THE PATENT SYSTEM

By ALFRED W. KNIGHT

Western Precipitation Corporation

Our American patent system has become the subject of a violent controversy. Before Congressional Committees; in newspapers and periodicals, among organizations of engineers, scientists, industrialists, lawyers, and patent attorneys; and even in judicial decisions, the battle has been fought with steadily increasing intensity.

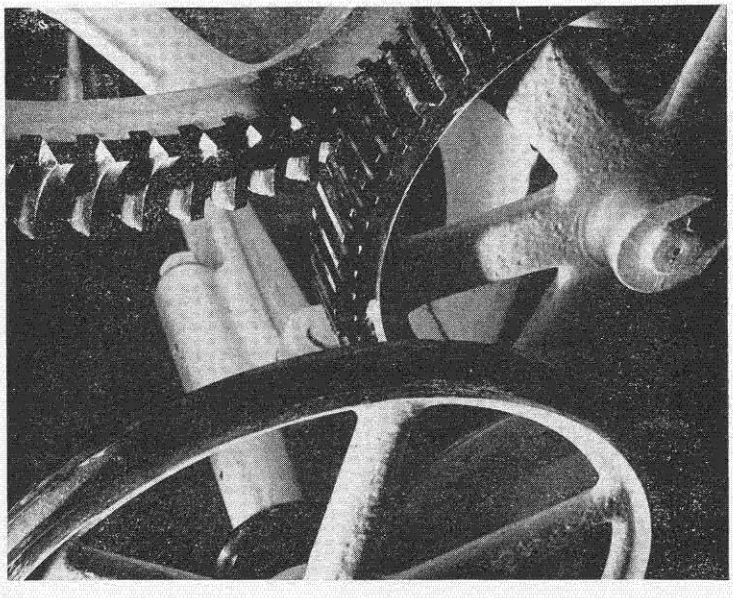
On the one hand, the cry is raised that patents are the cause of many—if not all—of our social and economic troubles; that many of the patents issued each week by the Patent Office should never have been granted, either because the subject-matter is not in fact new or because the improvements concerned are too trivial to warrant the granting of a seventeen-year monopoly; that litigation involving patents is fraught with excessive and inexcusable expense, delay, and uncertainty, particularly by reason of frequent conflicting decision by courts in the different circuits; that patents and agreements based thereon lead to curtailment of production, suppression of revolutionary improvements, and fixing of prices, all to the detriment of the general public welfare; that because of international patent cartels set up prior to the war, between American concerns and powerful foreign interests, we now find ourselves sadly lacking in certain vital materials that are sorely needed in our all-out war effort, and in the necessary facilities for production of such materials; and that in some instances the refusal of patent owners to grant licensees to others has seriously hampered the production of war materials for the government.

On the other hand, the dyed-in-the-wool defenders of the patent system in its present form ardently protest that it has been, and will continue to be, the only effective means of promoting technological and industrial advancement; that, on the whole, the proportion of patents improperly granted is relatively small and has but little harmful effect compared with the benefits of the system; that the expense, delays and conflicting decisions incident to patent litigation are not excessive in view of the importance of the issues to be decided; that there has been no actual suppression of important improvements nor any substantial curtailment of production because of patents or patent agreements; that if in occasional instances the public interest is adversely affected through abuse or misuse of patent rights the offending acts can be stopped and the responsible parties punished under existing statutes without requiring revision of the patent laws; that the international agreements under which American corporations acquired patent rights and technical information relating to inventions of foreign origin have, on the whole, been much more beneficial than harmful to our industrial progress and to our present ability to produce necessary war materials; and that any serious delays in the production of materials or equipment needed by the government have resulted not because of restraints imposed by patents but for other reasons.

The issues are—or should be—of interest to all persons engaged in the broad field of industry, and particularly to scientists and engineers whose chief concern is in the continuance of technological progress and the proper utilization of its products for the greatest ultimate benefit to the general public.

The views of most persons who have studied the subject and know the facts correspond more closely to what is believed to be the true situation, which lies somewhere between the two extreme positions indicated above. In other words, like most other institutions that are parts of the highly complex civilization in which we live, the patent system has many good features and some bad ones. There are probably few persons who seriously will deny that the incentive provided by patents has been an important factor in the creation and commercial development of new inventions with resultant benefits to the general public, or who actually believe that patents should be abolished if a system of private enterprise and individual initiative is to be maintained in this country. Similarly, few if any will contend that our present patent laws and procedure are perfect, or deny that they can and should be improved and modified in line with changing economic and social conditions and with a view to preventing or minimizing the use of patents in any manner that is against the public interest.

The writer's limited knowledge of the subject, as well as space limitations prudently imposed by the editor, preclude an attempt to fully discuss all aspects of the controversy in this article. It has been the subject of thousands of pages of printed testimony before Congressional committees and other investigating bodies, and many books and papers have been published presenting the views of persons on both sides of the fence, based on exhaustive studies of the problem or of certain of its specific elements. It will be the sole purpose here to comment generally on certain phases of the controversy, to review briefly some of the recent investigations dealing therewith, and to discuss some of the new legislation that has been passed in recent years, as well as additional changes that have been recommended or suggested.



Most of the arguments about the patent system that have come to the attention of the public in the last few years may be divided into two general classes: first, those having to do with the effects of patents on our normal peace-time economy and welfare and, second, those which are concerned only with their effects on our ability to build, maintain and operate an effective war machine. This distinction is important for a number of reasons.

Since long before the start of the present war, critics of the patent system have complained of what they contend are defects or "sore spots" in our present laws and procedure. These objections have been aimed chiefly at those factors that are concerned in the normal operation of the patent laws during times of peaceful industrial development. If these complaints are justified (and few will deny that at least some of them are), then the necessary legislation to cure such defects should, after careful study and preparation, be enacted as a permanent part of our patent law.

However, the approach and advent of this country's entry into the war have been accompanied by a marked increase in both the intensity and the scope of the attack against patents and patent monopolies. The direct result has been the addition of new complaints based on alleged hampering of the war effort because of patents. As a further result, however, these war-time objections have aroused increased public interest in the whole subject of alleged misuse or abuse of patent rights. In some of the proposed legislation introduced in the last session of Congress, and in the arguments advanced in support of such legislation, there was a lack of proper differentiation between emergency measures aimed at the removal of any existing patent obstacles to war production and permanent measures that would effect fundamental changes in the operation of the patent system in the post-war period. This has caused a great deal of confusion, not only in the minds of the public but even in the hearings before Congressional committees.

It probably would be unfair to say that there has been a deliberate or concerted attempt to capitalize upon this confusion by seeking enactment of laws disguised as emergency war measures but actually designed to produce permanent and fundamental changes in the patent system. However, it is quite possible that public opinion and action by Congress with respect to proposed drastic changes in the patent laws, wholly unrelated to the war situation, may be influenced unduly by some of the startling accusations that have been made (but not generally proven) as to the impeding of war production by patents.

It is not intended here to discuss particularly the patent situation as related to the war effort, for that is a highly debatable subject on which the writer is not sufficiently informed. It should be made clear, however, that for the most part the supporters of the patent system have been disposed not to argue that question. In general they have taken the position that if any additional emergency legislation is needed to remove any existing obstructions to war production, either because of patents or otherwise, such legislation should be speedily enacted. Their chief effort in this connection has been to keep all such legislation clearly distinct from measures dealing with long-range revision of the patent laws and definitely limited to the period of the war emergency. Only in this manner can proposed fundamental changes affecting the normal operation of the patent system be properly and fairly considered and acted upon.

Turning now to the essentially non-war aspects of the subject, it probably is unnecessary to go back more than about four years, to the time of the Temporary National Economic Committee hearings in Washington. For, although the controversy may be said to be as old as the patent system itself, a fair idea of the principal issues now under consideration and of some of the recent improvements that have been made in the patent laws can be obtained from a review of those hearings and of other later proceedings.

The Temporary National Economic Committee, or T.N.E.C., was established in 1938 by a joint resolution of Congress, as the result of a message by President Roosevelt in which he recommended a thorough investigation of "the concentration of economic power in American industry and the effect of that concentration upon the decline of competition." Among specific matters that the President said should be considered in such an investigation were revision of the patent laws and revision of the anti-trust laws.

The Committee consisted of three Senators, three members of the House of Representatives, and six representatives of various government department agencies. Senator O'Mahoney of Wyoming was chairman. Thurman Arnold was a member, representing the Department of Justice. During the first part of the hearings Leon Henderson acted as executive secretary.

The hearings, which covered a wide variety of subjects in addition to patents, began in December, 1938 and continued with some interruptions for about a year and a half.

The testimony regarding patents was presented principally by the Department of Justice, in an effort to show that patents have in some instances been used as weapons to secure complete domination of particular industries and thus limit production, suppress competition, and force the public to pay excessively high prices for the products of such industries. A large part of this testimony was concerned with the glass container industry as an example of the asserted abuse of patents through extremely tight control of production and prices under agreements involving practically all the important manufacturing concerns in that industry, and the automobile manufacturing industry as exemplifying the beneficial use of patents under an extremely free and open licensing policy.

A number of other witnesses testified as to the benefits of the patent system, while at the same time discussing certain of its defects and suggesting legislation designed to overcome some of these defects. One of the principal witnesses in this latter group was Commissioner of Patents Conway P. Coe, who specifically recommended the following changes in the patent laws:

1. Creation of a single court of patent appeals, to decide all appeals from the lower courts in patent cases.
2. Limitation of the term of a patent to twenty years from the date of filing the application, but not to exceed the present term of seventeen years from the date the patent is granted.

(Continued on page 25)

THE PATENT SYSTEM

(Continued from page 16)

3. Abolishing of appeals within the Patent Office in interference proceedings between rival applicants claiming the same invention, and prompt issuance of the patent to the winning party based on the final decision in the Patent Office.
4. Abolishing of "renewal" applications so that, after an application has once been allowed, the patent must be issued within a definite period.
5. Reduction of the period of permissible public use or publication of an invention, before filing application for a patent, from two years to one year.
6. A similar reduction in the period during which, after issuance of a patent to one inventor, another person may present claims to the same invention for the purpose of contesting priority of invention through an interference with the patentee.
7. Giving the Commissioner of Patents authority to require an applicant for patent to respond to a Patent Office action in less than the usual six months period, under proper circumstances.

Of these seven recommendations, the first was aimed at reducing delays and expense in patent litigation and avoiding conflicts between the decisions of appellate courts in different ones of the ten judicial circuits, while all of the others were for the general purpose of preventing unnecessary delays in the issuance of a patent after the invention is made or, if issuance of the patent is unduly delayed, at least limiting the period for which the patent may remain in force after the invention has gone into use.

All of these recommendations were endorsed by the T.N.E.C. in its report following the hearings. Bills based thereon were introduced in the 76th Congress and, with the exception of the first two, all of these were enacted into laws in August, 1939. In time, it can be expected that these changes will prove to be of considerable benefit to the public. As for the other two proposals, the single court of patent appeals and the limitation of the patent to twenty years from the filing date, serious arguments have developed regarding the necessity, advantages, and practicability thereof. These two measures, however, are still being seriously studied and may receive further consideration in the present Congress.

The Department of Justice also recommended to the T.N.E.C. a number of changes of much more drastic nature, which it contended were needed in order to prevent abuse of the patent privilege. If enacted into law, these measures would greatly limit the manner in which the owner of a patent may exercise his control over the patented invention. The specific recommendations of the Department of Justice, briefly stated, were:

1. To make it unlawful to grant a license under a patent, containing any restriction as to amount of production, selling price, purpose or manner of use of the patented article, or geographical area, or any unnecessary restriction tending to lessen competition or create a monopoly.
2. To make it unlawful to impose any such restriction in connection with the sale or lease of a patented article.
3. To require that all assignments and agreements relating to patents or to the sale of patented articles be in writing, and a copy thereof be promptly filed with the Federal Trade Commission.
4. To prohibit bringing suit for patent infringement against a licensee or the purchaser or lessee of an article, unless judgment for infringement has previously been secured against the person granting the license or selling or leasing such article.
5. To provide that any person violating either of the first two prohibitions mentioned above shall forfeit his patent or his interest therein.

All of these recommendations were approved by the T.N.E.C. and, in its final report in March, 1941, it made the following additional recommendation:

> To require that any future patent shall be available for use by anyone who is willing to pay a fair price for such privilege.

This last proposal is a very broad "compulsory licensing" provision such as has frequently been proposed, but in this case the obtaining of the license would not even be conditional upon failure of the patentee or his existing licensees to adequately meet the demand for the patented article. Such a proposal would appear to place the small manufacturer or individual inventor at the mercy of a ruthless powerful competitor.

Thus far, no laws have been passed for putting into effect any of the Department of Justice recommendations or the last

mentioned provision with respect to compulsory licensing. However, bills incorporating most of these provisions were introduced in Congress last year, and similar measures will probably be considered during the 78th Congress now in session.

The hearings before the Senate Patents Committee, from April 13 to August 21, 1942, received a great deal of publicity because of the sensational nature of some of the charges made regarding alleged monopolistic patent practices and international cartels. The stated purpose of these hearings was to consider Senate Bill 2303, which purported to be an emergency measure providing "for the use of patents in the interest of national defense or the prosecution of the war." The main provisions of that bill would authorize the President, during time of war, to grant licenses under patents upon such terms as he might prescribe, for the manufacture, use or sale of any article or product declared by him to be in the interest of national defense or the prosecution of the war; would prohibit injunctions under patents with respect to any such manufacture, use or sale; and would further authorize the President during any time of war or national emergency to "acquire" patents in the interest of national defense, either by purchase or by a "declaration of taking," in which latter event the owner of the patent could recover "fair compensation" from the United States in the Court of Claims.

While this bill was in some respects an emergency proposal rather than a permanent reform measure, it was not so worded as to positively limit its effects to the duration of the war. Shortly after the start of the hearings there was introduced into the record another measure, Senate Bill 2491, which was aimed squarely at permanent revision of the patent laws along the lines of the Department of Justice-T.N.E.C. recommendations. Thus, S. 2491 provided for:

Compulsory licensing of patents under certain conditions;

Prohibiting licenses containing restrictions as to quantity, price, use or territory;

Prohibiting sale or licensing of patents under conditions which tend to lessen competition or create a monopoly, unless necessary to the "progress of science or the useful arts;"

Declaring patents null and void if either of the last two provisions is violated;

Compulsory filing of copies of all assignments, license agreements, etc., with the Federal Trade Commission; and

Prohibiting infringement suits against a seller, user or contributory infringer, unless a decree has first been obtained against the manufacturer, supplier or primary infringer.

It is noteworthy that in the lengthy hearings before the Senate Patents Committee on these two bills, there was almost no discussion or testimony directly related to either of the bills. The testimony was presented principally by representatives of the Department of Justice and other government agencies, charging violation of the anti-trust laws and attacking certain foreign cartel agreements declared to be injurious to the best interests of this country. The testimony was almost wholly one-sided, and afforded little or no basis for judging as to whether the charges were well founded or whether there was any real need for the proposed legislation or any other drastic changes in the patent laws.

Numerous other proposals for revision of the patent system have been made. These, as well as the specific proposals mentioned above, have been and are receiving very earnest consideration by individuals and organizations interested in patents and in the improvement of the system. In general, there are sound arguments both for and against most of the suggested changes. Great care should be exercised in attempting to modify a set of laws that have played such an important part in our industrial and scientific progress, lest we either destroy completely the beneficial effects of patents or introduce other objections or inequities perhaps more serious than any now existing under the present laws.

In December, 1941 the President issued an executive order establishing a National Patent Planning Commission for the purpose of conducting a comprehensive survey of the American patent system and of its benefits and defects. This commission was directed to consider, among other things, how any existing obstructions in the laws can be eliminated and "what methods and plans might be developed to promote inventions and discoveries which will increase commerce, provide employment, and fully utilize expanded defense industrial facilities during normal times."

The President appointed a group of very able and experienced men to constitute the commission. Charles F. Kettering, Director of Research for General Motors, is the chairman. The other members are Owen D. Young, Chairman of the Board of General Electric; Chester C. Davis, President of the Federal Reserve Bank, St. Louis; Edward F. McGrady, former Assistant Secretary of Labor and now expert consultant to the Under Secretary of War, and Francis P. Gaines, President of Washington and Lee University. In addition, Dr. Andrey A. Potter, Dean of Engineering at Purdue University, and Commissioner of Patents Conway P. Coe have been appointed as Executive Director and Executive Secretary, respectively.

These men are believed to be eminently fitted for the task assigned to them. They are now engaged in studying the various proposals mentioned above, as well as other suggested changes. In this connection, they have requested and received the wholehearted cooperation of interested individuals and organizations including representatives of industry and of technical and professional associations. Indications are that they will submit a report to the President in the near future, with at least tentative recommendations based on the results of their investigations.

The problem is truly an enormous one, and suggested remedies should not be put into effect without full consideration and an opportunity for presentation of all the facts and the arguments for and against the proposed changes. These arguments are so numerous and involved that it is impossible to discuss them in this paper. The important thing is that there are bona fide arguments to be advanced on both sides, and these should be fully heard and carefully weighed.

If additional legislation, strictly of an "emergency" nature, is needed at this time to expedite the production and utilization of materials and equipment for winning the war, let us see that it is speedily enacted. But, when it comes to permanent legislation affecting the use of inventions and patents under normal

conditions, let us not act too hastily or drastically. Certainly, no such long-range revision of the patent laws should be undertaken until the National Patent Planning Commission, established by the President for this very purpose and composed of men of unquestioned ability and integrity, has had an opportunity to complete its studies and submit its recommendations.

SOIL MECHANICS

(Continued from page 12)

The calculation of safe pile loads from laboratory tests of disturbed samples has taken a great deal of the "guess" out of pile driving. This method is now replacing the former method of driving test piles and estimating the bearing capacity by a dynamic formula based on the penetration per blow of the pile driving hammer. This latter method has been found to be very unreliable and frequently calls for unnecessarily long piles. At the plant of the California Shipbuilding Corporation, 54,000 piles were driven to a predetermined length calculated from field investigations and laboratory analysis. It is estimated that at least $250,000 was saved by this procedure. At an aviation gasoline plant near Houston, Texas, calculations indicated a safe bearing value of 20 tons on a 35 ft. pile with a factor of safety of 2. When the piles were driven, the usual dynamic formula indicated an allowable value of only 4 to 8 tons. The piles were tested by loading them for several days with 30 tons. Upon removel of the load, the permanent settlement was found to be less than 1/16 inch.

The problem of safe slopes for earth fills and cuts in such structures as highways, dams, levees, canals and ship channels, has been solved in a very satisfactory manner. The construction of firm, dense fills of known characteristics is now accomplished by a standard procedure, developed in California and carrying the name of Mr. R. R. Proctor of the Los Angeles Department of Water and Power.

Research into the basic principles of soil mechanics is proceeding at an unprecedented pace in spite of war conditions. In fact, war problems have intensified the necessity for such work in connection with the construction of airports, harbor facilities and war production plants. Studies in the field of the colodial chemistry of clay are leading to new conceptions regarding the behavior of soil containing such clay. Based on this work, new processes for the stabilization of highways and airports are being developed, and a better understanding of the action of clay under load is assured. Studies of the pressure developed in the water confined within the pores of the soil, in dams and in laboratory test specimens, is producing some illuminating information which will undoubtedly have an effect on design and construction procedure as well as laboratory test methods.

An understanding of the fundamentals of soil mechanics is an asset to any Engineer. It is part of the stock in trade of a Civil or Structural Engineer, and provides him with an interesting and illuminating field of study and experimentation.