increased volume of cases handled is insisted upon at this time

[17] Note from chart 2 that in 1932–33, after the new examiners added in 1929–31 had gained experience, the expansion in number of examiners resulted in an increase in actions per man-week.

inevitable because of the long interval between the arrival of so many new applications ever since 1943 and the arrival beginning in 1946 of enough new examiners to handle them,[15] has thus brought about the worst possible situation, with a fair probability that the fiscal year ending in June 1948, still reflecting the relatively low receipts in 1943, 1944, and 1945, may well find fewer than 30,000 patents issued. This sixth factor has had an adverse effect on seeming low production never approached in the recent history of the Patent Office."

Al looked less doubtful now. "Looks sound to me. But before you go on to the last factor, why do you say 'seeming' low production? Compared with the 9 actions per man-week and over 40,000 patents in 1941, isn't a 1946 production of less than 7 actions per man-week and only 24,000 patents actual low production?" [16]

"To answer that, let me ask you a question. The engineering college where you studied graduated only 50 men last year. Was that low production?"

"Indeed not. In fact, the old school had the highest enrollment in its history. The only reason so few graduated was the small class that came in during the war. But the freshman and sophomore classes,—they're practically sleeping in the park."

"Maybe the senior class that will graduate next year is small too?"

"Yes, the same situation as the class of 1947."

"Very well. There's your answer. Due to the unfortunate lag in building up our staff to take care of the increased load and the resulting deplorable delay in reaching cases for action applications that were filed in the late war years will average nearly 4 years before final disposal, instead of less than 2 years, as has been the case in the past, and can be the case again soon, perhaps even by 1949 or 1950 if enough examiners are available. The number of patents now 'graduating' depends not upon how many applications are being filed now, but upon how many were filed 3 and 4 years ago, the lowest number, as a matter of fact in 25 years.

"In summary then, the number of patents is low because the number of applications now 'graduating' is low. The number of actions is low for the reasons we are discussing. This low number of patents issued in the current year and this low current number of actions per man, like the few graduates at your school, are what I mean by 'seeming' production. But the actual production, the sum total of hard and effective work that will show up in higher figures later on, just as your graduating classes 2 and 3 and 4 years hence will show the hard work the professors are doing now, has never, I believe, been higher."

"I see what you mean. Now for the seventh factor you mentioned. What is that?"

"It is a hard one to define, or statistically to evaluate. Call it a cycle, a trend. A trend toward reanimating the dear departed presumption of validity. A swing from emphasis on quantity to emphasis on quality, from the cratemaker's philosophy to the cabinetmaker's philosophy. A trend from the philosophy that enough work should be put into examining applications to result in patents which probably, as a rule, if not handled too roughly, will when litigated have a fair chance of holding up, to the philosophy that any patent issuing from the Office should be so competently searched and so clearly definitive of an unmistakable invention that litigation is seldom ever begun.

"Do you remember the situation of the Patent Office in the late twenties? A sudden pileup of cases beyond the capacity of the Office to handle, resulting in long delays and a backlog that wasn't reduced below 100,000 until 1931? And all through that period, the drives, the exhortations, the quotas, the constant pressure to get out more cases? Not to cut down on the thoroughness, of course, but still, somehow, get out more cases? Understaffed and plagued by a backlog that never dropped far below 40,000, the Office continuously emphasized quantity, until finally in the late thirties, this emphasis showed symptoms of change.

"It was the years beginning in the late thirties that brought savage attacks on the patent system. The long-established presumption of validity had developed a marked anemia. Courts, speakers, writers began to intimate that a higher standard of patentability should be established, and an ominous 'flash of genius' crackled across the patent skies.

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[15] Compare graphs of examiner assistants (chart 2) and applications filed (chart 1).

[16] The number of patents issued is, of course, only that part of the cases disposed of which are published. In 1946, when about 24,000 patents issued, final actions in 13,000 additional cases resulted in abandonment, for a total of some 37,000 final disposals. See chart 1 graph showing total of all cases, both allowed and abandoned.

"The third factor is the rapid lengthening of the field of search which must be made on each application as the years pass. The technical publications, the texts, the handbooks upon which we must rely so often for the knowledge of those skilled in the art multiply rapidly. The total of patents granted increases an average of 20 percent every 10 years.[7] The increased length of search is often far greater than even this 20 percent would indicate, however; for a high proportion of the applications now pending are in active arts wherein the number of patents has increased not merely by 20 percent, but by 100 and 200 percent in recent years.[8]

"Closely related to this third factor is the fourth, which involves the increasing proportion of very complex system cases, involving theories, methods, functions, and system arrangements, such as complicated automatic mechanisms and controls for modern industrial machines and processes, wholly impossible to search reliably by the good old orthodox method of scanning drawings. As applications, they are difficult to examine. As patents, they are difficult to search. This increased complexity, compounded upon the greatly increased number of patents and publications that must be searched, is a truly major cause for the decreased number of cases that can be handled adequately in a given time. Doesn't your own work as an attorney show these same factors of increasing difficulty?"

"Definitely yes. In fact, I fear that these same factors are going to keep on growing, that the work involved in the sort of examination of applications which the American system has had in the past may become so great, so expensive, that we may have to give up examination as we know it, and adopt the registration system."

"You fear it; don't a lot of people think it would be a good thing anyway?"

"Some do; yes. Although, personally, I can't see the sense in throwing the burden of 'opposing' an application upon thousands and thousands of engineers, inventors, attorneys, and industrialists who already have work enough of their own, when a few hundred men in Washington charged with this sole duty can put their whole time on it, probably at far less cost to the country. But you have told me about only 4 of those 7 factors you mentioned. What about the others?"

"The fifth one is the shrinkage in the examining corps during the war. Examiners, as you know, in time become specialists, experts in concentrated fields of knowledge. When nearly a quarter of its specialists were lost to the Office during the war period,[9] the remaining force had to take over their work, reading extensively to expand their own fields of knowledge, working cautiously to avoid mistakes, often in fields wholly unrelated to their previous work. From 1942 until 1946 this greatly slowed their work and lowered output.

"The sixth factor adversely affecting the number of actions per week during the 1946–47 period involves the proportion of new cases to old in the docket of cases awaiting action by the Office; the proportion of newly filed applications, in which the first search is to be made, to cases which, having been rejected by the Office and amended by the applicant one or more times, are ready for the action which finally disposes of the case by issue of a patent or by abandonment.[10] Curiously

[7] An extensive study by Mr. M. F. Bailey, supervisory examiner of classification in the Patent Office, indicates that between the years 1925 and 1945, the number of items to be searched including foreign and domestic patents and technical publications increased 57 percent.

[8] See the following:

Typical examples: General nature	Class	Subclass	Patents in 1940	1947
Electrical ore detecting	175	182	170	347
Mineral oils, cracking, digesting	196	52	126	665
Power shovels, etc	214	140	130	238
Electron tube detector apparatus	250	27	707	1,257
Carbon compounds, acyclic amines	260	583	56	117
Vehicles, friction spring devices	267	9	297	428

[9] See chart No. 2. The graphs on this chart, which were prepared by the author for this article from official data collected by direction of the Commissioner, are correlated with the graphs of chart No. 1 to permit quick comparison. As the length of workweek varied from as low as 39 hours to as high as 48 hours during the period studied, the actions per man-week are all adjusted to a 40-hour-week basis. The sharpest drops in cases handled per man-week appear in 1934 and 1942, both years in which there was a marked drop in number of examiner assistants.

[10] On chart No. 2, see graph showing ratio of old cases handled to new. Except for the years 1933, 1934, and 1942, when the number of examiners was declining, the actions graph follows closely the old-new-ratio graph.

Some 3 hours later, he said thoughtfully, "Somebody ought to tell us these things." Others have since agreed with Al. Perhaps they are right. Perhaps some of the conditions, the changes, the current great dangers to patents and the patent system, even though many are primarily matters of office administration, so vitally affect all who are interested in patents that they should be more widely known and discussed. To those who like Al have wondered, the pages which follow give the distilled conversational essence of that evening.

"A hundred and fifty thousand cases awaiting action, and 2 years behind. How did the Office get that way?"

"To answer that, let's go back to 1943. In that year the Office had only 39,000 cases awaiting action, was less than 10 months behind in its work despite a war-shrunk examining staff. New applications were coming in at a 44,000-a-year rate. Barely more than 400 examiners were examining applications; but the proportion of experienced examiners was high, and the backlog was reduced more than 5,000 cases that year.

"Toward the end of the war, the picture changed. Applications began flooding in. With the number of examiners still falling, the annual rate of filing applications rose to 50,000, to 60,000, to 70,000, and is now nearly double the 1943 rate. Is it surprising that examiners just able to carry the 1943 load have been swamped by an increasing load now arriving at nearly twice the 1943 rate?"

"But haven't you more examiners now? Didn't a lot of experienced men return after the war? And haven't a lot of new ones been added?"

"Unfortunately, only a handful of experienced examiners came back after the war. Even that gain was partly offset by the loss of other experienced men who found income and working conditions elsewhere more attractive. This loss was recently slowed by establishment of a better salary classification for examiners, and by general raising of Government salaries to offset partially the rise in the cost of living.[2]

"As to new men, there is real hope. Some 250 new examiners have been added recently. Nearly all of these are engineers and scientists, untrained in law and patent matters. Much time will pass before they can turn out a high volume of dependable work; but to shorten the period of low production, the Office is giving, in addition to an extended training course similar to that given for so many years by Supervisor Wolcott and others, a new 7-day preliminary course. This covers briefly the nature of patents and the patent system, and the basic elements that make up the complete and dependable examination of a patent application throughout prosecution. New men now go to the examining divisions equipped with at least the vocabulary and understanding to give them a faster start in absorbing rapidly the skill which years of experience will bring. A few years from now, they will pull their own weight. Today, they have almost stopped our backlog from growing; but to actually reduce it, still more examiners are needed.

"Aware of this need, Congress has authorized the addition of some 200 more examiners in 1948. Can they be added? Highly qualified men willing to work for the salaries available have been hard to find. Until more adequate space is provided for the Patent Office, room for expansion is nonexistent. Given adequate space, funds, and personnel to utilize our full authorization of 900 examiner assistants, and time enough to bring them into fully effective production, you will see that backlog cut down."

[2]Advancement to upper grades has been accelerated somewhat, by bringing the examiner positions more closely into line with the Federal Classification Act. To offset the increase in cost of living now reported to be 63 percent above 1939, 1947 examiner salaries in the professional grades P–2 through P–6 compare with 1939 as follows:

	Annual salary		Increase
	1939	1947	
			Percent
Assistant examiner, P–2	$2,600	$3,397	30.7
Associate examiner, P–3	3,200	4,149	29.6
Examiner, P–4	3,800	4,902	29.0
Examiner, P–5	4,600	5,905	28.4
Primary examiner, P–6	5,600	7,102	27.0

What sort of discussions do you have in these organizations, what debates do you have, what disagreements do you have, if any. How do you work out the recommendations that you want to make for the patent law?

Now, gentlemen of the Patent Office Society, who is to be the first speaker?

Mr. WAHL. Mr. Chairman.

Senator O'MAHONEY. Please start by giving your name to the reporter and such information about your work in the Patent Office as you care to.

STATEMENTS OF RICHARD WAHL, HAROLD WHITMORE, AND ARTHUR LA POINTE, PATENT OFFICE SOCIETY

Mr. WAHL. My name is Richard A. Wahl, and I am president this year of the Patent Office Society. I have been employed in the Patent Office for about 18 years, and I am a native of Wyoming and a graduate of the University of Wyoming. I have a bachelor of science degree from the college of engineering.

Senator O'MAHONEY. That matter of nativity is purely coincidental.

Mr. WAHL. I am also a member of the bar in the District of Columbia, holding a bachelor of laws from George Washington University.

Also present with me this morning are Mr. Harold Whitmore, immediately to my right, who is the past president of the society, and Mr. Arthur LaPointe in the gray suit second to my right, who is current vice president of the society. As has been noted, we are on annual leave up here. Personally I am on sick leave. I have undergone surgery last week for a voice condition and I am under orders to take voice rest. So I will be brief. The Patent Office Society is an organization devoted to the improvement of the patent system. It has about 800 members. The membership is composed of patent examiners and heads and assistant heads of operating units within the Office.

We feel then that the members of the society are those who are closest to a patent as it is being processed through the Office and who know the daily work of the Office as a patent is being given form and is shaped.

The patent examiners are extremely familiar with problems of observing the prior art, making decisions as to what art shall be used, what art is analogous and not analogous, and they also individually are experts in a particular field of science.

All of the examiners are graduates of some science school, and, in addition, each examiner usually takes law and becomes a member of the bar after he is in the Office.

The examiners must know and apply legal decisions and, where there is no prior legal decision, they must act as pioneers.

We feel that because of this background, the society through its membership has much experience and know how that can be of value to this committee.

Today we would like to present one example of a probable contribution and hope that in the future we may be permitted or requested to present other such contributions.

Although the members of the society are employees of the Office, the society operates independently of the administration of the Office.

Senator O'Mahoney. I thank you for that comment, Mr. Kegan. I am sure nobody here would disagree with you.

Certainly nobody on the committee. The United States has made great progress, but it has not made sufficient progress to convince other nations in the world that the time is here for world peace, so we have still a lot of work to do and much of it may be done in this very field of encouraging inventive genius.

If we can do that by law, we certainly hope to do it.

Commissioner Watson, as I have told you already, two representatives of a patent employees association have asked to appear and I have told them they could appear tomorrow morning at 10 o'clock.

(Discussion off the record.)

Senator O'Mahoney. Now are there any others here who expected to be called on today?

Mr. Diebold, who is now gone, was opening a discussion which we will have tomorrow. I might announce that Mr. Dunham of television fame will be one of the witnesses who will appear here tomorrow.

I expect his arrival at 10:30.

Now, those of you who have not yet been heard will be called in the same order as those who were called today.

May I ask you to indicate whether you would prefer to go back to the Judiciary Committee room or stay in this room if we are able to maintain this room?

I see a lot of affirmative nods around here that seem to prefer this room.

Mr. Caplan, have you any announcement to make?

Mr. Caplan. Only about Judge Hand.

Senator O'Mahoney. Judge Learned Hand will be here tomorrow afternoon.

The committee will stand in recess until tomorrow morning at 10 o'clock when it will reassemble in this room.

(Whereupon at 4:45 p.m. the hearing was adjourned, to reconvene at 10 a.m., October 11, 1955.)

Senator O'MAHONEY. I am surprised to find so many patent lawyers and so many representatives of industry backing away from this task of writing a definition.

You speak in the same tongue as Mr. Robertson, my good friend of many years down at the other side of the table.

I think Mr. Arnold comes more close to the area of those who are willing to undertake to try to do something.

Mr. HAYES. I don't know what a new functional relationship might be. I think Mr. Arnold has some very definite concepts in mind but personally I have a little difficulty in grasping those concepts.

Senator O'MAHONEY. I didn't have any difficulty in grasping the description he made today between the barbed wire which was on a pivot and would flop any way and the barb which stood vertical or stood in the spot in which it was placed to do the job which it was intended to do.

Mr. HAYES. That undoubtedly would be a patentable invention by any of the classic standards or tests of any of the cases but adding this new one of putting all of our eggs in that particular basket will not solve the problems in all other cases that arise.

Senator O'MAHONEY. At least then we agree that this definition of a standard of patentability is an objective thought difficult to obtain.

Mr. HAYES. Yes, sir.

Mr. G. WRIGHT ARNOLD. And this was to be, Mr. Senator, only one addition to what we have and not the only one.

Senator O'MAHONEY. Oh, yes. Then there seems to be complete agreement—and this is part of the definition issue—complete agreement that the courts have too great a tendency to hold patents invalid. Do you agree with that?

Mr. HAYES. I most certainly do.

Senator O'MAHONEY. And finally there seems to be complete agreement that there is a great gap between the inventor and the marketing of his product which can be filled apparently only by some method of attracting risk capital or some new method of advertising such as Mr. Bennett has devised to bring the inventor to the knowledge of the great public who constitute the market.

Mr. HAYES. Yes, sir.

Senator O'MAHONEY. Mr. Caplan calls my attention to the fact that the Small Business Administration has also displayed an interest in this matter.

Now are there any other points that we have agreed upon today?

Mr. Kegan?

Mr. KEGAN. In considering the opportunities for the individual inventor under our patent system, I would like to throw out the suggestion that a comparative law survey would show that the United States patent system is more generous and gives more opportunities to the individual inventor than any patent system in the world and that the Patent Code of 1952, which we now operate under, is the best of all the patent laws that we have had in this country, and while I favor very much the idea of improvement and of looking for areas of improvements, I think to give the perspective it ought to be recognized that we are attempting to improve what is already a very excellent system that has stood well over a hundred years of experience and is rather good as it is.

Senator O'MAHONEY. I would suggest, Mr. Rich, that perhaps the question cannot be discussed conclusively in generalities, that much would depend upon the specific aspects of taking particular cases. I understood Judge Arnold to be discussing a case in which there were appended to the basic patent applications broader claims which the attorney carefully composed to protect the original patent so as to prevent some other discoverer or inventor from coming along with something better.

And I can conceive without having had any case where a lawyer could enter into the world of fantasy without having applied any flash of genius at all state on paper a region of invention in his application which if granted would erect a barrier against a future inventor, who was bona fide.

That I think is what Judge Arnold had in mind.

If a specific case of that kind were to come before you as a patent examiner, I venture to say that you would probably find, if I stated it correctly that the application was not a patentable application.

Mr. RICH. Quite so, Senator.

Senator O'MAHONEY. I think that is what Judge Arnold meant when he spoke of the power. In his absence I have to speak for him. I can't allow him to be defenseless here.

Mr. RICH. I am sorry he is gone. But in reply to your comment, Senator, the Patent Office and the courts have an adequate means for dealing with the situation which Judge Arnold mentioned. The obtaining of claims which are too broad is not to be laid at the doorstep of the inventor but at the doorstep of his attorney and he is carrying out his function in trying to get those claims. The Patent Office gives him a fine battle on the subject and in the end grants claims which in its opinion are no broader than his invention.

Senator O'MAHONEY. Or denies many claims which are not sufficiently broad.

Mr. RICH. Correct.

Senator O'MAHONEY. And if it gets into court and the judge disagrees with the Patent Office they invalidate those claims as too broad. One of Judge Arnold's difficulties is that he has dealt with so many patents which have been invalid and his criticisms are just.

Mr. RICH. I would like to defend Judge Arnold. I think he has done the patent system a great service perhaps unwittingly. He has fought the great battle of the misuse of patents.

Senator O'MAHONEY. I think he did that very wittingly. I was chairman of the TNEC before which he waged the contest and I sat right here in this place but not before this table and saw that battle develop. And I have only the greatest admiration for Judge Arnold for what he accomplished.

Mr. RICH. And what he accomplished in the patent system was a housecleaning which was long past due. That is really about all I have to say on this subject of the individual inventor.

Senator O'MAHONEY. Any questions, Mr. Caplan?

Mr. CAPLAN. I don't think so.

Senator O'MAHONEY. We are getting along toward 5 o'clock but we are getting around to the bottom of the list of those who assembled around the table this morning.

Fletcher started to fight the Government for me, as I had no one to defend me, and they were planning to put me out of Government without anything. Mr. Fletcher defended me when I could not defend myself. After they knew he was fighting the Government for me, then his troubles started, and he has since had many battles. To date he has received no justice from his patents which are being utilized in various branches of Government and in the atomic-energy fields. The Atomic Energy Commission gave a press release to the public in this press release was subject matter from patent pending applications of Mr. Fletcher's that were before the United States Patent Office; this press release is a public document. The dear blessed Patent Office examiner who examined Mr. Fletcher's applications in the United States Patent Office, and who has since passed on to the Great Beyond, stated under oath on the stand before the Patent Board of the Atomic Energy Commission, that Mr. Fletcher's claims should have been allowed. One gentleman sits here today who was one of the examiners and knows this is the truth. Mr. Fletcher has not been treated fairly and he has never received any recognition nor has he received one dime of compensation for his years of labor in these highly scientific technical fields.

He spent all his money and sacrificed his health but I have stood by him and prayed to the Heavenly Father that some day justice would be rendered him. I think it is high time for you to hear Mr. Fletcher. I am not the original inventor; Mr. Fletcher is.

Senator O'MAHONEY. We will be very glad to have you and Mr. Fletcher prepare a statement to be submitted to the committee and we will have members of the staff go into it in detail. I am glad you made your statement. But it is obvious that this is not the place or the time to try out a case of this significance, Mrs. Fletcher.

Mrs. FLETCHER. We are not trying the case.

Senator O'MAHONEY. I mean present it.

Mrs. FLETCHER. They said this morning that the day of the lone inventor has gone. They said that. It has not. Our great men, elderly men of years—who are not young in body but are young in spirit. He isn't young in body but is young in spirit. I still say that a real inventor is not created in colleges, he is born that way. If you suppress him and suppress his mentality by the big manufacturers which they are doing today in taking away the rights of these men instead of helping them, why not the Government be the police power in protecting these men?

Senator O'MAHONEY. I think the record here today shows that the small and independent inventor is not a thing of the past. We will be very glad to go into your case, Mrs. Fletcher.

Mr. Rich?

STATEMENT OF GILES S. RICH, PATENT ATTORNEY, NEW YORK CITY

Mr. RICH. I am Giles S. Rich, of New York City. I have been practicing patent law since the great depression began in 1929. I have taught the subject to some extent since about 1937. In listening to the testimony today my mind has somewhat resembled a bunch of Chinese firecrackers going off one after another. My problem is to come back to the topic under discussion, the individual inventor, and to say something which I hope will be useful in that

claims, 5 years from now or 6 months from now will be the one upon which he relies.

We in the Patent Office have no facilities for forecasting the future commercially and we can only do one thing, and that is to consider the presentation of the inventor and examine his application according to law.

Senator O'Mahoney. The question is one of standards and how are we going to set up the standards. Mr. Kegan?

Mr. Kegan. I would like to ask Judge Arnold: What would be accomplished if only the best species were patented and the other 25 were not? How long would a competitor stay in business manufacturing the more expensive or the inferior article shown in the other 25 claims?

Mr. Thurman Arnold. He would only stay in business if he discovered something new about that.

Mr. Kegan. And he could patent that?

Mr. Thurman Arnold. Yes. Assume the detergent could be made out of 10 materials. They take patents out on 10 and they intend to manufacture only with 1 material. Someone comes along and improves material 9 so it is better than material 1. I think he has made a contribution. If that claim is sustained, he can't manufacture it. That precise case does arise frequently. I was reversed in *Special Equipment* v. *Coe*, where the patent there was a paring device. They took part of it away and got a patent on the whole thing and then got a patent on a little bit of a portion of it, which they did not intend to use.

The only purpose to get a patent on the portion of it was to keep people out of the field from improving and getting new machines. I indicated for that reason the patents should be rejected and I was reversed by the Supreme Court in that particular case.

Mr. Kegan. Ordinarily I have seen it happen rather differently. With regard to your detergents the person who takes species No. 9 and improves it normally has made an invention which he can patent. That patent may be dominated by the pioneer patent which covered the entire genus. Then you have the situation where the first patentee cannot manufacture the product without making a deal with the subsequent inventor and the subsequent inventor cannot manufacture his item without making a deal with the original inventor. In such circumstances businessmen cross-license and bring out the item and then they are accused of a conspiracy, of using the patents in an antitrust manner. It is entirely practical for the parties to get together.

Mr. Thurman Arnold. If they do make such a deal a patent pool is created which may give a power to dominate industry. In such a case the antitrust laws are the only protection the public has, if that power is used to exclude competition.

Mr. Levy. I should just like to add a word or two to what Mr. Schmeltz has said and Mr. Bennett, because I think it might be well to recognize, as Mr. Schmeltz has, when an independent inventor comes to a corporation he can be classified as working in a field that is highly technological and one that is not. On the one hand in the field that is highly technological, I think that Mr. Bennett will find, and I would like his opinion, that corporations do not engage in these very complex releases that he spoke of, that there is in fact collaboration and I know

about an area of wariness on the part of the inventor rather than being critical in any way of this necessary function of the paper.

Mr. BALLARD. May I supplement the instances that have just been given? The American Telephone & Telegraph Co. has a very large research department of its own and in my own experience they paid a half million dollars for a loading coil. They paid about a half million dollars to a man named Grissinger for a repeater circuit. They paid DeForest nearly $450,000 for something less than all of his rights in the vacuum tube. They paid a man named Lowenstein exactly $200,000 for a patent on the negative grid and they paid $180,000 to a man named Day for some applications only of uncertain value. These were independent inventors who came to the company directly and had no pull except the merit of their contributions.

Senator O'MAHONEY. Thank you, sir. Any other questions for Mr. Schmeltz?

Mr. STEDMAN. Mr. Schmeltz, you emphasized that as a result of the fabrication of aluminum there was real opportunity for independent inventors and a market as far as Alcoa are concerned. What about other fields? Would you distinguish those fields?

Mr. SCHMELTZ. Yes, Mr. Stedman; I tend to simply on the basis of experience in respect of what was brought to our attention by the independent individual inventor. Permit me to say this. In the more complex and highly technical fields, it is not particularly likely that many individual inventors will be aware of the particular targets at a given time of a research or developmental organization. What contributions might be made in the event such knowledge is more widespread would be wholly speculative.

Senator O'MAHONEY. Mr. Commissioner, do you have any questions?

Mr. WATSON. I was writing down one to hand to you.

I think it would be appropriate to ask Mr. Schmeltz if he would tell us briefly how it was that the Aluminum Corp. came into being and the nature of the invention which gave rise to that corporation and something about the man who made that invention.

Mr. SCHMELTZ. Shall I, Mr. Chairman?

Senator O'MAHONEY. Please do.

Mr. SCHMELTZ. I think the story is quite well known to most in the room, Mr. Commissioner, but briefly, it was this: Charles Martin Hall, a student at Oberlin College was enamored with the thought of somehow managing to extract metallic aluminum from the ores with which it is so tightly bound chemically. He made a true wood shop invention. That was the setting of the invention. He filed a number of applications, and after filing them he began to shop around for capital. His problem was no different from that of a man today seeking risk capital. Perhaps risk capital today is not quite so ready to be risked as it was in those days, of that I cannot speak.

In any event he did after a considerable period in the way of travels and conferences and interviews he did end in Pittsburgh and there did succeed in interesting a group of men who in part had the capital and in part knew where additional capital could be obtained.

They did have enough faith to go ahead with it. Early in the history of the company another patent was encountered. That resulted in considerable litigation which the company managed to survive but this company nonetheless had its roots in the patentable inventions of Charles Martin Hall.

Court particularly in the A. & P. case where Mr. Justice Douglas used the word "gadget" which has been rather odious to patent lawyers since and threw out the hint that no gadgets should be patentable. There has been a problem about it. But I don't think that has arisen in the Patent Office because they have continued to be aware of the fact that these things that are gadgets today, such as the airplane when they first flew, the newspapers would not even report its flight, are not gadgets tomorrow.

Mr. CAPLAN How about, Mr Crews, assuming that it is novel, how about that little device to encourage children to hang up their clothes. That certainly is a useful art if anybody has tried to teach children to hang up their clothes. Do you think that a thing like that should be protected under the patent system or not?

Mr. CREWS. Judge Learned Hand has said the best test of patentability was the test of history. If I were in the Patent Office, I would give the man a patent on it. If I were the judge hearing the case, I would say if it has been put on the market and has filled a need that was not filled today, it is valid.

Mr. G. WRIGHT ARNOLD. I would like to call attention to the fact that we need a test for patentable novelty at the time the inventor comes into the Office. We can't wait and take the chance as has been suggested by the Honorable Thurman Arnold, the idea that we can have somebody after a while if they see this becoming very important to be able to choke it back to certain boundaries.

We cannot wait and see what the history of that thing is. We want to know right then whether we can tell the man whether this has patentable qualities. This subjective test does not have that because one court after another can have its own views as to what is subjective.

But the objective views overcome all those factors.

Senator O'MAHONEY. Thank you very much. Let's get back to our small inventor and his relationship with the companies which can use the invention. Mr. Schmeltz of the Aluminum Company of America is here.

STATEMENT OF ANDREW H. SCHMELTZ, ALUMINUM COMPANY OF AMERICA

Mr. SCHMELTZ. Mr. Chairman, I believe that most corporations today are quite sensitive in all respects as concerns goodwill and insofar as the individual inventor is concerned that is an aspect of goodwill. It also, in some instances, carries a promise of mutual profit to both the individual inventor and the corporation. There is an area which has been delineated by Mr. Bennett that is a delicate one. The decisional law in regard to matters submitted raises problems that, as Mr. Bennett has indicated, counsel will try to cut off by reason of these long two-page agreements to which he made reference. Let me say that it is difficult to know whether or not such agreements are truly discouraging.

However, Mr. Bennett does have some persuasive evidence in that respect. Most corporations do not like today to rebuff anyone or even seem to rebuff anyone who wishes to bring an idea to the corporation. If the idea has been crystallized by using the patent system and it is submitted in that form, there is not any particular difficulty.

As Mr. Jewett, a research director of the Bell System, explained:

* * * money expended on properly organized and conducted research and invention is probably the safest and most profitable money industry handles; safest because the very processes employed by such research are an almost absolute guaranty against major technical failures in the end producer: most profitable because the return on the investment in research cost is extremely high both in direct money return and in insurance of continued life to the industry. Jewett, The Relation of Research and Invention to Economic Conditions (1939) (21 J. Pat. Off. Soc. 195, 199–200).

Thus a great corporation may acquire an unlimited portfolio of basic patents. The power of such a portfolio is not dependent upon the eventual validity of these patents. It can continue in perpetuity because of the ability of the organization to control research talent and add new improvement patents to the old ones. It can bankrupt independent enterprise which contests its patent position. This problem has never been squarely faced in the drafting of patent legislation.

Senator O'MAHONEY. That would require legislation.

Mr. THURMAN ARNOLD. What?

Senator O'MAHONEY. That would require legislation.

Mr. THURMAN ARNOLD. I had a decision which said it doesn't under a proper interpretation of patentability. It has never been followed. It has not been reversed. You are saying that it would require legislation to make my decision valid. I have not formulated the idea very well but I would be glad to do that.

Senator O'MAHONEY. I think you have formulated it very clearly and you have put in the hands of the court and the examiner the power to determine why if this idea is given the protection of a patent, in spite of the law it is going to give the man too much power and therefore we won't grant it.

Mr. THURMAN ARNOLD. Not quite that.

Senator O'MAHONEY. Almost.

Mr. THURMAN ARNOLD. I have never seen a patent where that is true. What you do is start out with——

Senator O'MAHONEY. Congress felt that the smashing of the atom was so powerful a discovery that the control over it should remain in the Government of the United States.

That could have been done only by legislation. Congress took the legislation and passed the legislation because it felt that there was too much power in fissionable material to allow any individual or group of individuals to maintain ownership and control over this even for a limited time.

Mr. THURMAN ARNOLD. That is true. But I think that it was not invented individually and all the patents that I have ever seen show this kind of a problem. Here is a detergent that can be made out of 10 different materials. Material A is the best material to make it. And they claim all 10 of them and they don't ever expect to use the 9 inferior ones but they are going to prevent someone from using the 9 inferior ones.

Suppose they are all patentable. The fellow says "That is what I am going to do, that is my purpose." They say that gives you too much power over the advance of the art and the industry for you to have a claim on each one of these. You pick the one that you think is the best and that is your claim. That is the problem which we discussed and faced. I don't think the atomic, a thing like that will ever be invented under our patent law which requires a single inventor.

brains than mine might contribute to the implementation of the legislation.

Mr. THURMAN ARNOLD. It struck me offhand that it was a good idea, that it would stimulate research, and not only stimulate exploitation but would stimulate research.

Senator O'MAHONEY. A tax incentive was provided during the war for the construction of defense plants and for the investment of capital in the production of various kinds that was deemed necessary for the war, and this incentive took the form of accelerated depreciation.

The investors of capital were allowed to write off their investment in 5 years, instead of 20.

That was based upon the theory that the war would be over in 5 years, that the production probably would not be necessary longer, and that, therefore, it would be justifiable to grant this accelerated amortization.

The Office of Defense Mobilization last year or early this year, I have forgotten which, abandoned the practice of granting any requests for such accelerated amortization. Less than 2 weeks ago, Mr. Flemming announced the resumption of the practice in several categories. In other categories it was completely cut off.

Now, I take it that that is one sort of tax incentive that could be provided for the investment of capital, in an attempt to develop a new idea, and it would not make any difference whether the patent was eventually overthrown or not.

Mr. THURMAN ARNOLD. I did not think that you had gone far enough with your idea. I thought that was a very good idea.

Mr. CAPLAN. While we have Judge Arnold here I wondered if you would care to express any opinion based on judicial experience, and experience in the Antitrust Division, as to the relative importance from the standpoint of the independent inventor and small business of the so-called gadget inventions as distinguished from the scientific advance which pushes back the frontiers.

Mr. THURMAN ARNOLD. I think that the gadget certainly does nobody any economic harm, whether the man has a baby carriage that shows a good deal more or less of inventive genius—it does not make much difference.

In other words, when you get a specific machine you are on the outside, you are on the rim of the wheel. It is the formula patent which covers the hub—it is the formula patent that will cover 2 or 3 feet out to the rim. So that you could as an economic matter lower your standards of patentability as to the gadgets, but it is a very dangerous thing from the standoint of the consumer to lower your standards of patentability in these formula matters.

As you all know, of course, when you are dealing with formulas and processes, it becomes very difficult to determine whether you are giving a patent on an idea or giving a patent on technical education.

Furthermore, the patent may be part of a portfolio of thousands of other patents which control a very substantial portion of the entire industrial field. In these situations the law should make a distinction between a single patent held by an individual inventor and a patent portfolio large enough and strong enough to restrict the area of competitive research.

Such subjectiveness is the basis of all the confusion and uncertainty and injustice of which so much complaint is now made as evidenced by the criticism of the National Patent Planning Commission, by Justice Jackson, and by others. Relative his fear that the courts are 'likely to at least presume that there is no invention unless there is a new functional relationship,' this is in fact an admission that the objcetive test will be favored by the courts. If this occurs, it is submitted, it will be because the objective test is best since it will insure greater fairness, uniformity of decision, and therefore greater justice than the subjective test, all of whcih will create greater incentive in the patent field.

"Relative to the other objection 'that perhaps not every new functional relationship should be deemed invention': If the functional relationship is new and is one which is required to render an invention in the industrial arts operative, then why should it not be 'held inventive'? Is not the inventor entitled to know how he stands even before he spends years of his life and thousands of dollars of his friends' or stockholders' money? At least he should know that unless the functional relationship is found to be other than new he can rely upon his invention being held patentably new. In short, he may rely upon the fact that no court will be able to upset his protection and contribution by a mere statement that 'in the court's opinion the contribution does not rise to the dignity of a patentable invention,' or that 'it is obvious,' or that 'it is merely mechanical skill,' such as is the situation today.

"I wish to correct the reference relative to the 'support of the bar.' Many of the leading patent firms are in favor of the objective test, and many have stated they would not be against the objective test.

"Appreciation here is extended to Mr. Robertson for his kindness in permitting me to add this reply to his letter."

STATEMENT OF LAWRENCE B. BIEBEL, PRESIDENT, AMERICAN PATENT LAW ASSOCIATION, DAYTON, OHIO

Mr. BIEBEL. Mr. Chairman, my name is Lawrence Biebel.

I would like to direct my remarks to a little different subject than we have passed on before, if it is permissible, because I think it is important toward arriving at our objective of having valid patents issued.

In the first place, part of the function of the Patent Office is to thoroughly study the prior art that it has available, and it should have that art, so that it can make an adequate search and only allow patents where they do represent whatever test they apply, that is, where they find that there is something which is a patentable invention present. The first thing they must do is to have access to that art. The problem becomes very complex and is getting more and more involved year by year.

I used to be an examiner, and I have searched the art many times. Since that time the number of patents has practically doubled. And there is every reason to think that they will continue to greatly expand.

Senator O'MAHONEY. Mr. Biebel, I wonder if you could be here tomorrow? You are dealing with a subject that we had generally expected to go into tomorrow and not today. I wanted to exhaust, if we could, this afternoon, the problem of the relationship of the inventor to the user and to the protection. If you would not mind postponing your discussion until later, I would appreciate it.

Mr. BIEBEL. Yes, sir.

Senator O'MAHONEY. Mr. Burns.

Mr. BURNS. Without relinquishing the right to speak on the topic that comes up tomorrow.

Senator O'MAHONEY. Of course not.

Senator O'MAHONEY. As a test, all right. May I have you stand and give your names to the reporter, please?

Where are your friends, Mr. Arnold? They were popping up all over the place a moment ago. May I have your name, please?

Mr. FLETCHER. My name is W. A. Fletcher, or Los Angeles and Washington, D. C.

Mrs. FLETCHER. My name is Nellie O. Fletcher, of 1851 Columbia Road NW., Washington, D. C.

(Those who had stood resumed their seats.)

Mr. ROBERTSON. My name is Louis Robertson, of Chicago, Ill.

I think there are probably a great many of us here who agree with Mr. Arnold in theory, that it would be wonderful if Congress would produce such a definition. The reason so few are getting up is that we think it probably is impossible to get a satisfactory definition.

Mr. G. WRIGHT ARNOLD. In answer to that, I ask if there are any other definitions that have a two-volume text, like this test has behind it. The test has two volumes of Mr. Roberts. The covers on that text, Senator, are worn white—they are worn off down to the cardboard on the copy in the Patent Office library. That shows how much it has been used. One-half of the Office, practically, I am informed, are using that test at the present time.

Senator O'MAHONEY. I wanted to ask, Mr. Robertson, if you have no faith in Congress, in whom do you place your faith?

Mr. ROBERTSON. It is not so much a lack of faith in Congress to be able to do anything that can be done, but the bar association committees and individuals have worked on that problem for many, many hours, and they have not satisfied more than 1 or 2 of their colleagues. It is just a terrifically difficult problem.

Senator O'MAHONEY. Well, that sounds better, and it will read better in the record, I am sure.

Mr. WOODWARD. If levity is permissible here, we might say that the best thing that Congress could do would be to reenact section 103, and say, "We really mean this."

Senator O'MAHONEY. We might put section 103 in the record at this point, Mr. Caplan, so that those who may read the record will know what Mr. Woodward was talking about.

(Sec. 103 is as follows:)

UNITED STATES CODE

TITLE 35.—PATENTS

§ 103. Conditions for patentability; nonobvious subject matter.

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made. (July 19, 1952, ch. 950, § 1, 66 Stat. 798.)

Senator O'MAHONEY. Judge Arnold, you look as though you wanted to say something.

Mr. THURMAN ARNOLD. Mr. Chairman, I would be inclined to agree that there is no possible way of doing this like grading papers in law school. You give a man an A or a B or a C. There is not any such

Senator O'MAHONEY. The committee will be very glad to receive it.

Mr. G. WRIGHT ARNOLD. Thank you.

To give it briefly, so that you will have the general thought the old gentleman came into the office one morning and he said, "Arnold, you know that a brace and a bit is old. Suppose that I am at the head of a department where we are shipping out instruments, and I require 12 men with hand screwdrivers to keep the lids going on these cases to keep up with our output. And suppose I think of the idea of taking this screwdriver tool and putting it in the brace. Now I can cut my number of men down to three. It is so much more efficient. Would I be entitled to a patent?"

Having been trained in his objective test, I said, "No. I see no new functional relationship betwen the brace and your new screwdriver tool, and the brace and the old bit."

He said, "That is right. The brace is to give rotary motion and pressure downward, and it does so in both cases. Therefore, there is no new invention."

That is the negative of his test.

Now we will go over to the positive of his test, all in a simple way, so that the general idea can be had, which will be worked out further, as I said, in the statement.

The positive of his test would be this: In the Barb Wire case, decided by the United States Supreme Court, we had the case in prior art, just one loop of the barb around the carrier wire, along with the wire spirally wound, to keep it from sliding along. Therefore, it was a pivotal mounting. A little experience in the western plains tells us how quickly that barb could be pushed over and the cow pass by.

But along came the real barb wire, where the barb was wrapped twice around the carrier wire and there was made a bearing on the carrier wire. They made 2 loops and held that barb at 90°, and there it could do business.

There you have a new functional relationship between that carrier wire and that barb. The barb is held upright. It is not pivotally mounted. It is held rigid. I think you see at once that we have a new functional relationship. Is that not true?

Senator O'MAHONEY. Yes.

Mr. G. WRIGHT ARNOLD. There is the idea of it.

And it applies in the chemical field in the same way.

We had the cotton-batten case, and with this I will close.

In the medical-cotton case we had the old art which involved glycerin on the cotton batten which became sticky. We also had boric acid which has very fine antiseptic properties, but that became crystalline and became discrete particles. So when that was put on the wound you would have an irritating medium.

Along came the inventor in the case before the Supreme Court and put the glycerin and the boric acid together, and the glycerin functioned to prevent the boric acid from crystallizing. Therefore we had the benefit of the boric acid in that realm, a new function which thus resulted.

With this I shall close. I shall spell this out in further detail.

I might say that one-half of the Patent Office is practically using this thought today. I find that in 41 years of practice it has been a won-

Senator O'MAHONEY. Mr. Woodward?
Mr. WOODWARD. Present.
Senator O'MAHONEY. Mr. Arnold?
Mr. ARNOLD. Yes, sir; here.
Senator O'MAHONEY. Very good. I understand that you have come all the way from Seattle, and you are anxious to leave? Am I right?
Mr. ARNOLD. That is true.
Senator O'MAHONEY. You know what we are trying to do, to have sort of a summary rather than a full statement of the views of those who participate.
Mr. ARNOLD. I have your letter in which you outlined that.
Senator O'MAHONEY. All right, sir.

STATEMENT OF G. WRIGHT ARNOLD, PATENT ATTORNEY, SEATTLE, WASH.

Mr. G. WRIGHT ARNOLD. Senator O'Mahoney, members of your committee, and members of your staff: My name is G. Wright Arnold, Seattle, Wash.

I have been in the practice of patent law for 41 or 42 years, ever since, in fact, I graduated from Harvard Law School in 1913. In the meantime, I have been serving on committees of the patent section of the American Bar Association, on the board of managers of the American Patent Law Association, and on the Advisory Committee of the Patent Office. And in all of these years we find there have been certain matters that have involved and required attention.

I feel that in your proposition here, where you state you are seeking information whether the patent system continues successfully to stimulate invention by guaranteeing the reward contemplated by the drafters of the Constitution, I think you strike right to the heart of this whole matter.

Our country is only a small fraction of the human race. If we are to maintain our liberties and our freedom, we have got to live and exist by reason of our wits. Our potential enemies greatly outnumber us. One of our soldiers must be equal to many thousands of the enemy, if we are to prevail in any severe military controversy.

In Wyoming, if you want to have your ranch surveyed you expect the surveyor to use his chain or his tape, divided into units, and you expect the carpenter, to build a house, to use his gage and that it is divided into units of feet and inches.

In the patent system, strange as it may seem, we do not have a uniform standard for such measurements for determining patentability. The Patent Office uses one test, the "obvious test," for example, which has been dignified by statutory enactment in 1952, and the courts use this same test as well as other tests. So we have this great diversity.

Until now the Patent Planning Commission, of which President Roosevelt appointed Mr. Charles F. Kettering chairman, stated the most serious weakness in the present patent system as being the lack of a uniform test or standard for determining whether the particular contribution of an inventor merits the award of the patent grant. The considered report of that Commission stated:

"It is inconsistent with sound national policy to continue to grant patents with existing uncertainty as to their validity, and unfair to the inventors of this country and to manufacturers and investors who have

Mr. HOFFMAN. We will be glad to do that, Senator. Your committee will be advised as soon as we are able to develop factual information on the results obtained.

Senator O'MAHONEY. Thank you very much.

Did you have any questions to address to Mr. Bennett?

Mr. HOFFMAN. No; I did not.

Senator O'MAHONEY. Does anybody else around the table want to ask any questions of Mr. Bennett?

Mr. COHN. My name is Herman Cohn, a small inventor, independent inventor, Baltimore, Md. I, for one, have gained a great deal coming here, just knowing Mr. Bennett. I for one will apply to him, for I have an idea.

I wish to do just that which he is doing, cooperating with the small inventors. I want to thank him very much. And I want to thank you, too, for inviting me here. I hope that something good will come of it.

Senator O'MAHONEY. Thank you very much. We appreciate your coming.

Is there anybody else?

Mr. STEDMAN. Mr. Hoffman, I noticed in both your comments and Mr. Bennett's comments that except for the coffee mill, most of the emphasis has been upon inventors trying to find some existing manufacturer who will take on this job of production.

Have either of you had any information, or much information, on the part of the inventors to try to locate the capital to open up concerns of their own and go into business by themselves rather than to find an existing manufacturer to take on the work?

Mr. HOFFMAN. Yes. The subject of venture capital has come up a number of times, the question of the inventor endeavoring to get funds with which to put his idea over. Many of them get stuck half way in the middle of it. They cannot pay the fee. And if or when they develop a pilot model they only have the one that they have been able to make themselves. They go out and they try to find a manufacturer. The manufacturer will not take it on until he is sure that there is some market potential for it. They have to demonstrate to the manufacturer that there is a potential. That is very difficult.

I noticed in this picture that finding a potential market is one of the things that keeps the manufacturer back, and because of that he is reluctant, because he will not take part until he is sure that it is a good idea and will really go over.

There is another thing, since you brought this up, and I meant to mention it earlier; that is, we have encountered the problem of the amortization of a patent that has become obsolete. Small business firms are reluctant to take on patents because when they become obsolete during the course of their manufacturing, and there is considerable life left in the patent, they have to use the entire patent period of 17 years, or whatever the balance of the patent life is, to amortize it. It becomes expensive, particularly if the patent is obsolete in its earlier years.

We are not making any recommendations, but to alleviate this situation would of course require some revision of existing tax regulations.

Mr. CAPLAN. Do you find, Mr. Hoffman, that there is a demand in industry for the gadget type of invention?

Mr. HOFFMAN. We get many of them; yes.

I feel that others can have this same experience. Of the 35,000 or 36,000 inventors who have come our way we have rejected by letter, I would say, 12,000 to 14,000, at least—probably a little bit more. Nearly 50 percent of the remaining, roughly 15,000, 16,000, or 17,000, we have been able to get but 10 percent or 1,600 on the air in 6½ years. Of that number of 1,600 there are almost 500 whose inventions have found their way into the market place, being manufactured with some returns, from a few thousand dollars a year up to an instance of 3 of them now millions.

I refer you to Time magazine, of October 10, I think it is. You will find a 2-page spread in there, an ad on this side of a company in Hatboro, Pa., and on the other page of Time magazine is a list running into 31 States, I believe, 1 Territory, and 4 foreign countries. This is the result of an invention that came to me in 1949. Two ex-GI's came in with a tin-can model of a coffeemaking machine and said that it was a vending machine. They said, "We have put everything that we have into it." That meant their pay, that is, their discharge pay from the service.

As a result today they have a million-dollar plant in Hatboro, Pa. They employ over 700 people. They did $12 million gross earnings last year. They are able to take ads in Time magazine now.

This was a matter of 6 years for these boys to do this. This is further illustrated by Dr. Erp Thomas, who came from New Zealand to us. He had a method for disposal of refuse and garbage. It was a digestion method by which the refuse and garbage from the city could be utilized, instead of putting it into the sea. It was put into a large unit, 60 feet in height and 20 feet in diameter. And in there it was finally digested to the point that it came out as fertilizer, useful to those nations that require it.

This, too, is well on its way now into many thousands of dollars of return to him. This man worked 32 years on this before this program opened the door for him.

Senator O'MAHONEY. Is Mr. Hoffman in the hall? Will you not come forward, please.

Mr. Brown, you are sitting in the back of the room again. Please come forward to this table, sir. That is a very sincere invitation for you to come forward to the table.

Mr. BROWN. I appreciate the invitation very much. I think I have done my bit.

Senator O'MAHONEY. You might want to ask some questions before the day is over.

Is Mr. Arnold here?

Mr. Hoffman, will you state for the record who you are and whom you represent?

STATEMENT OF ROY C. HOFFMAN, SMALL BUSINESS ADMINISTRATION, WASHINGTON, D. C.

Mr. HOFFMAN. My name is Roy C. Hoffman. I am with the Products Assistance Division of the Office of Procurement and Technical Assistance, Small Business Administration.

Our Division is interested in products, processes, new inventions, and new ideas. One of our functions is the periodic publication of

A committee, for instance, set up in some manner that would provide a single form by which all companies would stand. Maybe another form is needed for other types of companies. That could be a third-party form, so to speak, submitted either by the Patent Reference Service, or by the American Patent Law group—by someone who is a disinterested party between both, so that the inventor would feel, "This must be satisfactory on both sides, because it is working."

This, I think, would solve the problem.

It is simply because the dog offers to the cat that form or vice versa that it is not accepted, I think.

Senator O'MAHONEY. What is the cat going to offer to the mouse, is the question.

Mr. CAPLAN. Do you find that once you get the two parties together, the manufacturer and the inventor, that it is difficult to arrive at the terms under which the agreement between them will be made?

Mr. BENNETT. In a few instances this has been the case.

We have found in some instances, where the inventors, lacking negotiating ability, let us say, have been too prone to refuse a first offer of something and have closed their mind and the door to the sale of their invention because of that, but for the most part we encourage them to please be receptive to it, to understand that their invention is but 1 small cog or 1 small tooth in the gear that makes the whole thing work; that any company that takes on even the smallest item may have to invest $15,000, $20,000, $25,000, $30,000, $40,000, to get even the smallest invention launched these days, and that they must now share the thing that they have with that company or that group, whether investor or manufacturing company, to provide the wherewithal to get financing, manufacturing, engineering, design, distribution, merchandising, promotion, advertising, and all of the other things that go with it that they have failed to understand.

Once they understand this we find it negotiated very nicely.

We have urged them not to try to make a killing out of one invention, but be reasonable and understanding; that a manufacturing company, if they make 6 to 8 percent profit, or 10 percent profit, that that is a pretty substantial firm these days. And that the inventor cannot on that basis expect to make 90 percent himself on some device.

So we have urged them to do that. And, as a matter of fact, we have had a helpful booklet that should probably be reprinted, I believe, and used.

Some few years ago I read of a Mr. Gager, I believe, of General Mills, who wrote a booklet on The Care and Feeding of an Idea, and used as the idea the Bird's Eye frozen food business, and stating how many millions were involved in making this frozen food product and how a company had to get behind them, that is, the man Birdseye, to develop it into the fullness that we know today. And we know what a tremendous industry it turned out to be.

This book was sort of an education to the inventor. And everyone who goes on my program gets one of these booklets, which is given to him, because I asked the company for reprints, and they put it up in a nice little booklet form. This teaches them that there are others who must share with them, who will put their backs to the thing, too, if they will let them.

We are searching for that invention. We will find it, I am sure.

Ingersoll & Rand, one of our foremost companies in the country, inquired of us 2 years ago:

Can you find, as we have failed for several years to develop in our research laboratory, a way to turn our pneumatic riveting gun into an automatic nailing machine? Can you find among your inventors a way by which our pneumatic gun may drive nails in flooring, siding, boxes, walling, shingles, and anything else.

We put one announcement on this program, with the result that we had 1,500 inventors write in to us asking for the submission forms in order to try their ideas on it. Of that number we had finally sifted it down to about 342, as I recall, who sent in from good ideas worked out right through to production drawings, in some cases complete, in which several hundred dollars were spent. We submitted these.

As a result of that some 10, we were finally notified, were kept for their review. Of that number we were later notified that some six were remaining. What happened to the six, I do not know. That was not in our province. Once they had taken those that they thought were useful to deal with the inventor and his attorney, we did not follow up beyond that.

Mr. CAPLAN. Do you handle the business negotiations between inventors and licensees to any extent? What has been your experience along that line?

Mr. BENNETT. Well, I find myself in a very unique position, I think. You know, the inventor and the manufacturer is really the antithesis one to the other. It is hot and cold. It is cat and dog.

I find the inventor who says, "I have heard all my life that big companies steal inventions."

I do not believe this. I know of no instance in which this has happened, in my experience.

On the other hand, I find manufacturing companies, or their representatives, saying, "We would like to know more about this, but how can we find out about it without getting involved in some way that may not provide us with all of the protection we require as a company?"

So we find ourselves in the middle. We have no ax to grind. We talk to the inventor, and we slap him down and say, "Look, will you please be reasonable about this? You are trying to get something across."

We say to the manufacturer, "You must come up with a reasonable answer to this man's needs."

We have found ourselves where we can deal happily between them. I think we have earned our faith that they have placed in us. We continue to deserve it.

Once this has happened, and they have gotten together, through a neutral party, we find things work out smoothly.

I think one of the greatest drawbacks to the acceptance of the independent inventor's accomplishments, is the form they have written up many pages in length that starts out by saying, "You sign this, and once you sign this we thus feel sufficiently protected and we will talk to you about your invention."

This is like inviting a man to your home and saying, "We would love to have you come in, but we have put all of the accouterments

Mr. CAPLAN. The thing that impresses me about the inventions which you showed in your film was the simple nature of the articles which were demonstrated. It seems to me that there was no pushing back of the frontiers of science in these inventions. They rather were classified in what I would call the gadget class.

Do you think there is a need of a patent system to protect ideas of that type?

Mr. BENNETT. Indeed, I do; for I heard this morning mentioned that if we did not have the transistors and the iconoscope and the cyclotron and the H-bomb, that we would suffer greatly from those losses. I am sure this is the case.

Fortunately or unfortunately, we do not live by H-bombs or cyclotrons alone. We live by the food we eat, the cans that are sterilized that the food is placed in, the machinery that made it possible to put that food in the cans; the automobile brake that we depress to stop a car; the train that I came to Washington on. We live by all of the things in our homes that are made by these people.

One large corporation said of all of the appliances that are in use in the modern home today, with the exception of the garbage disposal, they were provided by the independent inventors.

The further suggestion was made by this same corporation that of some 77,000 suggestions that came to them in a period of a year, some forty-thousand-odd inventions or suggestions were useful and were paid for.

This, to me, indicates that the little fellow who provides the little things that we see here, to teach children to hang up clothes and to make them better citizens by that little discipline—the man who provides more heat for our dollar that we are spending, that is a shrinking dollar these days, provides an important contribution to that person who may earn $60 or $70 a week and, who by spending 30 cents for electricity, can find himself with $6 worth of fuel.

I believe that if we had only the cyclotrons and the H-bombs, we would need no patent system at all.

The patent system, I think, is needed for the little fellow who provides these things that make our life easier, that give us more pleasure, more use of our money, more time with our families. Otherwise, the H-bomb—we could get a group of men together and provide for that one big idea, the transistor or the H-bomb or the cyclotron that came during that year's period.

Mr. CAPLAN. In your work of trying to market inventions for inventors, do you find it necessary that they have some sort of patent protection in order to make a satisfactory financial arrangement with the manufacturers?

Mr. BENNETT. That is correct.

Inventors come to us sometimes with only an idea in mind; sometimes with it drawn on a piece of paper; sometimes with the search completed; sometimes with the application in; sometimes with the patent in hand. They come to us in all ways.

Our normal function, if it is not patented, is to send them immediately to the Lawyers Reference Service that has been provided to us in Philadelphia, and in other cities around the country, by the American Patent Law Association that has aided us for some 5½ years in guiding our activities.

ter, cheaper, with higher octane, and so forth, which has never been made before, but maybe a thousand men have worked on it, making experiments and trying it, and so forth, somewhere in there there should be a way to protect that.

I didn't understand Mr. Arnold to say he objected to that. But the Supreme Court has cast great doubt on whether there can be invention that grows out of research, and particularly research of a number of men.

Senator O'MAHONEY. It is very interesting, but opens up a completely broader field than the one we have been discussing this morning. Judge Hand was invited to participate here because of the very points which you are making. I think the committee would be interested in having a discussion of the position that the Supreme Court has taken, because this committee wants to know if there is not some way in which we may, by legislation, assist in obtaining a definition of the discovery which will include a patent, so that patents cannot be invalidated when they are actually contributing to the progress of science and the useful arts. That might require a definition of what are useful arts.

If anybody is going to curtail the area which the progress of science and the useful arts is meant to cover, I think it ought to be the Congress and not the members of the courts.

Mr. BROWN. That was my main thesis on that, sir.

May I answer you on your suggestion. I don't believe you can define "invention" by statute. I don't believe it can be done.

Senator O'MAHONEY. I am asking the question, not making a decision.

Mr. BROWN. I didn't know. Maybe you suggested that. If I may come down to saying something concrete, my suggestion to you as to legislation, I don't know of anything basic in the patent law at this time that I would recommend changing out of my experience. I would recommend and I strongly recommend that the Patent Office be adequately financed and I understand that Congress has been very generous with the Patent Office during the past year. It does need finance and proper finance.

The only other concrete suggestion would be that Congress not raise the fees of patent applications and patent prosecutions in the Patent Office too high. I think some increase is justified and required. It has been a long, long time since there has been any, and we all know the expense. But if the fees are made prohibitive, it will mean that the carpenter, the blicklayer, and the policeman, and so forth, will come in and you will say the costs will come to X dollars to even file the application, and it will cost you a good deal more. It may squeeze them out.

One of these gentlemen said a while ago, even a bad patent amounts to a publication. It is a teaching to other people. It may be a little progress, but it helps. That collection of patents down there at the United States Patent Office is one of the greatest storehouses of information and technical information and of advantage to the public of any library in the world in my opinion.

I have taken too much time, but I thank you for your patience.

Senator O'MAHONEY. Thank you. You have made a very interesting statement. We thank you very much.

(Discussion off the record.)

I mean there used to be dozens or hundreds, now there are 1 or 3 a month. They are very materially lessened.

The reason for that, I think, sir, is primarily the Supreme Court of the United States, which has been hostile to patents, which has not been intelligent in its decisions on patent cases for something like 15 or 20 years.

Of course, I know you cannot really change that by legislation and nobody can change it, but I think I may speak as a member of the bar with a good deal of experience, that the fact, as one of the Justices said, the only good patent in the country is one that the United States Supreme Court doesn't have before it, has sifted down, and the result has been that we have to tell the little man off the street who comes in with a little better screwdriver than the one he has been working with or he has put a new form of claw on his hammer, the little things that may be very important, we have to tell him, "You are wasting your money if you apply for a patent on it. We may be able to get it through the Patent Office, but the courts will not sustain it, because the theory of the United States Supreme Court has to be followed out in the lower courts."

As the Honorable Learned Hand—I don't know whether he is here or not, I saw his name on the list—said in 1 or 2 decisions,

> We cannot shut our eyes to what the Supreme Court of the United States is saying about patents that are good and patents that are bad.

I am interpolating that I think he meant to say. "Against our own judgment we have to follow the Supreme Court of the United States."

The result has been that we have had to tell corporations that if possible they should not litigate their patents, stay out of litigation. You cannot afford to put your patents into litigation if you can get any benefit out of it without litigation.

That all sifts down to having to tell the man with some little idea that probably it isn't worthwhile for him to go on with his patent.

Another thing I think the Department of Justice, largely through the work of Mr. Thurman Arnold, has done a tremendous disservice to the patent system of the United States. The Department of Justice is generally regarded, I think—that is my opinion and I have talked to many of the best men in the country, and I don't see that it is changed much at the present time—as having an approach to patent problems that feels that monopoly is odious and patents are monopolies and therefore patents are odious.

If there is anything it can do to keep big industry or little industry, for that matter, from enforcing a patent or working out a contract under which they will make some money by patents, it is against it. We have had to advise our clients time and again that when they were about to go into some arrangements with another company in which it would be to the interest of both companies and in our opinion to the interest of the public, we have had to say, "Well, if you go into it, you can expect to have these sharpshooters, some of these Harvard Law School students, come down from the Department of Justice and take all your papers out of your files and call for all your correspondence and try to find something wrong with what you have done."

Mr. MARKS. The Bureau of Standards, I believe, would form an excellent nucleus for that. Possibly also the National Science Foundation could be encouraged in that direction. They could make grants for students, graduate students, and so forth. Possibly it could be expanded to provide grants to inventors, as well.

Senator O'MAHONEY. Judge Arnold.

Mr. THURMAN ARNOLD. I don't entirely disagree, but I do think that the language of Mr. Kettering, testifying before the Temporary National Economic Committee in 1938, is still true in that it points out the difficulty of the problem we are now discussing.

Mr. Kettering said, when he was being asked about who invented what in General Motors Laboratory:

> You see, when you are working on an invention—well, we don't work on inventions; we try to solve some industrial problems; try to make a new piece of apparatus. Now, you never know what inventions are going to be useful and what are not, because, as you come upon the problem, you cannot tell what is important and what is not important, so we have to kind of study the whole thing on the whole front. It may go off at that angle or this angle. What we would rather do is to try to reward the whole laboratory, to keep the individuals working together. If you give the reward to a particular individual for his particular invention, then he would be secretive about the thing; so we try to reward the whole laboratory, if they do good. In other words, if he makes some things that are valuable, we reward the laboratory, because one department may make an important contribution one year and another department another year; but then we always give a little particular bonus to the fellow who did that job.

In other words, in modern invention, to separate out the individual is, I think, becoming increasingly difficult.

Mr. MARKS. May I reply to that, sir?

Senator O'MAHONEY. You may, Mr. Marks.

Mr. MARKS. I reiterate what I said before, and that is that very basic development must start in the mind of a creative individual, and to reward an entire laboratory, most of whom may be routine workers, for the creative efforts of 1 or 2 or 3 individuals, I think, is not doing justice to them and would not be accepted in any other field of endeavor. We wouldn't reward the entire vaudeville troupe for an outstanding performance of one individual. He usually commands a greater salary than the rest of the players.

In the same sense, we also possess in the patent system a unique method or medium for weeding out those people who have contributed and those people who have not contributed to society. The only way to achieve a flow of contributions is to follow the thought of the originators of the patent system, and that is to handsomely reward the people who are capable of producing the results.

Mr. THURMAN ARNOLD. I would agree. I wouldn't reward the entire laboratory with a patent, but I think it is becoming very difficult to select the individuals.

One of the reasons is that the level of the art in large research corporations upon which you are supposed to judge the fact is the secret level of the laboratory itself. It is customary to compare an invention which comes out of a Bell System with the art existing outside of the Bell System, and there isn't any art existing outside of the Bell System that anybody knows anything about, and therefore you have a false standard of patentability.

Within the Bell System I would be very doubtful if you could reward the individual.

Mr. LANHAM. May I insert an illuminating incident with reference to the little fellows. Several years ago I was asked by our former colleague, the Honorable Lindsay Warren, to speak an Aviation Day at the first of the historic annual pageants held down in North Carolina.

Down there I met the telegrapher who sent out the news with reference to the first successful flight of the Wright brothers. He told me only six papers in the United States carried it, but innumerable telegrams and telephone calls came in asking what was the matter with that drunk telegrapher. They could not believe there had been a successful flight. It came from little people. Yet aviation today is one of our leading industries.

STATEMENT OF ALVIN M. MARKS—Resumed

Mr. MARKS. I would like to make one comment on the proceedings, and that is that all inventions basically have to stem from some individual creative mind. No matter how you obscure the situation by referring to the cooperation of larger groups who may provide the atmosphere or equipment necessary to produce this invention, still it is the individual creative mind that must be fostered to get the best possible results from the creativity that is present among our people.

To that end we must properly reward the individual inventor, and just to provide him with a patent with which he is unable to proceed further due to economic circumstances of various sorts is, in my opinion, not sufficient. It requires further measures, which I shall be glad to discuss later.

Senator O'MAHONEY. We want to find out what suggested standards you have in mind. Perhaps I might better ask you to prepare a written statement upon that subject.

Mr. MARKS. Yes; I will be glad to.

Senator O'MAHONEY. Did you bring a statement?

Mr. MARKS. No; I didn't bring a statement, but I believe I can rather quickly summarize the points I have in mind.

Senator O'MAHONEY. Please do.

Mr. MARKS. First of all, there are several types of inventions. I call one type the gadget invention, which is very necessary. The safety pin, the zipper, and so forth and so on, all of those are very necessary and can be developed by people of mechanical genius but of little deep technical knowledge. The other types come out of the more subtle technical knowledge, and among those I might mention the transistor, the photoelectric cell, nuclear energy devices, and so forth, all of which require a vast technical preparation before people are competent to deal with them.

Even though these areas require deep preparation, nevertheless it is the individual who must accomplish such preparation and the individual very often does accomplish such preparation in association with colleagues and other persons, at colleges, institutions, corporations, and so forth, yet nevertheless his contribution might come at a time when he is no longer associated with any of these groups. His accomplishment in the field of invention might arise after many years of experience with diverse fields. Suddenly his mind might encompass some new development which is born of his entire past experience.

and we correlate much of our inventive research with such institutions.

We do considerable work with Research Corp., which has been mentioned. I believe we must recognize that in dealing with the university we deal at arm's length, as we would with any other entity, whether it be a corporation, a small business, or a big business.

It is interested in using its time profitably. We normally find that we have to make expenditures of money to a university, and I would say in the vast majority of cases, no patents come out of that collaborative work at all. I believe it is wishful thinking to engage in any plan whereby a university would be expected out of its own time, its own limited resources and facilities to work with so-called individual or little inventors.

Now I should like to ask a question, and I hope I am not going to be an iconoclast, but I have somewhat of that reputation.

Senator O'MAHONEY. Sometimes I think an iconoclast has a pretty good position and duty to fulfill. Maybe we will stir something up here.

Mr. LEVY. Thank you, sir.

I should like to remind the group here that we are dealing with what the Constitution basically refers to as the advance of the sciences and the useful arts, and there is nothing in the Constitution and there is nothing in our laws either, I believe, about a distinction between an independent inventor, a little business, a big business.

I think the Constitution is interested in the country, and it is designed to have benefits for all.

The Constitution speaks in terms of a system which will advance the sciences and useful arts in the country. I believe very often in patent studies we are prone to go off into alleys with respect to the problems of a particular group, and isolate that from the broader problem. I do not believe there is an iota of difference from a patent point of view policywise between a little business and a big one, not in this country at least.

They both have the same problems with their inventors, with other corporations, with the Government and with the public, and the so-called little fellow in my experience at least—and I don't mean in any sense to belittle his efforts—frequently has nothing in fact to offer.

There isn't a week that goes by that we do not consider contributions from a little fellow, the independent inventor, and we would actually like to take them. In 10 years of work we have yet to accept our first one because we have found them in fact not to be helpful, and I would like to suggest that perhaps the whistle here has become larger than the locomotive at times when the little fellow so-called has been stressed by some of the speakers here to the exclusion of the broad problem of advancing science and useful arts to all of those engaged in industry and individual efforts.

Senator O'MAHONEY. Mr. Levy, your association is with Hoffmann La Roche Inc.?

Mr. LEVY. I am now associated with them. I am past chairman of the American Drug Manufacturers Association Patent Group and past chairman of the American Pharmaceutical Manufacturers Patent Group.

Senator O'MAHONEY. Do you think your experience in the pharmaceutical field would be similar to the experience of another person who

Mr. LANHAM. On a rare occasion there will be an assignment of an application very shortly after the application is submitted. It will probably be impossible to determine accurately the number of such applications that are sponsored really by an organization, but I think the information would be helpful assuming that a great proportion of the individuals who apply for patents apply of their own accord, and I believe you will find that is true.

Senator O'MAHONEY. Mr. Commissioner, do you care to make any comment on this?

Mr. WATSON. We have collected information which does throw light on that situation, not so much particularly with respect to the application when received. We have no definite information as to the number which are wholly owned by the inventor or those which are owned by others, but we do have the ability to check and have checked to ascertain how many patents are issued to corporate bodies and how many are issued to individuals and how many are issued to a person who is different than the inventor, in other words, some assignments are made from person to person. A great majority are made from person to corporation.

We have charted it. Mr. Federico has a chart peeking out from his file here which I see, and which would indicate to you that about 60 percent of the patents which issue are issued to corporations.

Senator O'MAHONEY. I don't know how many in the audience may have come from the Rocky Mountain States or other States in which mineral discoveries have been made in the past and mineral patents issued by the Department of the Interior or the General Land Office, but I am sure that everybody has heard about the grubstaker who furnishes the groceries for the old prospector and who frequently turns up with most of the profits when the discovery is made of gold, silver, or lead, or other valuable material.

The suggestion here developed is that there may be grubstakers in the case of inventors.

Mr. WATSON. I would say the risks are equally great in both cases.

Senator O'MAHONEY. Do you think that anything should be written into the law requiring a full disclosure of what the applicant for the patent is obliged to do with the patent when he gets it?

Mr. WATSON. I certainly do not. That is a matter which goes to the value of the contribution to the arts and the ability of one man to deal with another, and it is a matter of tremendous import, because it involves the matter of free contract and option.

Senator O'MAHONEY. We are dealing here, Mr. Commissioner, as developed in the discussion with the representative of the National Research Council, with the fact that the individual inventor is not always dealing with a man per se; he is dealing with an organization.

Mr. WATSON. That is true. Many of the patents which are issued to the corporation, as shown by the little chart which we have prepared, are issued for inventions which are made by individual inventors and purchased, you might say, in the test-tube stage by those corporations. I think that is not a complete reply to your question.

Senator O'MAHONEY. Suppose we have Mr. Federico tell for the record what the chart shows.

Mr. FEDERICO. The committee asked the Patent Office if we had records of the patent applications filed as a result of corporate or

aid inventors. Through these many years the organization has served many independent inventors as well as some 60 universities and colleges throughout the country.

Acceptance of the suggestion made by Mr. Cohn, that universities be called upon to aid independent inventors in developing their inventions, would place those institutions in an embarrassing position. It would be asking them to undertake something beyond the scope of their charters. Colleges and universities are primarily teaching bodies and do not have the personnel with the requisite specialized knowledge and experience to handle the intricate technical and commercial aspects of patent development.

In order to avoid becoming involved in the complicated business of patent management, 60 colleges and universities have entered into patent-development agreements with Research Corp., whereby that nonprofit foundation handles patentable discoveries and inventions in their behalf, with full protection of the interests of both the inventors and the public. Others, for legal or fiscal reasons, use the facilities and personnel of separately incorporated patent-management foundations, independent of but closely affiliated with the institutions, such as the Wisconsin Alumni Research Foundation and the Rutgers Research and Endowment Foundation.

I am certain that consultation with these nonprofit organizations, as well as Research Corp., would be helpful to independent inventors. They might also find it advisable to seek advice from National Research Corp. and similar commercial organizations which operate in this field.

Senator O'MAHONEY. Mr. Palmer, did you prepare a paper for this committee?

Mr. PALMER. No, sir; I did not. I came here merely as an observer from the National Research Council. I shall be glad to furnish you a paper on this subject, and also one concerning Research Corp.

Senator O'MAHONEY. I think it would be profitable if you would do that and go into more detail than it would be desirable to do at the moment. May we ask you to do that and submit it to the committee at your convenience?

Mr. PALMER. I shall be glad to do that. The assistant counsel and I have discussed the matter on various occasions and I can submit something that might be helpful.

Senator O'MAHONEY. You were about to make a comment on the general subject, were you not?

Mr. PALMER. I had no intention of making one, sir; but I will say this: For more than 25 years now, I have been concerned, as scientist and as administrator, with problems of research and patent management. In 1933, with Dr. Karl T. Compton and Dr. Simon Flexner, I assisted in organizing the patent-policy program of the National Research Council and since 1946 have been director of its office of patent-policy survey, making research studies and rendering advisory service to universities, industry, and the Government on these problems. During the past 5 years I have been Chairman of the Government Patents Board and, as head of that independent Government agency, have been responsible for establishing, coordinating, interpreting, and administering the patent policy of the Government with respect to inventions made by Government employees. As a result of these ex-

and if it must be done through the Government, I don't know, not knowing how things are done. I think there should be a place in every college that will help a man. He doesn't have to go to college. He doesn't have to be a professor. He should be a man on the street, probably digging, and he finds out how to dig better. So he goes to the college in his city and says, "I have this." If they think well of it, then they will go to work on it.

Senator O'MAHONEY. There is a gentleman in our company today who may be willing to make a contribution after the suggestion that has been made here now.

Mr. Roger McLean, you have registered?

Mr. MCLEAN. Yes, sir.

Senator O'MAHONEY. You represent the Sinclair Corp., do you not?

Mr. MCLEAN. Yes. I am here because Mr. P. C. Spencer could not be.

Senator O'MAHONEY. I understand. Would you care to comment now upon the experience of your corporation?

STATEMENT OF ROGER McLEAN, SINCLAIR OIL CO.

Mr. MCLEAN. Yes, sir. About 4 years ago Sinclair had some excess capacity in its new research laboratories. Under Mr. Spencer's guidance they offered to make available to any independent inventor the facilities of the laboratory to test out any invention relating to improved petroleum products or a use of a petroleum product. In return all Sinclair asked for was a royalty-free license for its own operations, taking no part in the invention whatever.

Senator O'MAHONEY. In other words, it was the plan of Sinclair to allow the inventor to take the patent?

Mr. MCLEAN. Yes, sir.

Senator O'MAHONEY. And to fix his royalty to any users at all except the Sinclair Corp. which had the royalty-free use as compensation for the testing facilities of the laboratory?

Mr. MCLEAN. That is right.

In order for Sinclair to get the license they had to carry out the agreed plan of test work which involved the use of their facilities, of their staff, and was carried out at no cost whatever to the inventor.

We had some 6,000 inquiries about it. We had 400 ideas suggested. More than half of them were completely outside the petroleum field. About 30 came within the ambit of the plan, that is, related to an improved petroleum product or the use of a petroleum product.

Two-thirds of those were excluded because they were not the subject of patent applications or patents. All but three were excluded on the basis of a screening that indicated they didn't make sense. Three were tested out. Two unsuccessfully. The third turned out to be economically unsound.

The conclusion that we drew from it is that there is no independent inventor really in need of help in this particular area.

The second conclusion that was drawn from the examination of a number of things that were submitted that were outside the scope of the plan, outside of Sinclair's facilities to do anything about it, and the number of inquiries not followed by submission of ideas, obviously because outside the scope of the plan, was that there is need for some

wider opportunity were offered to that young man, that particular group, conditions in the Patent Office would be much improved.

Senator O'MAHONEY. Thank you, Mr. Commissioner. We have not had too many spokesmen from the category of the inventors as yet. There have been 1 or 2. I had called upon Mr. Cohn and Mr. Marks to be prepared to make some comments. Each one of them did briefly. I wonder if either of you would care now to proceed.

STATEMENT OF MR. HERMAN COHN, INVENTOR

Mr. COHN. Thank you, Senator.

Firstly, I want to express my appreciation for your taking notice of the fact that the layman inventor, who I believe helped to build this country, is involved here. I happen to be in that category. I do not represent any organized body of people. I am here, probably, to hold the hands of people of my kind who have helped or invented various items, because they enjoyed inventing or because they thought they would be improving and helping their fellow citizens.

My purpose in being here is to create a national setup, along the line of Mr. Donn Bennett here, to encourage, protect, and insure an adequate remuneration to anyone who may have an idea worthy of inventing.

Perhaps I am the last one who was invited here. It just came Saturday. But I am here today——

Senator O'MAHONEY. The mail was slow.

Mr. COHN. Yes, I know. I did, however, intend to prepare a statement and an article on this and have it here for presentation. I did not have time to prepare this.

Senator O'MAHONEY. You may prepare it now.

Mr. COHN. But I do have an idea.

Senator O'MAHONEY. Good.

Mr. COHN. I have an idea which I believe is worthy of consideration, that could be practical and also profitable, and would help every man in every walk of life no matter where he lives in this country if you will install such a system in every college in the country.

For instance, I at this moment have two ideas that are very good, basically sound, and are needed. One, for instance, pertains to a nonskid car, do away with chains. And that doesn't pertain to the tires themselves. I happen to be in a position where I can carry it out or not. I don't need the remuneration altogether. We all would like to make as much as we can, just for the fun of it, probably.

I say, what for? I know how you have to go about the process of patenting things. It takes time and money and effort. I don't know how well I will be protected or be remunerated. So I don't feel like putting money into this.

This is the statement I wish to put in the record and submit it to you after I have written it. I propose a system coordinated with every accredited college throughout the country, whereby there will be set up a department in that college where any man in any walk of life can go and present this idea, have it processed by a professor there capable of processing the same, and if they think it is worthy, then work with him with the understanding and the same idea that a large number of large corporations have and a lot of colleges have, as I understand, where they will work hand in hand on a royalty basis.

Who knows? These very patents may be helpful in supporting these colleges that need help.

Mr. KEGAN. Senator O'Mahoney, returning to the question of salaries, I feel strongly that the Patent Office pay rate should approximate that of any other arm of the Government using people of equal skill. I favor that. But I also recognize that it will not prevent the raiding of Patent Office personnel which has been characteristic of the office for a great many years.

Many large corporations and many law firms and individual law practitioners want the Federal Government to train their associates. And so they allow the men to be hired by the Patent Office. And after he has been trained from 1 to 3 or 5 years they come into the Patent Office and hire the young man.

I think it is going to be impossible for Government to meet that competition. I do not care what you pay the patent examiner. The large corporation or the busy patent lawyer will pay him a thousand dollars a year, or $3,000 a year, more to get him to leave the Patent Office.

It would help, I think, if some of the large corporations, which have rather extensive patent departments, would adopt the policy that they would hire their young men right out of engineering school or right out of law school, train them themselves, and move these men up, rather than taking them out of the Patent Office and placing them ahead in terms of promotion of some of those who come directly with the corporation.

Senator O'MAHONEY. Is it not a common practice among some of the larger corporations, particular in the field of engineering and chemistry and the like, to communicate with all of the universities and the training schools in the land and offer most attractive positions in their establishments to the brightest men in every graduating class every year?

Mr. KEGAN. Yes and no. Usually that is done.

Senator O'MAHONEY. That is a good answer.

Mr. KEGAN. It is usually done with respect to the engineering graduates. It is frequently done with respect to our abler young law students, law graduates, for general law work. But very frequently they feel that the patent law work is specialized far beyond the elementary engineering or the elementary law of a beginner. Therefore, they will either take one of these bright young men who has worked as a chemical engineer or other engineer for 5 years, and move him into the patent department as a trainee, or they will bring in someone from the Patent Office who is familiar with their patent procedures. There is some tendency, as you indicate, to train patent law personnel from the ground up, but I think it could be developed considerably more. Certainly I know that the busy patent lawyer frequently feels he does not have the time to train an apprentice who is constantly bothering him with, "What do I do next?" It is cheaper to let Mr. Watson and Mr. Federico train them, and then go in and take them out of the Patent Office for whatever he has to pay to get them.

So while I favor an increase in salary, that alone will not end the problem. Maybe it is a good thing that we have this turnover out of the Patent Office.

Senator O'MAHONEY. I was prompted by Mr. Kegan's remarks to say that out of a long experience with various departments and bureaus of the Government, I can say without any qualification at all

I think the present situation is tending to demote rather than to promote the useful arts in this country.

Senator O'MAHONEY. What steps would you suggest, Congressman Lanham?

Mr. LANHAM. I would suggest several things. I would suggest, in the first place, that these appropriations be made. They have been started. That is, to eliminate as quickly as possible this enormous backlog which arose very largely by reason of the war years when examiners could get greater remuneration in private industry than they could from the Government. It takes some time to train them properly. That is a very important thing.

Another thing, the lag of 4 years is stifling the very incentive that is necessary to make the patent system operate as it should for the benefit of this country.

Senator O'MAHONEY. It occurs to me that it might be well to mention at this point the fact that the salary of the Commissioner of Patents is not as great as the salary of the heads of some other bureaus in the Government. Commissioner Watson did not tell me that. I looked it up for myself because the salary of the head of a bureau governs the grades that the experts under the head may obtain.

Our search showed, for example, that the highest civil service grade in the Patent Office for patent examiners in grade 13. You have grades 12 and 13 in the Patent Office.

In the Bureau of the Budget the lowest grade for budget examiners is grade 14, and the highest is grade 15. In other words, the salaries for patent examiners in the Patent Office range from $7,040 to $9,360, whereas the grades in the Budget Bureau range from $9,600 to $11,800. And that disparity in payment, of course, is a handicap to the Patent Office in obtaining the type of examiners that they want.

I have noticed for many years, as a member of the Appropriations Committees, that it is almost always inevitable that the salaries in new branches of the Government are better than the salaries in old branches of the Government. This is particularly interesting in the field of patents, because under the Atomic Energy Commission there is a patent adviser and a patent attorney, each of whom is in grade 15, carrying a salary of from $10,800 to $11,800. I know of no reason why that good salary should not be paid in the Patent Office as well as in the Atomic Energy Commission. A thousand dollars difference would make a good deal of difference in the Patent Office. It will not make much difference in the Atomic Energy Commission in getting any better grade.

Mr. LANHAM. I appreciate the force of that statement. There are many people who believe, myself among them, that the Patent Office ought to be an independent office of this Government.

Senator O'MAHONEY. By that do you mean that it ought to be taken out of the Department of Commerce?

Mr. LANHAM. Yes; I think it should. I think it should be an independent office. Let the Department of Commerce act upon the commercial aspects of what is done with patents. A patent itself is not commerce. At any rate, I think that is a subject that is worthy of very serious consideration, and it would help to obviate this disparity that you mentioned.

My own estimate would be that not one-half of the patented inventions—somewhat less than one-half—are utilized commercially.

Senator O'MAHONEY. Mr. Ballard's statement, if I may say so, seems to me to be based upon the assumption that patents, once issued, are always used.

Mr. BALLARD. May I speak to that, sir? By no means is that my opinion.

I think Mr. Federico's estimate is a very generous one. You must understand that a thing to be patented does not have to be the best in its field. It can be patentable without that.

And the reason that many of the issued patents are not used is because, generally, they are not good enough to compete with other known alternatives—known already in the field of industry. You will never be able to get into commerce all of the inventions patented. And it would be a waste if we did it.

Senator O'MAHONEY. Please do not misunderstand me. My question was not intended to raise the inference that I thought that Congress should force the use of any patent. I gather from your words that you got that impression.

Mr. BALLARD. Maybe I got it a little too strong, but I think that we must leave to economic effect which patented inventions go into use and which do not.

I have been working at patents now a little over 50 years. During that time I have represented one of the largest corporations in the country. Presently I am patent adviser for the National Association of Manufacturers.

I recall an investigation showed that this company I speak of used about one-half of its patented inventions. And I regard that as a very remarkable percentage of use.

You cannot tell when you take them out which ones are going to be the ones that win their way in the market.

Senator O'MAHONEY. Is there any other person around the table who wants to comment upon this situation, or anybody in the room?

STATEMENT OF ALBERT I. KEGAN, PATENT ATTORNEY, CHICAGO, ILL.

Mr. KEGAN. I am professorial lecturer on patents in the Law School of Northwestern University. I would like to emphasize that there is a difference between a patent and an invention.

The patent is the document published by the Patent Office.

Mr. Federico has indicated that less than one-half of the inventions are manufactured commercially. In my opinion every patent serves a useful purpose the day it is printed by the Patent Office, because one of the principal functions of the Patent Office is to make knowledge shown in the patent available to all of the world. If the patent discloses an inferior invention, the grant and publication of it nevertheless is a real service. It keeps other inventors from spending their time and their money in reinventing something already known, and, so that a corporation considering that approach could locate the patentee, and find out why its commercial manufacture has not been undertaken.

So Congress does promote progress under the present statute by issuing every patent that it does, whether the patent mechanically

All of these things bear particularly heavily against the lone inventor and the small business based on his inventions. The first two problems mentioned can be easily cured by adequately staffing and equipping the Patent Office. The difficulties of patent enforcement for the little fellow is a much harder problem. The ridiculous idea that patents are somehow antisocial can only be met by education. A patent is merely the agreed payment to someone who has served the public by producing an improvement in our standard of living. It is about as antisocial as the paycheck of any other public servant. The handicaps for the lone inventor can, however, easily be exaggerated.

The fact is that many individual inventors have had great financial success and recognition with no backing except the merit of their inventions. From my own experience I can recall that Pupin got a half million dollars for his loading coil; DeForest got nearly half a million for something less than full rights under his vacuum-tube patents; Lowenstein got $200,000 for his patent on the negative grid; Grissenger got about a half million for his telephone repeater circuit patents; and Day got $180,000 for his patent applications in the electrical field. These sums were paid in each case by a large and powerful corporation with research laboratories of its own. Corporations today generally lean over backward in their efforts to deal fairly with the individual inventor.

This committee may hear many stories by individual inventors about the alleged unfair treatment they have received. But it must always be remembered that every inventor is obsessed with the value and importance of his own invention. He is seldom able to realize that industry may find other known things better for the intended purpose; and he is seldom able to sense the limitations of his own patent, if he has one. An invention does not have to be the best thing in its field in order to be patentable.

There are several corollaries to the guiding principle given at the beginning of this statement, some of which it may be well to note here:

(*a*) The fees paid by an applicant for a patent are in no part a payment for his patent. He pays for his patent wholly by making and disclosing to the public a new improvement in the useful arts.

(*b*) Fees charged applicants for patents should not be expected to support the Patent Office. It is merely the public's receiving office for inventions which the public wants to acquire (as the patents expire).

(*c*) The public, having invited inventors to spend their time and money to improve our standard of living, should be zealous to honor the paycheck (the patent) given by it in return. Or in the words of Chief Justice Marshall, "The public yields nothing which it has not agreed to yield; and receives all which it has contracted to receive. The full benefit of the discovery, after its enjoyment by the discoverer for 14 (now 17), years, is preserved; and for his exclusive enjoyment of it during that time the public faith is pledged" (6 Peters 217, 241).

Mr. BALLARD. I would like to just say this, to take this out of the heart of that very brief statement, I believe that the guiding star for any inquiry intended to improve our patent system is the basic fact that the whole plan, including the Patent Office itself, has been set up solely for the benefit of the public, and for no other purpose—not particularly for the benefit of the inventors, except in a very secondary sense.

The purpose, and the interest of the public, is to get the inventions made as soon as possible and as many as possible, and who makes them or how they are made is of little interest to the public, provided the public gets them.

Many of the inventions that have most improved our standard of living have come out of the big laboratories, and they could not have happened any other way. And that is all to the good, because it benefits the public.

On the other hand, there are hundreds that come constantly from the minds of independent inventors, and if we do not keep our patent system such as to induce these men to do their work, we are not going to get all of the inventions possible and as soon as possible.

What I am talking about, in my original statement, are the 98 percent of the patents that probably cannot qualify for any special treatment. These people should not have to be in dire straits in order to be able to get their patent processed in a reasonable amount of time. They should be able to come in, and in a very comparatively short time get their protection.

As far as the people who wish to delay their patents, I would rather not comment on that at this time.

Senator O'MAHONEY. Mr. Bennett, it looks to me as if you wanted to make a comment.

Mr. BENNETT. I cannot think of a single inventor as an independent, opposed to the corporate structure, wherein about 500 inventions that have been sold, that I have somehow or other been involved in—I cannot think of a single instance where the lack of the issuance of the patent itself has withheld the sale or held up the sale of that independent inventor's license. And, in many cases, I find that the companies are rather pleased when they see what the application holds in the way of claims, that they may further work on it, if it is necessary, if they are going to acquire or lease a patent.

I think it has been very helpful in many cases that this delay has been in effect—if you may call it a delay. I know of no instance where it has withheld the sale.

Senator O'MAHONEY. Mr. Commissioner, do you care to ask any questions at this point?

Mr. WATSON. Mr. Chairman, no. I can make an observation, based upon my own experience as a practicing patent lawyer, to the effect that the needs of an inventor for the prompt issuance of a patent vary from man to man, so that certain inventors will wish their patents to issue promptly, because corporate interests will not agree to invest money unless there is a rather definite assurance that a protective patent will be forthcoming.

My views in that respect differ somewhat from Mr. Bennett's.

On the other hand, there are many—and particularly the corporate interests—who are in position to exploit their inventions with the capital and equipment which they have, and they do not require the issuance of any patent to interest any other person. The patents which they seek are useful for defensive purposes, and unless and until a threatened infringement is in the offing they do not need the patent.

So we have various views as to the need for liberalizing what we call our petition-to-make-special operation.

I may say at this time we are giving that particular matter study in the Patent Office, thinking that the examining operation might benefit, and particularly in view of the enormous backlog, if we were less strict in the requirements for certain individuals to obtain priority of examination. Heretofore we have been rather strict, indeed, in permitting anyone to have his application taken up in advance of the applications of others and given special consideration. That is being given study at this time.

Senator O'MAHONEY. Mr. Federico, out of your 30 years' experience, do you wish to ask any questions or make an observation with respect to this particular point?

Mr. FEDERICO. No; not at this time, Mr. Chairman.

Senator O'MAHONEY. Mr. Ballard?

Mr. BENNETT. As of Friday, I just learned that much of the work that I know you are going to be doing here is going to be helped, because the Thomas Alva Edison Foundation, with a handful of a dozen or more of the national manufacturing companies in the Nation, is going to provide this program freely to individual television markets all over the country. So, therefore, the inventor will have a real opportunity now of talking weekly to some 32 million people. This should help his work greatly.

Thank you.

Senator O'MAHONEY. Very good.

I shall not call on Commissioner Watson at this time, because he, like the rest of us on this committee, is looking for facts. What our conclusions may be will be the result of collaboration later on. If legislation is needed, it will have to be the joint work of the legislature and the executive, and it is our hope in conducting the meeting in this way that we can promote the utmost cooperation throughout the sessions between these two branches of Government so that we may have speedy legislation for the improvement of the patent system, so far as it may be needed.

Let me ask every person who is called to identify himself as he opens his summary of his point of view. I think it would be proper for me to announce the names of two or three people so that you will be ready for your presentation.

I am going to call on Mr. Brennen, Mr. W. C. Brennen, of the National Patent Council; Mr. William R. Ballard, of the National Association of Manufacturers; and Mr. Herman Cohen, of Baltimore, Md.; Mr. Alvin M. Marks, Whitestone, N. Y.; and Dr. Archie Palmer, of the National Research Council.

Mr. Brennan, will you start?

STATEMENT OF WILLIAM C. BRENNEN, REPRESENTING JOHN W. ANDERSON, PRESIDENT OF THE NATIONAL PATENT COUNCIL

Mr. BRENNEN. Mr. Chairman, my name is William Brennen, and I represent John W. Anderson, who is president of the National Patent Council.

Maybe before I start—and I will make it very brief—I should say that our organization is an association of inventors, small research laboratories, and corporations who have an interest in the patent system. We are not fully prepared to make our statement at this time, and we may submit a detailed one in writing later on, but we would like to start out by saying that we feel that the purpose of this committee in the investigation of the patent system is very fine. Anything that can be done to increase the incentive of the small inventor is completely in line with the purpose of our association.

For the purpose of discussion, as I said, I will make this brief. As the first person speaking, I would like to call the committee's attention to the lag that exists between the time that a patent application is submitted and the time that the patent is granted.

We feel that this period, which can amount to many years in some cases, has a tendency to decrease the incentive that the small inventor needs to produce his work.

the facts on the table for all interested in the continued progress of the arts and sciences to see.

I am very happy to be able to announce that Commissioner Watson has cooperated in the fullest degree in the preliminary work of the committee.

Commissioner Watson, I supposed you are well known to all of these who have gathered, but would you not stand and take a bow, so that all may see you, if any are not acquainted with you? [Applause.]

Senator O'MAHONEY. Mr. Federico, will you be good enough to stand, too? [Applause.]

Our purpose in having these two gentlemen at the table is to put them in a position of strategic advantage, where they may question the other witnesses who are to come to the roundtable.

I hope I have made clear the plan that we intend to follow. It has been my experience over a long number of years that if witnesses in the field of expert importance are permitted to cross-examine one another, the committee is much more likely to get much more information than it would if it were to depend solely upon the cross-examination of its chairman or any of its members. So, in a sense, we are bringing all of you into the play that is being produced here today as examiners who will let us see what the conflicts may be in the thinking of all who are assembled here.

Now, Mr. Caplan, would you be good enough to indicate those whom we shall invite to sit around the table in the first instance this morning?

Mr. CAPLAN. Is Mr. Bennett, inventor representative, here? Will you take a seat at the table?

Is Mr. Herman Cohen present? Will you take a seat at the table? Mr. Marks.

We also have some representatives of the National Patent Council here. I wonder if they could be seated at the table.

Congressman Lanham, Mr. Brennan.

Are there any other inventors or inventor representatives present here today who would like to take part in this discussion?

We also have some representatives of industrial organizations here. Is Mr. Levy present?

Mr. LEVY. I am here.

Mr. CAPLAN. Is Dr. Palmer here? Will you take a seat at the table.

Is the representative of the Small Business Administration, Mr. Hoffman, present today? Would you join the table.

Is Mr. Ballard present? Will you take a seat at the table.

Are Mr. Schmeltz of the Aluminum Corporation of America, Mr. Silver, Colonel Toulmin, and Mr. Woodward present?

I think that we have almost filled up the seats.

Senator O'MAHONEY. Are there any volunteers for the three vacancies?

Mr. CAPLAN. Mr. Rich, Mr. Biebel of the American Patent Law Association, and we also have Mr. Hayes of the American Patent Law Association.

Senator O'MAHONEY. Let me say that whenever anything develops at the table with which anybody in the rest of the room disagrees, please do not hesitate to rise and ask for recognition. So long as we

ventive genius of Americans in the modern era. The individual in our time finds himself in a field of competition with foreign nations and institutional research laboratories which did not exist as competitors when the Constitution was drafted and the patent laws first written.

This committee has called to its assistance in these studies the officials of the United States Patent Office in the Department of Commerce. Commissioner Robert C. Watson, who sits here at my right hand, has kindly consented to be with us and to bring with him experts from the Patent Office like Mr. P. J. Federico, Examiner in Chief, who is with us today, to launch the public opening of this study.

It is appropriate for me to say that Mr. Federico began his services in the Government, in the Patent Office, as an assistant examiner, more than 30 years ago and is now Examiner in Chief in that Office.

We shall conduct these 3-day hearings on an informal basis by group discussion and interchange of ideas. We want each of you to feel free to speak briefly on any of the topics to be discussed to the end that by free and open discussion the important problems in the patent field may be brought out into the open for more detailed treatment in the future.

Let me emphasize that we cannot actually solve any problems or deal extensively with individual experiences and situations during the 3 days at our disposal. The purpose of these meetings is to bring out some of the thinking and suggestions available as to the direction this committee might take and how it might proceed, and what to look at in our efforts to suggest how our patent system can more completely fulfill its constitutional purpose of promoting the progress of science and useful arts.

As is obvious from the scope of the problem and the number of people attending, there is a lot more to talk about than we could possibly handle adequately in that time. All of you have a great many ideas on a great many of the subjects we plan to discuss. That is why you are here. We would like to get every last word from every last one of you, but time simply does not permit that. The chief purpose of a public hearing, of course, is to let the public know what the problem is, and by outlining the nature of the problem to invite advice from the public which otherwise would not be secured. You are all invited to file with the committee your full statements, but it will facilitate our progress if you will be good enough to summarize the points you desire to make and if we take up in an orderly fashion the problems which are to be discussed.

I know you will understand, consequently, if it becomes necessary to cut off discussion now and then so that we can proceed to another subject. Those of you who have come with prepared formal statements have the asurance that they will appear in full in the printed hearings. However, in order to give everyone an opportunity to enter into the free and frank, informal, roundtable type of discussion which we are planning for these 3 days, I hope you will not read, or attempt to read, formal statements.

The central patent issue seems to be that of the relation of the individual inventor and the business concern which puts inventions on the market. Phrased in another way, is the million-dollar lab-

to a corporation but would slow the initiative of the independent inventor. It is suggested that cutting down the time allowed for an attorney to answer from 6 months to 30 days would help the inventor a great deal. The need also exists for adequate and competent personnel in the Patent Office.

A. G. Thomas, inventor, Chattanooga, Tenn. (pp. 351–355)

There should be some way inventors can officially record their ideas without fear of piracy. The patent practices of many of our large companies are without conscience. Mr. Thomas suggests a number of procedures for improving the Patent Office practice and the patent system generally.

C. H. C. Van Pelt, industrial economist and management consultant, Cincinnati, Ohio (pp. 355–356)

The greatest service Congress could do for individual inventors is to shift the legal burden of proof in the event of infringement from the patent owner to the infringer. The writer suggests the infringer would have to prove to some quasi-judicial body in the Patent Office, or to the Federal Trade Commission, that his products do not infringe the issued patent. Patent infringements hurt the economically weak. The Federal Trade Commission has the proper understanding of business and the kind of procedure needed to protect the rights of inventors. Technical assistance that the Commission might need could be made available to them by the Patent Office or by a reference to a technical master for a ruling. A small amount of assistance to inventors could maintain the principal source of our industrial progress.

James Watson, inventor, Whittier, Calif. (pp. 356–358)

Long delays in acting on amendments are not only expensive but unethical. In accepting the original disclosure from the inventor, the Government has entered into a precontractual agreement which places upon it a continuing obligation that is not fulfilled until the patent is issued or the application is rejected for real and not imagined reasons. The time required for Patent Office actions can be as important to the inventor as the actions themselves. If the Patent Office would give a prompt, factual response to the initial application, it would eliminate the majority of amendments and thereby greatly reduce the workload. Inventors with limited capital never recover from their first attempt to obtain a patent. The operations of the more tenacious ones are limited because of the delay in obtaining patents as the lack of a patent holds back interest of investment moneys and manufacturers. This results in a great reduction in the total number of new ideas that flow into the public domain during the productive years of an inventive mind. Another loss is when new ideas lie in the Patent Office awaiting issue.

William R. Woodward, patent attorney, of Millington, N. J. (pp. 358–360)

The entire design of the United States patent system is based on the principle that patent applications should be thoroughly screened by a corps of expert examiners sufficient in number and resources to provide prompt action on all applications and amendments thereto. Delay in action on patent applications produces manifold evils: (*a*) it is discouraging to some inventors and their assignees; (*b*) it creates hazards to a manufacturer of new or improved products, because he gets no prior notice of the pendency of a patent application which issues after the manufacturer is all tooled up and in production, putting the manufacturer in a disadvantageous negotiating position if the patent has even a colorable applicability to his product; (*c*) by postponing the dates when patents are granted it postpones the dates when patents expire, when the inventions of the patents are dedicated to the public; and (*d*) the mounting backlog creates pressure on the Patent Office to dispose of cases with a skimpy study of the claims and prior art, resulting in the issuance of an undue proportion of invalid patents. Items (*b*), (*c*), and (*d*) may tend to prejudice courts against the enforcement of patents. By enabling the Patent Office to be more careful and thorough, we may indirectly improve the judicial attitude toward the patent system, in addition to direct improvement of the administrative part of the system. He proposes that the Patent Office backlog be reduced to normal in 5 or 6 years instead of the present proposed 8 years. This would require higher appropriations and more rapid expansion of the staff, with salary scale improvements awarded to the staff. The applicant's time for response to Patent Office actions, now usually 6 months, should be reduced to 4 months. The counts of interference should be published at the close of the motion period, if earlier

law from the rest of the law and the patent law should not be at odds with policies pursued by the general law. In such a climate the patent system may not fare too well as such conflicts, when they emerge, induce a public cynicism about the law and a sense of injustice. It is his theme that a specialized judiciary would lead to decadence of the law and that no benefit would be obtained from having a patent court. The members of a patent court could not be so omniscient as to possess specialized skill in chemistry, electronics, mechanics, and in vast fields of discovery as yet uncharted. The expert in organic chemistry brings no special light to guide him in the decision of a problem relating to radio-activity. It is his feeling that patent law presents no greater difficulties than other branches of the law. Patent litigation today is most frequently met with in close association with other branches of the law such as unfair competition, trademarks, confidential submissions, antitrust and corporate reorganizations. It is his conclusion that if patent law has become so esoteric a mystery that a man of reasonable intelligence cannot comprehend it, then something has gone seriously wrong with the patent law. If that is so, and he does not hold this view, the cure lies in correcting the law and not in tinkering with the bench.

George D. Riley, member of national legislative committee, American Federation of Labor (p. 338)

Labor presents an excellent cross-section of American ingenuity and has produced a full share of patentees and applications for patents. Thus labor is interested in what goes on in the field assigned to the Patent Office. Mr. Riley states that the Patent Office's difficulties will not be solved by adding fees upon fees; the number of examiners in the Patent Office be increased; that their pay scale be raised and that every effort must be made to place the work of the Patent Office on a more current basis as rapidly as it is feasible and practical.

Louis Robertson, patent attorney, Chicago, Ill. (pp. 339–345)

Mr. Robertson suggests the filing of informal disclosures in the Patent Office whereby the inventor could obtain the same safety that he now obtains by filing a patent application, assuming the disclosure to be a complete disclosure of the invention. The inventor in this inexpensive manner would have a period to investigate the marketability of his invention or to further improve the invention before filing the relatively expensive patent application. The adding of new matter to pending patent applications should be allowed subject to the discretion of the Commissioner of Patents, thus obviating the necessity of filing substitute applications. It is proposed to permit the filing of patent applications more than 1 year after a public use or published disclosure. Protection of inventors from unscrupulous practices of some advertising attorneys requires congressional action. A statute should be enacted to reduce the present rigidity of patent claim practice. Simplification of claim practice can take two major forms, namely, style simplification and flexibility of interpretation. It is suggested that the law provide a list of additive features to appear immediately preceding the claims to aid in interpretation of claims.

Murray Robinson, patent attorney, Houston, Tex. (pp. 345–347)

Mr. Robinson has several suggestions for increasing dissemination to the public of the information disclosed in patents which in his view should be the prime purpose of the patent system. He proposes (1) an increase in the size of type of patent specifications to its former size; (2) reduced cost of patent copies to the former price of 10 cents each; (3) patent drawings to be drawn to scale and the specification to state the scale, the tolerances, the materials, and other know-how; (4) patentees to notify the Patent Office when a patented invention has been put into use and to place on file the details of the design actually put in use; (5) revise the Official Gazette to publish an abstract of each patent instead of a claim; (6) publish bound sets of classified patent abstracts; and (7) publish bound selected collections of patent specifications and drawings (but without claims).

Felix A. Russell, patent attorney of Washington, D. C. (p. 347)

Mr. Russell proposes that the Patent Office make it a practice to send 1 copy of each Office action to the inventor and 1 to the attorney instead of 2 copies to the attorney of record; that the attorney be compelled to send a copy of each amendment in each case to the inventor and that a statement by the attorney

Joseph N. Parker, inventor, Bedford, Va. (pp. 326–327)

Mr. Parker suggests that the Government issue a patent for a nominal fee, retain title to the patent, and issue licenses to use to all comers and then share in the royalties with the inventor.

Leslie A. Price, Jamestown, N. Y. (p. 327)

Mr. Price suggests the simplification of the patent system and an immediate issuance of a clearance certificate which would properly classify the invention at the time of filing. If the invention is actually in use and so certified, it should be promptly processed to a definite conclusion; otherwise it should be open to use by anyone filing an application for use 3 months prior to such use. There should be an effective liaison between the Patent Office and manufacturers, producers, and distributors, who should be promptly and continually notified about new discoveries and inventions in their particular fields.

Helen Reis, St. Paul, Minn. (pp. 327–328)

The 4-year period of pendency of patent applications at this time makes our patents obsolete before they are even formally approved. She suggests legislation to simplify patent applications, speed up patent awards, and also aid for the little man to protect his ideas.

Edwin L. Reynolds, technical adviser, United States Court of Customs and Patent Appeals, Washington, D. C. (p. 328)

Patent Office Rule 272 (b) contains a provisions that "By agreement of the parties, provided the Commissioner consent, testimony may be taken before an officer or officers of the Patent Office under such terms and conditions as the Commissioner may prescribe." This has been in the rules since 1949 but has only been invoked once. Both parties must agree to the procedure; the parties must pay the expenses of the attending officer, and the rulings are advisory only. Any provision permitting a hearing officer to make binding rulings would require a change in the law. Based on the author's experience, it is his belief that there is no compelling necessity for such a change.

Giles Rich, patent attorney, New York, N. Y. (pp. 328–331)

The new Patent Act of 1952 contains a basis for the amelioration of the antagonistic attitude of some courts toward patents. So far the only judge to see clearly what was intended is Judge Learned Hand in his very recent opinion in *Lyon v. Bausch & Lomb* (106 U. S. P. Q. 1). To carry out the constitutional purpose, patents could not be granted for every shadow of an idea and something more than mere novelty and utility must exist to justify them. The requirement of invention has had a single, simple function, to prevent private monopoly taking from the people even for a limited time the kind of improvements which would be expected to come spontaneously from one skilled in an art presumed to be familiar with all the prior art whenever required to effectuate a desired result. In codifying the requirement for invention, the new law in section 103 is that a patent may not be obtained though the prior art fails to show the same thing if the differences "would have been obvious at the time the invention was made to a person having ordinary skill in the art." "At the time the invention was made" requires it to be adjudged without the benefit of hindsight wisdom. Furthermore, the courts need no longer be concerned with whether the invention was made by flash of genius or by sweat, in view of the new provision that patentability shall not be negatived by the manner in which the invention was made. This is a legislative decision that a temporary patent monopoly is justifiable and in accordance with public policy and the constitutional purpose if the subject matter is new, useful, and unobvious. The one who must judge is still faced with some of the same old problems, and in the final analysis his judgment will be subjective, for it is nearly as impossible to apply a yardstick to "obvious" as it was to apply it to "invention." "Obviousness" is a question to be determined in each case according to the level of development in the particular art involved; and, as before, from the viewpoint of the fictitious character in our field, the man having ordinary skill in the art, "nonobviousness" added to novelty brings patentability into line with the basic distinction between good and evil monopolies, assuring the people freedom and liberty not only in what they had before but also in what they have a right to expect in the way of spontaneous advances from those of ordinary skill in the art. If the courts can be persuaded now to take the new law at face value and get over their con-

Alvin M. Marks, inventor, Whitestone, Long Island, N. Y. (pp. 314–318)

The presumption of validity of a patent may be improved by employing a more thorough, complete, and careful examination and action by the Patent Office staff. Extensive prior art bibliographies should be prepared and electronic searching means provided to assist in searching. He advocates setting up a system of priorities in the examination of patent applications. An inventor may wish to delay issuance of a patent application because of working in a field which is a long way from being ready for commercialization. On the other hand, other inventions may be ready for an immediate market when the application is filed and in such case the patent may have to issue quickly in order to be utilized. Inventions may be classified into basic invention and derived invention. Fundamental inventions stem from a more or less complete knowledge of the particular fields of physics, chemistry, optics, and the like, whereas derived inventions, which are more often called gadgets, are such items as the safety pin, fountain pens and pencils, and the like. Unless there is a follow-through between the issuance of the patent and its subsequent development to a commercial stage, the incentive to invent can often turn into a burden upon the prolific inventor. Derived inventions may be successfully protected with small capital expenditure and are relatively easy to commercialize. However, fundamental inventions and derived inventions which are more complex constitute a different story since they require a highly competent technologist or scientist. Obtaining risk capital to test out such ideas before a market is established is difficult, if not impossible, and no economic data is available to prove that the invention will make a profit. Many times the inventor is not well equipped to handle such situations and the inventor loses his reward. The independent professional inventor may maintain his independence by the formation of his own company, where he would be free to create without external control, but he can only do so if he is willing to create a diversified group of inventions. Some of these must be derived inventions which have ready marketability so that the inventor is then free to develop more complicated and fundamental inventions. This is a difficult road and not likely to be met with success except under very favored circumstances. The corporate or team inventor approach is the one most conducive to obtaining the best results from the creative mind of the inventor. Mr. Marks emphasizes that risk capital is needed in the perfection and development of the invention to a commercial stage and for the promotion and commercialization of the patent. He suggests that the National Science Foundation, or other Government agency, be empowered to negotiate contracts directly with inventors and provide them with risk capital for their developments to the point of commercialization, and that Congress provide additional risk capital by contract to introduce the perfected invention and promote it. Such grants are presently made by the Government but only to corporate entities usually for specific projects involving military requirements, or for general investigation in some basic scientific field of research and not necessarily related to patentable inventions. Such grants may be made to the inventor with right to subcontract the necessary facilities from university or corporate laboratories. The economic return to the country from even one invention of a fundamental nature would justify the expenditure. Additional suggestions are the SEC might be empowered to aid the issuance of low-cost speculative stock to enable the public to speculate upon the advance of science and invention and the use of tax incentives to those who would place their risk capital at the disposal of inventors. Creative individuals in universities and corporate laboratories are hampered by lack of freedom to give vent to their imaginations and lack of reward for accomplishment. Improvement can be made for incentive plans in these fields.

John A. Marzall, patent attorney of Chicago, Ill., former Commissioner of Patents (pp. 319–321)

The reason for the enormous Patent Office backlog, and the amount of time involved in obtaining patents, lies in the fact that the Patent Office has never been able to catch up on the backlog, and the severe shortage of Patent Office examiners has caused the backlog to be increased. It is his belief that the examining corps should be substantially increased. He also states that if the examining corps had proper and adequate working conditions they could increase production from 10 to 15 percent and improve the quality of actions. He suggests that the Patent Office could be operated more advantageously and efficiently if it were a separate and independent agency and in a separate building which should have the proper facilities and space for efficient operation. During his term as Commissioner of Patents the Classification Division of the Pat-

standard of inventiveness which is workable for utility inventions and design patents. The design patent statute is not well adapted to the design problems of industry. Adequate design searches cannot be made in the Patent Office because the present classification system is not workable. It classifies design patents by the function of the article of manufacture to which the ornamental design is applied. Classification by artistic style is not workable either, since categories embrace an infinitude of varieties of ornamentation. As a result the grant of a design patent hardly warrants any assumption that the design is new or that the patent is valid. The *Mazer* v. *Stein* decision invites repeal of the design patent statute, as copyright has many advantages over design patent. Copyright is quicker, easier, and cheaper; the term of protection is longer, and the right is easier to enforce. There is stubborn resistance to recognition of copyrightability in clothing designs. Hence some will advocate that any statutory endorsement of the Stein doctrine should contain a proviso denying copyrightability to articles of clothing.

The administration of our patent system may be improved by the following suggestions:

The presumption of validity to be attached to an issued patent must be commensurate with the thoroughness of the search of the prior art made by the examiner in acting upon the patent application. It is impossible for the examiner to make an adequate search because the patents are classified according to a scheme which has been made obsolete by the enormous increase in the number, variety, and complexity of modern inventions. Two alternatives appear. Adopt a registration system, or perfect an adequate classification system by appropriation of substantial sums to modernize the system and then to reclassify all the issued patents with the aid of automatic machinery. When in doubt, the Patent Office always has allowed a patent application. Patent prosecution is normally ex parte, and the patent examiner does not have the zeal to deny patentability which characterizes an accused infringer in court. A court passes upon a patent by hindsight. Many inventions startingly novel in the mechanisms employed and dramatic in the beneficial results obtained when the invention was made appear obvious years later. In practice, every patent is prima facie valid up to the cost of litigating it. Sometimes it promotes competition to strike down an issued patent by court action, thereby making the invention freely available to all. It rarely or never promotes competition to strike down a patent application in the Patent Office. Thus, Congress cannot unify the standards of inventiveness applied by the Patent Office and by the courts.

The present interference proceeding needs modernization or abolishment. They are unduly technical, time consuming, and expensive. Interferences are usually settled by negotiation rather than by adjudication. It seems desirable to provide for arbitration, and to provide that the Patent Office shall enter judgment on the award of the arbitrator. A quantitative examination of the extent to which patents are actually being used to restrict opportunities is needed, as compared with other devices. It would be advisable to poll industry to ascertain what measure of validity businessmen accord to an unlitigated patent and to what extent the high cost of patent litigation causes businessmen to pay patent royalties on patents which they believe to be invalid. The cost to business and the value of the technique of obtaining patents for defensive purposes should also be ascertained.

Lawrence Kingsland, patent attorney and former Commissioner of Patents, St. Louis, Mo. (p. 307)

A thorough classification of prior art would result in a great saving in expense and more assurance to patent owners that their patents have sounder validity. Government fees in relation to the prosecution of applications should be definite, with some reasonable increase in filing and issuance fees, but the uncertainty of specific charges for the number of sheets of drawings, pages of specification, and number of claims should be eliminated. The removal of this uncertainty will aid the independent inventor to finance his developments and to protect him.

Donald E. Lane, Commissioner, United States Court of Claims of Washington, D. C. (pp. 307–308)

The development of a practical classification system for persons working with the patent system, persons engaged in research, and persons engaged in production should be adopted and the results should be made freely available to the public by the Patent Office. More worthwhile and valid patents would be only one of the good results of such a program. He suggests the need for adequate

claims 1 to 4 valid and infringed, and claims 5, 6, invalid; the court of appeals held the patent not infringed without passing on validity. Two prior district court decisions held the patent valid and infringed, 1 in Pennsylvania and 1 in Maryland. The Supreme Court found the patent invalid, 3 judges dissenting. The decision of the Supreme Court mentions 3 United States patents, a British patent of 1876, and 5 publications. These publications included the Encyclopedia Britannica and a treatise on goldsmithing and sculpture by Benvenuto Cellini. The publications and 2 of the 3 United States patents had not been cited by the examiner. Nineteen different judges passed on the patent, 9 found the patent invalid, 7 thought the patent valid (1 in part), and 3 ruled on a question of infringement only.

The ninth case involved patent No. 2,242,408, issued May 20, 1941, to E. D. Turnham. The Sixth Circuit Court of Appeals had held the patent claims to be valid and infringed. The Supreme Court invalidated the patent and did not mention any specific references. The decision of the court of appeals, in sustaining the patent, states that 17 patents not cited by the examiner were introduced in evidence and analyzed 7 of them.

The 10th case involved patent No. 2,455,266, issued November 30, 1948, to E. Nudelman. The patent was held valid and infringed by the Seventh Circuit Court of Appeals. The Supreme Court decision is a one sentence per curiam decision which does not mention any references.

Max Fogiel, inventor, New York, N. Y. Revised Patent Law Needed (pp. 293–294)

Due to the delay in patent prosecution, hazards are created in marketing inventions. Very often the inventor, after having filed his application at the Patent Office, submits his invention to firms who show a possible interest. Many firms who find that the invention may be profitable proceed to manufacture it without compensating the inventor in any way. The present law does not permit the inventor, after his patent has issued, to recover damages from anyone who previously manufactured the invention for gainful purpose without acquiring legal rights from the inventor. It is suggested the law be amended to permit such recovery, which would be subject to the condition that the inventor had previously warned the defendant of the pending action before the Patent Office and such recovery be retroactive to the date the defendant received such notification. Such a change in the law will probably render sufficient protection to induce most patent applicants to make their inventions public. Mr. Fogiel states that the courts' standard of invention is too high and that the high cost of bringing an infringer to trial and the small probability of recovering damages from the infringer through court procedure does not justify the expenditure of the costs involved in the prosecution of such a case. The courts' actions encourage infringers.

Robert A. Greene, inventor, Daytona Beach, Fla. (p. 294)

Mr. Green proposes that the Government prosecute patent infringers instead of putting the whole burden on the small inventor who can't afford to do so.

Richard J. Haug, inventor, Nashua, N. H. (pp. 295–297)

Mr. Haug comments on the problems in obtaining commercialization of inventions. He cites his own problems in this regard. It is his belief that a patent claim, once granted, should be uncontestable so that an inventor may proceed with his invention without the fear of infringement. It is also his suggestion that the Patent Office should have a larger staff and allow enough pay for competent men who can judge new ideas in their proper light and relations. There should be no need of law suits to establish rightful claims and it should be the work of a commission of experienced personnel to determine the facts, their decisions to be final, and it should be illegal not to use a patent once issued.

Roger S. Hoar, patent attorney, Milwaukee, Wis. (p. 297)

An application is sufficiently clear if an examiner is able to act upon it on the merits and no objection of indefiniteness should be made without the permission of a supervisory examiner or a simple traverse of such a rejection should be referred to a supervisory examiner. Congress should establish that the third paragraph of section 112 means what it says, my amending that paragraph by prefacing it with the words "Notwithstanding anything else in this section contained."

two words by distinctly stating that invention means either invention or discovery. The distinction is somewhat difficult, but by looking at Edison's phonograph, which is an invention, and comparing it with his incandescent lamp, which is a discovery, the difference becomes clearer. The writer then seeks to set out the metes and bounds of the terms "invention" and "discovery" by the Edison examples and other examples. Study of the records has convinced the writer that confusion does exist in the use of terms and causes many of the uncertain decisions which are troublesome to industry in connection with patent law. The statute should require one who maintains a patent invalid because it is too near to the prior art, be required to plead that it is neither a mental conception or equal to creative research, by alleging the absence of the things which would show either in separate paragraphs, and maintain both in order to prevail.

William T. Cruse, executive vice president, Society of Plastics Industry, New York, N. Y. (p. 286)

One of the biggest problems that confronts the plastics industry is that of design piracy. Under present existing patent law the manufacturer has no adequate protection. It is Mr. Cruse's belief that changes in the law ought to be enacted to rectify this wrong.

L. Davidson, consulting engineer, New York (pp. 286–287)

The life of a patent should be extended from the present 17 years to about 25 years. Revision of the present laws on court procedure involving patent infringement is suggested, as it is too expensive to protect the average inventor under the present laws.

Dr Lee DeForest, inventor of Los Angeles, Calif. (p. 287)

There are too few Patent Office examiners and they are greatly overworked. This results in delay in examination. Congress should recognize the increase in the number of inventors and expand the Patent Office examining staff to meet the rising requirements.

P. J. Federico, Examiner in Chief, United States Patent Office, Washington, D. C. (pp. 287–291)

Patent No. 2,705,484, April 5, 1955. Jorgensen and Jorgensen, assigned to General Motors Corp. for "mechanism for controlling the starting and operation of internal combustion engines," was pending 23 years, 2 months, and 27 days in the Patent Office. At the time of filing, the application was assigned to the Wilcolator Company of New Jersey. The application was later assigned to General Motors. The ex parte prosecution prior to the interferences took 2 years, 2 months, and 22 days. After the last interference was over, a further time of 5 months and 13 days was used in a winding up action by the examiner, a reply, notice of allowance, payment of the final fee, and the printing and issuance of the patent. On March 30, 1934, 5 interferences were declared involving the above application and applicants of 7 other parties. Subsequently, 4 other interferences growing out of these were declared between the above application and applicants of 5 of the other parties. The last one of this group of 9 interrelated interferences was terminated December 23, 1940, which was 6 years, 8 months, and 23 days after the declaration of the first. Shortly before the end of the last of the first group of interferences, another interference was declared on June 4, 1940, with an application owned by Carter Carburetor Corp. and later another interference was declared with a reissue application, also owned by Carter Carburetor. The applicant lost both interferences in the Office and filed civil suits under what is now title 35, United States Code, section 146, to review the Office decision. The decision of the district court was appealed to the court of appeals. There was an unsuccessful attempt by the Supreme Court to review the decision. The last step was concluded October 9, 1950. The period of time involved in this litigation was 10 years, 4 months, and 5 days. On May 2, 1947, another interference had been declared with a patent owned by Bendix. This interference was decided by the Office and the civil action filed in the district court which was pending 7 years, 5 months, and 19 days. The entire group of 12 interferences was pending 20 years, 6 months, and 22 days; of this time, 12 years, 7 months, and 12 days was in the Patent Office and 7 years, 11 months, and 10 days were consumed by court reviews. Two unusual features are present here: one is the multiplicity of interferences, and the other is the duration of the interferences. In 1934 interferences were rather freely declared by the examiners. Over 6 percent of patent applications became involved in

formal grounds and to postpone actions on the merits. This results in delay in the prosecution of the applications. It is suggested that a special department be created within the Patent Office, having for its purpose the acquisition and classification of publications, particularly technical publications, for example, foreign technical journals, house organs, theses written for advanced degrees in universities, and that this department make available to the examining divisions the results of its work. Any appropriation directed to activities of this kind within the Office would be well spent, as well as would additional appropriations for enlarging the examining staff and inducing experienced members of the staff to remain within the Office. A brief digest of the art and of the position of the patented invention in the art should be affixed to the patent at the time of issuance as an appendix or supplement much in the manner in which cited references are now listed. The cost of patent litigation and the delay invariably incident to the determination of patent rights in the Federal courts are injurious to the public interest and to the rights of the individual inventor and small corporation.

It is the small inventor and the small corporation that suffer much more severely from this situation than does the established large corporation. Dr. Land and Mr. Brown are hopeful that the improved effectiveness of the Patent Office will result in a greater reliance by the courts upon the actions of the Office with the corresponding strengthening of the presumption of validity arising from the issuance of the patent. Extension of pretrial conference practice and wider use of relief through summary proceedings will result in quicker decisions in patent cases and a reduction of litigation costs.

John A. Bruninga, patent attorney of St. Louis, Mo., United States Patent Laws (pp. 268–277)

With regard to reduction in the cost of obtaining a patent, Mr. Bruninga favors restoring a practice of filing informal disclosures which existed from 1836 to 1910, whereby an inventor upon payment of a reasonable fee could file a description and drawing of his invention in the Patent Office, thereby establishing a record date, with the additional provision that the examiner make a search and report the search to the inventor together with one or more claims to which the inventor might be entitled. The problem of high mortality of patents is due to the administration of justice by the courts. By reason of the differences in procedure, it is to be expected in a properly presented infringement suit the courts will hold patents invalid even over prior patents cited by the examiner. Where the courts err is in taking their own view of what would or would not be obvious to one having ordinary skill in the art to which the subject matter pertains. Mr. Bruninga proposes an amendment to title 35, section 281, by adding a provision similar to that in section 145, namely:

> "in such a case the court shall determine the questions of validity and infringement of the patent on the evidence before it."

Patent cases should be tried by judges who have at least a general knowledge of physics and chemistry, such as taught in colleges. Ways are suggested in which greater efficiency in patent prosecution may be achieved and for reduction of expense in the Court of Customs and Patent Appeals. Repealing either section 145 or section 146 is not favored. With regard to reduction of the cost of patent litigation, this is particularly due to the lack of scientific knowledge by the judges. Cost also can be reduced by pretrial conferences and liberal rulings on interrogatories and particulars. Mr. Bruninga is not in favor of a patent court of appeals, except a rotating one as suggested by Judge Hand, nor is he in favor of experts to advise the district courts unless the experts are subject to cross-examination. With regard to Patent Office administration, this has been as efficient as conditions permit. The working conditions of the Patent Office can be improved and the number of examiners should be increased and their salary scaled upward. Patent Office classification needs overhauling. The author expands upon his suggestion that examiners should obtain practical experience in the arts. He is not in favor of an increase in Patent Office fees nor a resort to annual taxes or annuities. Additional comments are as follows: It is difficult to find a definition as to what is patentable and what is an invention. The author suggests an amendment of section 103 to phrase it in a positive rather than a negative manner and an amendment to section 281. Interference practice should be revised so that those deciding interferences hear the witnesses. Any party to an interference should be given the option, after the start of an interference and after preliminary motions with reference to patentability, to proceed directly to a district court under section 146. Under title 28, United States Code, section 1404 (a), the forum non conveniens statute, the district court may in its discretion

and justifies trespass by all. Upholding patents would correct evils and bring the award to the inventor nearer to the true commercial value of the contribution. Today the courts seem to be too free in invalidating patents. The fault is not with the Patent Office being too liberal in granting of patents. The Patent Office has its fingers on the pulse of our inventors and is judging each art according to the level of invention necessary to encourage further invention. The courts, with less than 1 out of every 250 patents coming before them, and seldom with more than 1 in any given art, cannot judge as well as to the appropriate level of invention to be applied in a given case. Applying too high a standard of invention prevents benefiting the public in improving the simple things by which we live. The standard of invention set forth in section 103 is the best by reason of its flexibility. The courts have been sold the idea that patents are an unjust monopoly and against public interest. As a result of this general attitude, they have come to strike down as obvious any invention they can understand. Congress needs to act to reassert the public benefit of the patent system. Amendments to sections 103, 271 (d), and 282 are suggested by the author to attain his desired result.

John Allen Appleman, attorney, Urbana, Ill. (pp. 245–246)

The purpose of the patent law should be to protect and to reward the inventor for his genius. However, the present result is to thwart him at every turn. The standard of invention test as used by the courts is too high. It is suggested that steps be taken to introduce new blood into the Patent Office, particularly into top positions.

G. Wright Arnold, patent attorney, of Seattle, Wash. (pp. 246–255)

Mr. Arnold proposes an objective test of invention as an amendment to title 35, United States Code, section 103, by adding the following paragraph as a second paragraph to section 103:

> "Independently of and apart from the above, a patent may be obtained for an invention and patentable novelty shall be found therefor, whenever there is established a new functional relationship between any of the factors which are required for rendering an invention in the industrial art practically operative."

The adoption of this new functional relationship test would promote uniformity of decisions on the validity of patents by providing a uniform standard on test of patentability. Action by Congress is urgent in view of the record of the United States Supreme Court relative to patent decisions, the report of the National Patent Planning Commission, and opinions expressed by judges. The Patent Office, Federal courts, and lawyers desire an objective test. It is submmitted that such a test will relieve the confusion incident to the test of obviousness and the courts will have a guide for their deliberations.

L. A. Austrian, consulting engineer, Chicago, Ill., About the Tragedy of Inventing (pp. 255–259)

Hundreds of thousands of patents are granted annually in the world and only a negligible amount can be absorbed by national economies. The purpose of patents for inventions is the progress of mankind. The practical purpose of the United States patent is the advancement of the inventor and the national economy. The inventor wants to carry his invention into practice and convert it into money. The United States Patent Office carries out a most admirable search as to novelty and patentability of an invention during the examination of a patent application. The prior art cited is of great importance. The fee for a United States application is extremely modest. It is hard to understand a British patent claim but it is exclusively a privilege of the patent lawyer to understand a United States patent claim. In England, Germany, and other countries of the world, there are graduated annuities as to patent fees and most patents lapse after a few years for nonpayment of these fees. The higher the technical civilization of a country, the better the patent laws and the better the patents granted after an ethical examination as to novelty and patentability. In France or in Central and South America, the state acts simply as a cashier of the rising annual fees. The most difficult task is to carry a patent into practice. Many patents may have great merits; however, they may become buried in the famous patent cemetery. The "gebrauchsmuster" or minor patent is but a patent for a model of utility which covers new arrangements, devices, and structural modifications of articles of daily use. We do not have this type of protection. Thousands of German chemical patent applications were filed. There were only a few that found their way into industrial practice. Many good

definition in title 35 United States Code, section 103, and that definition should not be changed (235).

Edwin L. Reynolds, chief technical adviser, United States Court of Customs and Patent Appeals, stated the advantages of technical advisers to lay judges in pointing out to the judges the problems they are approaching. With respect to Patent Office officials hearing testimony in interparties cases, there is considerable expense requiring the parties to travel to Washington. The rules now provide that where the parties agree, they can have someone from the Patent Office attend the hearing and act as a hearing officer. This provision has been invoked once or twice (237).

ents is the industrial revolution of the 20th century. Industry has discovered how to make inventions by industrial research, dividing the field of research into sections with each man examining one particular section. The primary question then becomes whether the patent system aids by encouraging investments in obtaining such inventions. To a certain extent, it does, but to a very minor extent. Opposed to this advantage is the fact that great corporations finance research and get a portfolio of thousands of patents which never run out (220) because of constant improvements so that the life of a patent portfolio never expires. The individual inventor has become part of a team and the patent system has become a question of protectiveness, like a protective tariff, for American industry. According to Judge Arnold, the problem today is essentially the problem of reconciling our great corporate research and the power which the patent laws now give them with our ideas on monopoly and antitrust. A very weak patent in strong hands is powerful (221). A strong patent in weak hands is not worth anything. One of the reasons for the lack of adjudication of patents and the power of patents in strong hands is the fact that patent litigation is so tremendously difficult as well as expensive. One who goes into an industry and infringes a patent is taking an awful gamble.

Judge Arnold suggested that it should be against public policy for a contract to provide that the licensee could not contest the validity of the patent. He also suggested that with regard to the "subpatent," the patent application with a variety of claims stating the same thing in different ways, the real problem is how much power the patentee is going to receive, how much control of the industry should be awarded (222).

The Commissioner of Patents stated that consideration of the amount of power which the award of a patent gives an inventor is not in accordance with Patent Office practice. The number of claims to which an applicant is entitled depends upon the invention which he has made. Judge Arnold suggested that the problem of portfolios or groups of patents should be approached both from the standpoint of antitrust enforcement and also from the standpoint of the tendency of courts to hold patents invalid when the size of the patentee should be considered with its power to sue for infringing and utilizing patents for more than their limited period (223).

William R. Woodward, patent attorney of New York City, referred to the worth of the patent system in encouraging invention and the history of American inventors (226). The Patent Office needs assistance to perform its function, according to Mr. Woodward (228).

Karl B. Lutz, patent attorney of Pittsburgh, Pa., stated that contrary to the expression of a previous witness, the individual inventor is not extinct because the patent lawyers meet the individual inventor every day. The way to help the individual inventor is to make patent grants as strong as possible because the individual inventor and the small concern can often build upon a patent. Large concerns do not need patents nearly as much as small ones. Originally patent procedure was analogous to copyright procedure but the system did not work and in the Patent Act of 1836 the examination procedure, which is currently followed, was introduced. However, it is necessary to have a screening of patents by the courts. With regard to the atti-

Patent Office is about the same. One advantage of the Court of Customs and Patent Appeals is that its decisions are published and comprise precedents which guide the Patent Office officials in their work; whereas, unfortunately, the district court decisions ordinarily are not published. All of the judges of the Court of Customs and Patent Appeals participate in each decision and the court follows its own decisions as precedents, so that clear guidelines to the Patent Office result. The position of the district court is not so clearly revealed to the Patent Office. The Court of Appeals for the District of Columbia does publish its decisions and those decisions are largely consistent with one another over the years. The Court of Customs and Patent Appeals decides about two-thirds of appeals from the Patent Office (173).

Under questioning of committee counsel, it was brought that Mr. Federico was requested to compile some data on the record of patent suits in courts. In the courts of appeal there were 439 patent decisions in the past 7 years. In 19 percent the claims involved were held valid and infringed; in 61 percent the claims were held invalid; in 19 percent the claims were held not infringed. In that period there were 7 cases in the Supreme Court, in 2 of which the patents were held valid and the remainder invalid. The percentage of patents held invalid is higher in recent times than it has been in previous times (176). Mr. Federico presented a paper on adjudicated patents from 1948 to 1954, which is printed in the record, showing the number of patents adjudicated in the Supreme Court, the courts of appeals and the district courts, the district court decisions being broken down as to published and unpublished decisions. Of the published decisions of the district courts, excluding patents counted more than once, during the period 1948–54, 33.3 percent of the patents were held valid and infringed; 53.5 percent were held invalid; and 16.2 percent were held not infringed. With regard to the unpublished district court decisions for the same period, 41.0 percent of patents were held valid and infringed; 8.6 percent were held invalid; 6.7 percent were held not infringed; and in 43.7 percent of the cases the decision was judgment for defendant, dismissed with prejudice, etc., or in other words not adjudicated (176)–(181).

A separate table shows that of 145 patents held valid and infringed by the district court, on appeal 70 were held valid and infringed, 57 invalid and 18 not infringed. Of 219 patents held invalid by the district court, only 5 were held valid and infringed on appeal, whereas 206 were held invalid and 8 not infringed. Of 64 cases in which the district court held the patent was not infringed, on appeal in 1 case the court of appeals held the patent valid and infringed, in 5 cases invalid and in 58 cases not infringed. A separate table is also presented showing the holdings of the United States courts of appeals over the long-term period of 1925–54. The material supplied by Mr. Federico also shows the long-term record of holdings of validity and infringement in the United States Supreme Court from 1925–54. A survey was also prepared showing, with respect to the most recent 50 patents held invalid by the United States courts of appeals, the grounds for the various invalidity holdings and the prior art references used by the courts as compared with those used by the Patent Office examiner to determine when the courts use new evidence to hold patents

is used up in the Patent Office, it might be unfair to put such a measure into effect at this time.

Mr. Federico stated that the last bill on this subject had a provision that the time consumed by the Patent Office would not be included in measuring the 20 years. Mr. Mayers stated that if the bill had that feature, he doubted that there is any sound basis for opposing it (152).

WEDNESDAY, OCTOBER 12, 1955

Hon. Robert C. Watson, Commissioner of Patents, preliminary to the main body of his testimony, mentioned exhibits in the lobby of the Department of Commerce showing how the inventions of individual inventors have matured into the establishment of large businesses.

With regard to the mounting backlog of pending patent applications, as of October 1, 1955, the backlog comprised 222,567 applications. The tendency to mount has endured since May 1953. To cope with the situation, the examining staff must be increased. Timing of the increase of the staff has been considered and an 8-year plan for the disposal of the backlog and its reduction in size has been adopted (162). A backlog of 100,000 applications and an examining staff of 850 men would enable an inventor to receive a reply from the Patent Office to his application within a period of 3 or 4 months and to receive replies to amendments after rejection within a similar period of time. Applications are presently being filed at a rate of close to 80,000 a year. The plan involves the building up of the examining corps despite the extreme difficulty of recruiting examiners at this time. However, the patent bar associations have been cooperative in assisting the Patent Office in acquiring new examiners (163). During the first year, the corps of examiners can be increased by 300.

On the strength of the representation that it could be so increased, an appropriation of $2 million was obtained from Congress over that recommended by the Bureau of the Budget. The Patent Office asked for $15 million within the Commerce Department and the recommendation of the Bureau of the Budget to Congress was $12 million. Congress appropriated $14 million when it looked to be impossible for the Patent Office to spend more than that amount. The 8-year plan contemplates the expenditure by the Patent Office of more money than the Patent Office is able to receive from fees. It is based on a number of assumptions. The plan calls for the reduction of the backlog the first year (1957) by 10,000 applications; in 1958, by 20,000 in addition, and for the next 3 years, 20,000 per year. Finally, the reduction in backlog tapers off and the examining corps is reduced by attrition, and not by involuntary separations, and a corps of about 850 men remains (164). At this rate, the Patent Office will receive about 80,000 applications per year, will dispose of a similar number, and will have a backlog of 100,000.

With regard to improvement in classification, the 8-year plan contemplates the building up of the Classification Division of the Patent Office in such a manner that within about 6 years the large problem of classification will be accomplished. The plan involves the expansion of the Classification Division from a present low figure of theoretically around 30, and actually around 17, to a total of 141, and then a tapering off to a number which will be able to receive patents weekly as they are published, and to classify them and to maintain the classification current.

invention, a test of plagiarism as opposed to the present-day test of invention in patent-infringement actions might be more beneficial (134).

Mr. Robertson questioned Judge Hand about whether the standard of invention was changed by the enactment of section 103 of the Patent Codification Act and whether a change of the standard of invention was prejudicial to the rights of a defendant who relied upon a higher standard of invention. Judge Hand referred to his opinion in *Lyon* v. *Bausch & Lomb*, where this issue was resolved in favor of the patentee.

Mr. Bruninga referred to the difficulty in getting the Supreme Court to change its opinion as to the standard of invention. He also referred to the matter of interference practice in the Patent Office (136). He stated that studies should be given to a proposal that one of the parties, instead of going through the interference examiner in the Patent Office, should have the option to file suit against the other party in the district court. This would speed up interferences. Mr. Bruninga also recommended study of reinstitution of the "caveat" practice which formerly prevailed in the Patent Office and enabled inventors to record the fact that they were in the course of preparing a patent application (137).

Mr. Robertson stated that in 1949 an effort was made to determine the underlying cause for the trend of the courts toward holding patents invalid and inquiries were addressed to all Federal judges by the chairman of one of the committees of the Patent Law Association of Chicago. An analysis of 15 significant replies showed that 12 mentioned or expressly attributed the trend to 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 the judges made:

1. Abuses of the patent system, sometimes with specific reference to the TNEC report;

2. Unreasonable withholding of inventions from use; and

3. Not enough benefit to inventors.

With respect to abuses of patents, the matter has been taken care of by the activities and successes of the Department of Justice. All patent lawyers are convinced that an unreasonable withholding of inventions from use is nonexistent insofar as important inventions are concerned. This leaves only the matter of relative benefit to inventors, but general opinion is that the patent system is a fine thing for the country and for inventors. Its faults are two in character:

1. The matter of too many patents being held invalid in recent years; and

2. The matter of expensiveness due to complexity of litigation.

Simplification of the amount of work in litigation is necessary (138). Mr. Robertson stated that there is no sharp conflict between the interests of inventors and the interests of the public.

Technological progress is far more important than slight excesses of the patent monopoly. Mr. Robertson suggested an amendment to the patent statutes which would to some extent reduce the technicalities of claim practice. If broad claims in patents were held to be 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 (139). The widest scope of the patent

different from the type of monopoly granted to inventors, where protection is afforded in instances where the infringer was without the least recourse to what the patentee had done. Judge Hand stated that there was not any constitutional difficulty in limiting the patent monopoly to instances where it could be shown that the defendant copied what the inventor did. The burden might be placed upon the supposed infringer to show that he did not have recourse to the patent in order to do what he did. This approach might avoid a great deal of the animosity that has surrounded patents. Judge Hand stated that he had not found much sympathy with his view but believed that study of it was worthwhile (114).

Under questioning by the chairman, Judge Hand stated that no one knows whether the patent system is promoting the arts and sciences. Despite his long judicial experience, the judge is not afforded the facts. The issue is approached by both sides with passion but without enlightenment (116) and there is no available information as to how the system in fact influences the production of invention (119). Judge Hand stated that it was his opinion that the patent law has served a useful purpose (119), and a great one, but if cross-examined as to why, he did not know. Judge Hand stated that in the second circuit the judges have been frank to admit that within the last several years the Supreme Court has adopted a very much stiffer rule about what is invention, and this tendency has become more and more fixed (119).

The Commissioner of Patents referred to Judge Hand's suggestion that it was appropriate to study the operations of the patent system as a whole to ascertain its true economic impact upon the economy of the country. Investigation by the Patent Office disclosed that although there were 14 prior investigations of the patent system, there was never a really complete one. The Patent Foundation of George Washington University is undertaking such an investigation.

Adm. O. S. Colclough, dean of the faculty of George Washington University and acting director of the Patent, Trademark and Copyrights Foundation, stated that the foundation was organized several years ago, dedicated to a search for the facts in connection with the operation of the patent system. The whole area of the patent monopoly has been characterized by opinions on the one hand condemning it as being restrictive upon progress and on the other hand claiming that it was the sole basis of technological and industrial progress (121). The foundation has raised funds of approximately $120,000 from patent lawyers, large and small industries, research laboratories, etc., on the basis of volunteer membership. Judge Hand interrogated Dean Colclough as to whether the absence of the power of subpena stands in the way of access to information. Dean Colclough replied that so far he had gotten full cooperation (122). Among the research projects which the foundation is undertaking are: Patent utilization to determine the extent to which patents are put to use and their value to the inventor and industry, the factors which stimulate and inhibit utilization of patents, the factors which account for nonutilization of patents; the value of the patent in the United States; the effect of patents on the creation and growth of small industrial units; the licensing of American patents, trademarks, and techniques in foreign countries (123); the public attitude toward patents, trademarks, and copyrights. Each of these projects is now in the pilot phase to determine whether the information can be obtained and the

of work required. Mr. Federico mentioned various remedies which might presently be available to the inventor in the circumstances presented by Mr. Farrell (98). In some countries there are criminal provisions for patent infringement but they are seldom resorted to. Mr. Farrell stated that there are too many people seeking Government aid in the form of tax consideration and disapproved of affording tax relief to inventors. However, extension of the life of patents would be helpful and would not cost the Government any outlay of money or special tax consideration (99).

Allen B. DuMont, president, DuMont Television Corp., stated his experience as an individual inventor prior to affiliation with his corporation. The patent system has been instrumental in bringing the country to the position it occupies today. Twenty-five or thirty years ago many more patents were adjudicated than is true today and few patents were held invalid. The Patent Office should issue fewer patents but patents that are issued should have value. The Patent Office should be given financial support to reduce the length of time that applications are pending. Long pendency allows some patentees to get protection for a longer period of time than they should have had (100). A colloquy between Dr. DuMont and the Commissioner of Patents brought out that interferences between applications for the same inventions delay issuance of patents (101). Dr. DuMont stated that a company with a large group of patents can put a smaller company out of business, not because it has good patents but simply by suing on patents and losing the suit but incurring legal expenses of large sums of money which the defendant must bear. The Commissioner of Patents remarked that this evil was outside the jurisdiction of the Patent Office and that such evil existed in other fields of litigation and did not justify the Patent Office in refusing patents to a particular corporation, large or small. The chairman referred to testimony before the TNEC of a manufacturer of milk bottles in Texas who was threatened with suit for infringement by the Hartford Empire Co. unless he agreed to the price at which bottles were to be sold. The result of these threats was that he was driven out of business, although he had a valid patent (102) and facilities to build a new industry in his own geographic area. Dr. DuMont summarized his position as follows: A revaluation of what a patent is is necessary so that a larger percentage of patents will be held valid. A stricter interpretation of what an invention is would be useful (103).

Jo Baily Brown, patent attorney of Pittsburgh, commented on the fact that fewer patent infringement suits are tried today than formerly because there has been a deterioration of the value of patents as a result of decisions of the Supreme Court. Clients are advised now to sue on patents only as a last resort. The Supreme Court has given an atmosphere of prejudice against patents in the minds of district judges which is affecting their judgment in trying patent cases (104). Mr. Brown, under the questioning of the chairman, brought out that patent litigation is inevitably expensive and that because of uncertainty of result very few patent lawyers take cases on a contingent basis. He stated that he did not believe that there was any statutory change which would cure the tendency toward invalidity, which is primarily psychological.

Dr. DuMont mentioned that ultimately, if the present situation continues, there will be a tendency not to file patents and to keep

offer assistance by the expression of a resolution on the subject or a further attempt to liberalize the practice.

The chairman briefly summarized the day's testimony as follows:

1. There is general agreement that the Patent Office itself can be made a more effective institution to serve the purposes of the Constitution by preventing the loss of expert personnel and inviting new personnel of high qualifications.

2. There is lacking a general understandable definition of what a patentable invention should be, although there is agreement that the courts have too great a tendency to hold patents invalid.

3. Finally, there is a great gap between the inventor and the marketing of his product which can only be filled by some method of attracting risk capital or some new method of advertising inventions (68).

TUESDAY, OCTOBER 11, 1955

MORNING SESSION

Richard A. Wahl, president of the Patent Office Society, stated that his organization is devoted to the improvement of the patent system. It has 800 members composed of patent examiners and other Patent Office personnel. The society operates independently of the administration of the Patent Office and reserves the right to differ from the administration of the Patent Office when necessary. In 1947 the Patent Office found itself in a position similar to the present, namely, a seemingly irreversible increase in the backlog of pending applications. Mr. Harold B. Whitmore discussed this problem with the then Commissioner of Patents and prepared an article in the December 1947 issue of the Journal of the Patent Office Society (73). The article, entitled "What's Got Into the Office Lately?", from volume XXIX, No. 12, Journal of the Patent Office Society, December 1947, is reprinted in the committee hearings (73)–(84).

Harold B. Whitmore of the Patent Office Society stated that the situation which prevailed at the time of the writing of his article was amazingly close to circumstances today. The Patent Office examiners do not necessarily have the same views as the Commissioner of Patents on these subjects. The present Commissioner has been eager and conscientious in making changes for improvement of the administration within the Patent Office. The Patent Office is intended primarily for the benefit of the public, not for the benefit of inventors. No 1-year action can produce a remedy or long-term benefit but several years will be required (85). There is a tremendous need for better classification of patents. The more time and money spent on classification will be immensely helpful in saving in other respects. Another problem is the difficulty which the Patent Office faces in holding its older and more experienced examiners because of the difficulty of advancing beyond GS–12 and the opportunities offered by private industry to examiners who have reached that grade. This requires change in the Classification Act (87). As to the underlying reason for the high mortality of patents, reduction in the cost of patent litigation and the improvement of Patent Office administration, fundamentally the problem is this: Applications come into the Patent Office from inventors who want patents as quickly as

art" may be and then he must imagine whether or not that figure would say that a particular invention is "obvious." Prof. Oden Roberts, of Harvard Law School, developed an objective test which is based on whether the purported invention involves a new functional relationship. Mr. Arnold offered examples of the practical application of the test which he advocates. The other tests which the courts have occasionally used in recent years are not practical (47). Mr. Arnold submitted the test of new functional relationship as one test of invention as distinguished from the only such test (48).

Judge Arnold stated that there is no standard of invention other than a subjective test (50).

James Burns, patent attorney of Washington, D. C., stated that facilitating the exploitation of the inventions of independent inventors involves the problem of securing risk capital to launch a new enterprise. A lesser tax burden on such risk capital would aid invention. Such tax relief is similar to the depletion allowance in the oil industry.

Judge Arnold raised the question of whether such depletion allowance should be available to research laboratories (53), and inquired whether it should not be available regardless of whether the particular research resulted in a patentable invention. He stated that the idea would stimulate research as well as stimulating exploitation of invention.

Under questioning of committee counsel, Judge Arnold stated that the gadget class of invention does nobody any economic harm and hence is not of great importance from an antitrust violation standpoint. As an economic matter, it would be possible to lower the standard of patentability as to gadgets but it is a very dangerous thing from the standpoint of the consumer to lower the standard of patentability in "formula" matters and processes which are of great technological importance and are developed by great research laboratories. Judge Arnold further stated that he did not see how the patent laws could be changed so that gadgets were treated differently from highly scientific inventions (54). He referred to instances where patent applications were filed on 10 different materials, of which 9 were inferior, yet the patentee obtained protection on all (56).

Floyd H. Crews, patent attorney of New York City, stated that many inventions of great importance were really gadgets. The Patent Office continues to be aware of the fact that things that are gadgets today are not gadgets tomorrow. He stated that if he were making a decision in the Patent Office he would use the test of history as far as determining patentability is concerned. If he were a judge passing upon the validity of the patent, he would give weight to the fact that the inventor had put it on the market and filled a need that was not filled prior to the invention (57).

Andrew H. Schmeltz, patent attorney for Aluminum Company of America, referred to a prior objection to idea submission form agreements which corporations sometimes require of individual inventors who submit ideas to them. Most corporations are sensitive to public opinion and do not like to rebuff anyone who submits ideas, but difficulty arises in vague ideas which have no patentable basis. Corporations will continue to try to eliminate the risks of accepting ideas when the obligation they may assume is undetermined. Although his com-

Court's tendency to hold patents invalid against their better judgment. Mr. Brown stated that the Antitrust Division of the Department of Justice had done a disservice to the patent system by approaching patent problems with a feeling that patents are monopolies and hence patents are odious. Business arrangements involving patents are hampered by the possibility that investigators of the Department of Justice will attach a wrong construction to the arrangements (32). That is a personnel and policy problem. It arises because the Supreme Court has tried to usurp the province of Congress. Mr. Brown stated that it is to the advantage of the United States to encourage inventions in all stages. The Supreme Court has cast doubt on whether there can be patentable inventions growing out of group research (33). Mr. Brown stated that he did not think that a standard of invention could be defined by statute. He recommended that the Patent Office be adequately financed and that an increase in Patent Office fees would squeeze the individual inventor out. The Patent Office is a great storehouse of technical information.

AFTERNOON SESSION

Donn Bennett exhibited a film entitled "The Big Idea," preliminarily explaining that the film demonstrates 6 inventions, of which 4 are not yet marketed and 2 were sold to industry. One was purchased through Massachusetts Institute of Technology and the other by a large company in Chicago (35). Under questioning of committee counsel, Mr. Bennett stated that many of the inventions by which the general public lives are not complicated inventions, but rather are of the gadget class. Such inventions are of great benefit to the public. The complicated inventions do not need the benefit of a patent system to the same extent (36). In order to market inventions, patent protection is necessary to arrive at a satisfactory financial arrangement with manufacturers. When inventors who do not have patent applications pending approach Mr. Bennett, he refers them to lawyers. In only rare cases do patent attorneys advise inventors not to seek patent protection. All types of industry, from the smallest to the largest, have been receptive to inventions. Contrary to a sentiment expressed earlier in the hearings, the independent inventor from outside big companies can contribute to the solution of the problems to which large companies are seeking solutions. Mr. Bennett illustrated this point from documents from his files (37). When one company announced over Mr. Bennett's program that it was seeking the solution to a problem, 1,500 inventors submitted ideas and these were sifted down to 342, which were submitted to the company. Ten of this number were kept for subsequent review and the number was eventually reduced to six.

Mr. Bennett further stated that business negotiations between inventors and manufacturers require reasonable concessions by both sides. The idea-submission form which many companies require inventors to sign before they will consider ideas is harmful to negotiations. Unfortunately, it is very generally used in industry today and limits many types of offerings which inventors would like to make to large corporations (39). Mr. Bennett thought that complicated forms used by companies could be simplified and still offer protection to manufacturers. He suggested that a form of contract be prepared

technical assistance to the inventor in return for participation in the financial returns on a royalty basis (18).

Roger McLean, representing the Sinclair Oil Co., related that under the guidance of P. C. Spencer, president, the company offered to make available to any independent inventor the facilities of its laboratory to test out any invention relating to improved petroleum products or a use of a petroleum product in return for a royalty-free license for Sinclair's own operations. There were 6,000 inquiries and 400 ideas suggested, more than half completely outside the petroleum field. About 30 ideas came within the ambit of the plan. Two-thirds of those were excluded because they were not the subject of patent applications or patents. All but three were excluded on the basis of a screening that indicated that they did not make sense. Three were tested out. Two were unsuccessful. The third turned out to be economically unsound. The conclusion drawn was that there is no independent inventor really in need of help in this particular field. The second conclusion was that the number of things submitted outside the scope of the plan showed that there is need for some help of the independent inventor outside the petroleum field (20).

William R. Woodward, a patent attorney, called attention to the Research Corp. in New York which has arrangements with universities for developing inventions that are submitted by members of the university staffs on a royalty-sharing basis (21).

Dr. Archie Palmer, representing the National Research Council, a foundation in Washington which aids Government, industry, and universities, stated that his organization has been working in this field and has published a number of books and articles on the subject of nonprofit research management. Research Corp. is a striking example of this type of management. It has served many independent inventors as well as a number of universities throughout the country. However, according to Dr. Palmer, Mr. Cohn's proposal would place universities in an embarrassing position since it would be asking them to undertake things beyond the scope of their charter and teaching purpose. Several of these universities have themselves turned to Research Corp. for assistance. Others have organized separate research corporations, such as those at Wisconsin and Rutgers (22).

Dr. Palmer pointed to the need for recognition of the rights and equities of the parties involved, particularly the inventor, and that the National Research Council, for the benefit of Government, industry, and the universities, has endeavored to encourage recognition of the rights of the inventor in his productivity to give him the necessary incentive to continue his inventive productivity. The other parties concerned in the problem are the employer and third parties who have contractual relations therewith. The third party may be the Government contracting with an industry or university in research.

Mr. Lanham called attention to the large percentage of patent applications which were filed by inventors without assignment (23). Figures supplied by the Patent Office indicate that 60 percent of patents are issued to corporations. Mr. Federico stated that the Patent Office does not have records of patent applications filed as a result of corporate or institutional research. Tabulations were made of representative samples of patents, showing that in recent years the number of patents assigned to corporations at the time of issue average about 60 percent of the total. Mr. Lanham further pointed

research and development may be continuing while the application is pending. He pointed out that there is a procedure for making applications special if there is danger of infringement. Mr. Brennen stated that special treatment of applications was difficult to come by and that the large percentage of patents could not qualify for such special treatment. The lag in prosecution was of concern to the many who could not qualify for special treatment.

Mr. Bennett replied that with respect to inventions that had been sold as a result of his program, he could not think of a single instance where the lack of the issuance of the patent itself had withheld the sale of the invention. In many cases the purchasers are pleased that the application is still pending so that the application may be improved in its coverage.

The Commissioner of Patents stated that the needs of the inventor for the prompt issuance of a patent vary from man to man. Certain inventors wish their patents to issue promptly because purchasers will not agree to invest money unless there is definite assurance that a patent will be forthcoming (8). On the other hand, other interests obtain patents only for defensive purposes and do not need prompt issuance. The Patent Office is giving study to the liberalization of petitions to make applications special.

William R. Ballard, representing the National Association of Manufacturers, placed in the record a formal statement. This statement emphasized that the patent system, including the Patent Office itself, has been set up entirely for the benefit of the public and not for the benefit of inventors as such. The purpose of the patent system is to improve the standard of living of the people by offering a reward to those making improvements. The public is not concerned with who makes inventions or who owns them. The number of inventions coming out of organized company research in recent years is not an evil. Many of the greatest single advances have come from the individual inventor (9). Mr. Ballard continued by stating that there is nothing wrong with the substance of the patent law but the trouble is in its administration. There is too much delay in getting patents issued, their validity after issuance is too often subject to question, the cost of getting patents is perhaps too high, the cost of enforcing patents in the courts and delays involved are too great; and we have been suffering from misunderstanding about patents in the courts and elsewhere. The first two problems mentioned can be cured by adequately staffing and equipping the Patent Office. Many individual inventors have had great financial success and corporations generally lean over backward in their efforts to deal fairly with the individual inventor. Mr. Ballard's statement also referred to the fees charged by the Patent Office and the necessity of honoring patents which have been issued. (10)

In his oral statement, Mr. Ballard called attention to the fact that the Constitution in saying that patents should be issued to inventors, pointed out that Congress is the one that promotes the progress of science and useful arts and not the inventor after he gets the patent. The public should not be concerned with forcing the inventor into any channel of development of the invention or otherwise.

P. J. Federico of the Patent Office stated that it was extraordinarily difficult to estimate what proportion of patents that are issued by the Patent Office ever find a useful market (11). Mr. Ballard mentioned

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EXHIBITS

APPENDIX

AMERICAN PATENT SYSTEM

HEARINGS

BEFORE THE

SUBCOMMITTEE ON PATENTS, TRADEMARKS, AND COPYRIGHTS

OF THE

COMMITTEE ON THE JUDICIARY