

- g. The Search Room personnel are very helpful in all respects.
- h. Assignment records show to whom patents have been assigned since a patent issued.
- i. The same type of information as is available for patents is also available for trademarks.
- j. Patents may be purchased on the premises, with delivery within a few hours.
- k. There is a mail order service, not only for domestic patents, but also for trademarks, photocopies of foreign patents, indeed for photocopies of any documents which are open for public inspection.

APPENDIX B

Sources of information about patent law and practice include:

I. Patent Office Publications:

- a. United States Code, Title 35—Patents.
- b. *Rules of Practice*, United States Patent Office in Patent Cases.

- c. United States Patent Office *Manual of Classification*.
- d. *Manual of Patent Examining Procedure*.
- e. *Official Gazette*. This contains much information in addition to the broad claims of newly-issued patents.

- II. The *United States Patents Quarterly*. Published weekly but collected and bound quarterly, this publication gives in full the decisions of the Patent Office and of all courts having jurisdiction over patents.
- III. Textbooks, both technical and nontechnical.
- IV. Case histories or file wrappers are invaluable for a study of why and how claims are rejected and the process of working out language which fits the invention and does not infringe a patent. There is much to be learned from any case history.
- V. The attorney employed by the company will be glad to offer suggestions, once he sees what effective liaison can do for him.

Patent Liaison—A Service to Industrial Management*

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Patent liaison is a link in the chain connecting the industrial inventor with the Patent Office. Conventionally, the patent chemist is concerned with processing inventive ideas and the supporting data into a unified picture leading to a patent application. However, liaison work involves both research and legal operations, and requires consideration of the problems of sales and manufacturing as well. Therefore, the patent chemist is well situated to interrelate all four points of view. For this reason, he may also perform a second function—staff advisor to management.

A patent can be the turning point in a major management decision.

For example, the president of a chemical manufacturing company may be considering a business expansion. On the basis of research results, he may have two new products from which to choose. The two may be equal, so far as immediate sales returns are concerned, but far different when the growth picture is taken into account. In a hypothetical case, one product may find a 10% share of a \$10 million market, with six established competitors; the other may offer an exclusive position in a new \$1 million market, with good possibilities for expansion.

Most executives would choose the second product without hesitation, provided that it had the support and protection of a strong product patent.

Decisions like this are being made every day in the chemical industry. Time after time, someone asks "What is the patent situation?" The man who makes sure that the product claim is there to cover the new market, the man who points out to management the importance of the claim, is the patent chemist, be he a technical liaison man, a patent agent, or a patent attorney. In a chemical industry of growing complexity, and faced with increasing competition, the patent chemist is participating more and more in management decisions.

In the past twenty years, the patent chemist's job has gained recognition. Several papers¹⁻⁴ presented before this Division and the Division of Chemical Education in the past few years, have described patent service. The patent chemist frequently is an experienced research worker who has become familiar with patent procedures. He has some knowledge of patent law, if only through continued exposure. One of his important functions is to provide liaison between the laboratory chemist and the patent attorney, with a foot in each camp. Because of his technical background, he has a research chemist's enthusiasm for a new idea, but because of his experience with the trials and tribulations of those prosecuting patent applications, he appreciates the patent attorney's wariness and caution. He knows that the patent literature is full of disclosures which may anticipate even the most brilliant idea.

In performing his liaison responsibilities, the patent chemist inevitably becomes a clearing house for questions

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asked by patent attorneys, by research men, by directors of research, by salesmen, and by manufacturing superintendents. To each of these, the patent liaison man must also be in some way an interpreter, for the language of patents frequently requires translation into specifics.

When the needs of each group of people are examined, it becomes apparent that, as the patent chemist works with them, he is bound to acquire a viewpoint which is a synthesis of all of them. This gives the patent chemist a unique opportunity to be of service to his whole organization.

The research laboratory is the group with which the patent man usually has the closest connection. Most of the new ideas he handles, most of the information on which patent applications are based, originate in research.

The research worker sets out to answer a scientific question or solve a technological problem. When he gets his results, he knows how to communicate them up the line for technical consideration. But he often needs help in relating the results to any sort of patent action. Supplying this help is, of course, a major part of the patent chemist's job. Papers cited above described the kind of work involved, as well as some of the organizational approaches employed.

The other parts of the patent chemist's job are equally important, but they have not been as clearly spelled out in the past. They may have been performed by a patent chemist, by the research director, or by the patent attorney. In many cases, however, they do not get the full attention of anyone.

The patent attorney wants ammunition—facts. If he is preparing an application for filing, he needs to know what the prior art is, and what experimental facts prove the new invention is different from what is already known. If the application is already filed, he is in the midst of a vigorous argument with the Examiner, and he needs facts for affidavits, facts to support arguments, facts to overcome references. The attorney is the front line soldier, and the patent chemist is the ammunition bearer.

For example—A patent application was filed which contained some X-ray diffraction data on a polymer. The Patent Examiner questioned the interpretation of the data, and asked for authoritative references. The patent chemist had himself used X-ray studies as a research worker, so he needed only 15 minutes to find page and line of a respected textbook backing up the argument. Now, the attorney and the inventor *could* have done the job between them with just as good final results. But it might have taken the attorney an hour to explain the legal issue to the research man. After the research man had found the reference, another hour of conference would have been needed to make both the attorney and the inventor happy with the language of the amendment.

In another case, a fairly broad application was filed claiming a class of polymers. In prosecution, the Examiner cited a reference which looked close, and sounded worse than it was. An appeal from the final rejection might have been successful, but costs would have been high. The liaison man realized that the reference was applicable only in a fringe area, of minor technical importance. A continuation-in-part application was filed, covering a narrower class of polymers and avoiding the reference. The new case, prepared with full recognition of the prior art, faced fewer problems during prosecution.

The manufacturing superintendent is relatively easy to satisfy as far as patents go. He needs only a guarantee that he can run his plant without getting into legal trouble. If a process modification is developed, he wants to be able to use it, save 10¢ a pound, and take suitable credit for his ingenuity from the stockholders. The patent chemist must scrutinize the process, the product, and all proposed changes in either, compare them with the prior art, and flag out any infringement possibilities for detailed evaluation by the patent attorney.

Example? The claims of a recently-issued patent appeared to read directly on a proposed fiber-handling process detail. The plant people were worried. But close reading of the specification suggested that the novelty of the patented process lay in a particular step, one which had no value to the new fiber-handling technique. The file history of the patent was sent to the attorney for an opinion. His answer was an encouraging one—no infringement, *provided* the novel step was omitted.

The salesman asks for a different sort of help. New products to sell are his life's blood. New ways for his customers to use old products are almost as good. He needs a steady stream of new salable ideas, and he needs them immediately. His nature and his working habits won't let him rest until he has passed on to his customers every new development he hears about. Therein is the danger to the patent program. Patent rights in this country and abroad are best protected by filing before the invention is announced to the world. So the patent chemist must share the salesman's eagerness, but he must find diplomatic ways to control premature disclosure.

There are many examples of this type of liaison. In one case, a fabric development man made a beautiful fabric, employing synthetic fibers in a blend of different deniers. The best business approach appeared to involve sale of the fibers directly to conventional converters, with free distribution of the novel information. In such cases, however, converters prefer to have reasonable assurance that they are free to make the product, and will remain so.

A prior art search uncovered no indications of infringement or anticipation. The fabric looked so novel that a patent on the product, or at least the process for making it, appeared quite possible. This insured a safe operation from the domestic outlook. But foreign patent rights were also attractive, since there was a reasonable likelihood that the invention could be licensed abroad. To provide protection in absolute novelty countries, the salesman was asked to wait, and the U. S. application was filed *before* the fabric was shown to anyone, thus preserving all patent rights.

In another case, a Technical Service team had worked out a new fabric processing treatment. They thought it was patentable, and asked for patent action. A careful search revealed prior art in a related field clearly anticipating the treatment, though no problem of infringement was involved. The Technical Service people were disappointed, but agreed to write an article for publication in a trade journal. Following the appearance of the article, the process became standard practice among several processors.

When viewpoints clash, personal relations may become strained. Research results in one project looked very promising, and the sales development leader wanted to start a trade evaluation. It appeared, however, that

six months more of laboratory work would provide a basis for a broad patent application, instead of the narrow case which could be filed at the time. The salesman insisted that favorable timing in the market would be lost. The management decision was in favor of the attempt for broader protection, so the research work went on. It turned out that the process was operative only in the narrow, specific area, and that only limited claims were justified. Understandably, the sales manager was distressed at the delay. But he and the rest of the people concerned found some consolation in knowing the limited patent application was a strong one, since it was based on an excellent showing of critical limits.

It is instructive to consider the function of the patent man in each of those situations. He had to combine two or more points of view, adding special knowledge of his own. He had to interrelate law, technology, and economics, to arrive at a solution which offered the greatest benefit to his company. In other words, he had to look at these *patent* problems just the way his company management has to look at every problem.

This is the challenge to the patent chemist. His management needs advice on patent matters which takes into account these interrelations. It needs patent advice which does justice to research, manufacturing and sales interests, based on sound knowledge of patentability. The patent chemist can offer this synthesis to his management.

The job takes real effort, but from the management point of view, it is worth doing. In fact, at least one organization *insists* that it be done. Each of du Pont's newest fibers—"Teflon"[®] TFE-fluorocarbon fiber, "Lycra"[®] spandex elastomer fiber, and others which are still being evaluated—was developed by a team of research manufacturing and sales workers. Definition of a favorable

patent position was part of each effort, and the responsibility for that position was given to a team of a patent chemist and an attorney who stayed with the job from beginning to end. Management required the patent chemist to present to them a unified patent picture, representing the best possible integration of interests of the groups involved. That picture, revised and kept current, was considered as each management decision was made. And in each decision, the patent man knew he had made a significant contribution.

The responsibility which the patent chemist undertakes as a management advisor is not a light one, and the opportunity for participation must be earned by sound performance. He must consider each question from four points of view: Research, Legal, Manufacturing and Sales, but must not become a partisan of any one. He must weigh research goals, prior art obstacles, Patent Office requirements, manufacturing needs, sales desires, foreign filing deadlines, inventorship data and double-patenting rejections. He must remember the economic stake in each program, and scale his efforts accordingly. He must learn to work on six jobs at once, when the time available isn't enough for three. He must give honest answers, even when he knows they will be unpopular. The challenge is great; the reward is active participation in the progress of new scientific and industrial ventures.

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Opportunities for Chemists as Patent Solicitors*

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Despite the continuing need for chemists to practice the mystic arts in laboratories, there are several justifications for informing chemically trained people of opportunities in fields seemingly remote from their initial areas of interest.

It is a recognized fact that, among those in any line of work, some become restless for any of a number of reasons before they can move from the base of the profession to its apex. Such people either seek other opportunities, or remain as frustrated practitioners of the only art they know. In the chemical industry, we find that the Technical Service departments, the Sales departments, Production Scheduling departments, and the Executive and Administrative departments all require chemically trained and preferably industrially seasoned staffs. The same is true of the Patent Departments.

The symposium for which these remarks were prepared was held in recognition of two complementary facts, that some chemists do seek employment away from the bench and test tube, and that the Patent profession has several types of opportunities of offer to chemists. This segment of the presentation is concerned with opportunities for chemists as patent solicitors.

The task of a patent solicitor is to obtain patent protection for the inventions of his clients. In each country having a patent system, the work of a patent solicitor must conform to a set of standards prescribed by the statutes and administrative regulations of that country. Such national differences as exist in these standards are in matters of detail which need not concern us, because there is a common theme in the patent laws of all countries with respect to requirements for patentability. Every country requires that a patent application shall describe the invention in such full clear terms as

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