HOW CAN THE CHEMIST HELP THE PATENT LAWYER: THE PATENT OFFICE VIEW*

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The other members of this panel, who represent both the chemical industry and the private patent attorney will explain how the chemist can help the patent lawyer either directly or through a liaison chemist to use more efficently the limited time available to him for mutual advantage and the advantage of those who pay for research in the field of chemistry. My objective is to present the viewpoint of the Patent Office and to try to show not only how we can work together for our mutual advantage but also how as members of the public, individually and collectively, the chemist can help to advance the grand objective of the patent system.

Our patent system is based upon and built around 32 words in Section 8 of Article 1 of the Constitution. This section confers on Congress the power to grant copyrights and patents, and the declared purpose of the section is "to promote the progress of science and the useful arts". To do so it empowers Congress to secure to authors and inventors for a limited time the exclusive right to their discoveries or inventions.

With respect to patents Congress exercised that power by enacting the First Patent Act, of 1790. In order to insure compliance with the Constitutional objective or purpose Congress set forth a fundamental concept which has come down through the years, substantially unchanged, into the latest Patent Act of 1952. That concept is that in return for a full and complete disclosure of a new and useful invention, the Federal government grants to the inventor the right to exclude others from making, using or selling the invention. In this scheme it is exceedingly important to note that the paramount purpose is the promotion of science and the useful arts, and that the reward to the inventor by way of a patent grant is secondary and incidental to the paramount purpose. And to insure that the fundamental concept is achieved Congress cast upon the Patent Office the duty of examining patent applications to determine whether an applicant is entitled to a patent under the law including in the requirements that applicants provide a disclosure or description of the invention consonant with that concept.

In the day-by-day administration of the Patent Office one of the most perplexing problems, particularly in the field of chemistry, is to determine what constitutes a proper disclosure under the law, and how to define the area from which all others are to be excluded. On one hand, the applicant is charged with the obligation of presenting what in his opinion is a full, clear, exact and concise description of the invention, and on the other hand, the Patent Office has the difficult task of determining whether the statutory requirements have been met. Under our system, since the Patent Office is the agency through which patents are brought into being, it has the two-fold responsibility, first, as the representative of the public, of insuring that the disclosure is full and complete, and second of doing justice to the applicant to see that he receives a patent on everything to which he is justly entitled. In chemical inventions, the core of the problem and the usual area of dispute between the applicant and the Patent Office revolves around the difficulty of determining and agreeing in any particular case on whether the disclosure of the invention is as complete as it could be or should be, and whether the claims sought, which claims are the measure of the invention, are no broader than the disclosed invention and no broader than the applicant is reasonably entitled to.

To make this determination the Patent Office is staffed with examiners having an educational background in chemistry. While most have at least a bachelors degree in chemistry or chemical engineering there are some who have masters degrees and a few doctorates. The problem of staffing the Patent Office with experts in the various chemical fields has become more difficult as the rate at which chemical knowledge expands has increased and such knowledge has become more complex. If to this problem is added the problem of turnover in personnel — for the Patent Office is a most important training ground for future patent attorneys, you may gain some appreciation of the difficulties involved in trying to solve reasonably the problem of adequacy of disclosure.

I believe that one cannot read the wording of the law without appreciating that strong language has been used for the purpose of compelling complete disclosure. That wording calls for a description in "full, clear, concise and exact terms," and for "the best mode" contemplated by the inventor of carrying out his invention. The language seems to be clear and unambiguous. Unfortunately, however, there are a sufficient number of people, who for reasons best known to themselves, fail to make a full disclosure or describe the "best mode." These people seek to get by with the minimum disclosure. In the public interest, it is the duty of the Patent Office to guard against such disclosures, and as I indicated previously, that constitutes one of our most perplexing problems.

*Presented before the Division of Chemical Literature, ACS National Meeting, New York, N.Y., September 12, 1960.

It is in this area that you, as chemists, can assist the patent attorney to the mutual advantage of all concerned. First, it must be remembered that descriptions in patents and patent applications are not addressed to the public generally, but to those of ordinary skill in the art to which the invention pertains; second, that the diverse fact situations, inherent in chemical inventions, make it necessary to eschew generalities and to consider each case on an individual basis; and third that it is unnecessary to set forth minutiae of procedures perfectly obvious to those skilled in the art. With these principles in mind, it should be evident that there is no hard and fast rule as to what constitutes a full and complete disclosure, and compliance with the requirements of the law should not present any great difficulties to an inventor who knows what his invention is, how he made it, and what it can be used for.

In many instances the key to the disclosure lies in the meaning of terms used. Considerable latitude is permitted in the selection of terms, and in the definition thereof, except that the definition cannot be inconsistent with or contrary to the common or technical meaning of the term. Unduly broad terms must be used with care. It should be evident that in this aspect of the disclosure the technical man can be of valuable assistance to the patent attorney. A word of caution, however, is necessary here, because when a term or definition is used, the applicant or patentee is bound thereby. It also should be evident that where proportions are necessary to the accomplishment of a particular effect they should be disclosed, and that where temperatures, pressures, pH value or other operational condition is the inventive contribution, the mere suggestion to use heat or super-atmospheric pressure or acidic conditions is not the full and complete disclosure required by law. In this connection it should not be forgotten that the applicant is required to set forth "the best mode" in which he found for carrying out his invention. Clearly this would mean at least one specific example in which proportions, temperature, pressure and pH value would be spelled out in detail. Though it might be possible for you, as a chemist, to predict what other operating conditions could be used, self-interest alone would seem to dictate additional disclosure to establish the limits of operability, and the necessary factual data to prove such limits. Apart from the matter of self-interest I might add that it is considered harmful to the public interest if an applicant who made only a specific disclosure were permitted on the strength of such disclosure to assert claims of much greater scope on the theory of predictability. A full and complete disclosure should be one which contains sufficient detail that anyone could duplicate the results without having to add to or subtract from the disclosure.

Furthermore, the chemist may be called upon to interpret and evaluate disclosures of prior patents and publications. Here too the data necessary to prove or disprove the interpretation placed thereon, should be full and complete. Only by cooperation between the technical people who supply the necessary technical information, and the patent attorney, who presents such information in proper form to the Patent Office, can we achieve the contributions to the patent system of the character and type to make the progress in the sciences and useful arts envisioned by the framers of the Constitution.

As indicated by L. D. Dibble (p.), the field of pharmaceutical chemistry may be considered a specialty within a specialty. Applications for patents in this field present additional problems, which are more difficult to resolve than in the general chemical field, for in these applications there is often the assertion of usefulness in curing or alleviating many of man's ills. Since the determination of whether a patent should be granted frequently depends upon the validity of these assertions, the problem is to keep these assertions within provable limits or to prove to the satisfaction of the Patent Office that the assertions are well founded. Therefore, in this field, the chemist should be sure that the disclosure contains only those assertions which he knows are true and should submit the proof thereof to the patent attorney for inclusion in the application.

In conclusion, may I point out as did E. H. Mosher (p.), that a patent is a contract between the people of the United States, represented by the Patent Office, and the inventor, in which the consideration flowing from the inventor is a full, clear and exact disclosure of a new and useful invention. The patent represents not only documentary proof of the contract, but also a valuable contribution to the technical literature. Patents—and there are now almost 3,000,000—describe the technological developments in a degree of detail which does not exist elsewhere in the world. Arranged by technical subject matter—constituting 36,000,000 pages in 350 main classes and 56,000 sub-classes—they constitute a valuable tool for use by those in research and development. The importance of presenting the complete story in certain terms, so that its meaning is clear, cannot be overemphasized. As chemist-inventors in your own right or as aides to a corporate patent attorney, you owe it to yourselves, to your employer, and to the public to be ever alert to the fundamental concept of our patent system for a full and complete disclosure. To the extent that you do your part in inducing a flow of such disclosures, you will have contributed much to the grand objective of the patent system, namely, "to promote the progress of science and useful arts."