



PATENTS

Patents protect inventions, preventing the unauthorized use by others of an inventor’s discoveries. Although “mere ideas” are not patentable, patents come closer than any other form of intellectual property except trade secrecy to protecting ideas, because they can protect the essence of a product or manner of accomplishing a task.

This article provides general guidance concerning patents: what they are, how they are protected and commercialized, and how they are enforced. Although this article should not be relied on for specific advice in any situation, since the particular facts of a matter can alter the appropriate advice, we hope you find it useful as an introduction to one of the fields in which we focus our work.

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SO...let’s get right to it!

A. WHAT IS A PATENT?

Patents are the primary source of legal protection for inventions. A patent is a grant from the United States Patent and Trademark Office that prevents the unauthorized production, sale,

or use of an invention for a fixed period of time. Although “mere ideas” are not patentable, patents come closer than any other form of intellectual property, aside from trade secrecy, to protecting ideas, because they can protect the essence of a product or manner of accomplishing a task.

B. TYPES OF PATENTS

Patents fall into three general groups:

1. Utility Patents

Utility patents can be granted to the inventors of new and useful machines, compositions of matter, products, and processes, or improvements of any of these. The “machine” and “product” categories of utility patents are generally self-explanatory. However, it is important to note that *kits*, containing a variety of products, may fall within the “products” category. Examples of “compositions of matter” for which patents have been issued include laboratory-created life forms and new drug formulations. “Processes” have included not only methods of making products and machines, but also computer software.

In short, utility patents protect the way an invention is used and works. These are what most people mean when they refer to “a patent.”

2. Design Patents

Design patents can be granted to the inventors of new, original, and ornamental designs for articles of manufacture. In contrast to utility patents, which protect the functionality of an invention, design patents protect the way an invention looks. Design patents can cover anything from the shape of a dining table, to the appearance of a pair of grass clippers, to the design of a microscope or a computer terminal, or even the icons which appear on the screen as a part of many computer programs. The *ornamental appearance* of all types of products, from socks to lollipops, can be protected by design patents.

Because design patents protect an entirely different aspect of a product than do utility patents, it may be possible to obtain both types of protection for a new device that has a new, ornamental appearance.

3. Plant Patents

Plant patents can be granted to persons who invent or discover and asexually reproduce distinct and new varieties of plants. Plant patents cover new varieties of plants, from ornamental rose bushes and Christmas cactuses to vegetable and other crop plants. This form of patent can be very important to our agricultural and ornamental plant industries and, in some instances, to scientific research.

C. RIGHTS GRANTED BY PATENTS

1. Right to Exclude

A patent grants the owner the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States and the right to prevent others from importing the invention into the United States. Although this often is referred to as a “monopoly,” it is more precise to say that a patent grants to the owner a right to exclude.

2. Limitations

Because the patent grants only a right to exclude others from practicing the invention, it does not guarantee to the patent owner any right to actually practice the invention. That is, a patent owner’s ability to make the patented product, use the patented process, or sell or offer these for sale is not an absolute right guaranteed by law, nor is it guaranteed within the patent itself.

Instead, the owner’s right to make, use, or sell the patented invention is dependent upon the rights of others, because someone else could own a prior patent on some essential part or element of the invention. If so, the owner of a patent covering the later invention will not be able to utilize the invention until either the earlier patents have expired, or the owner of the earlier patents grants permission.

For instance, if you were the first inventor of the rocking chair, but someone else already held a valid patent on the basic concept of a chair, your rocking chair could not be produced (unless you obtained permission from the chair patent owner) until the basic chair patent expired. Your patent, however, would prevent the basic patent owner from taking advantage of your improvements; the chair patent owner could not go into the rocking chair business without your permission. If no prior patents covered the invention, then you typically would be able to freely exploit your invention yourself, or license others to use it; and your patent would prevent others from duplicating the invention.

D. REQUIREMENTS FOR PATENTABILITY

An invention must be new and (in order to qualify for utility patent protection) useful, and must not have been obvious in light of existing knowledge in the specific field of endeavor at the time the invention was made. A patent will not be granted on an invention that can be used only for illegal purposes.

1. “Absolute novelty”: the Requirement that an Invention be “New”

For an invention to be considered “new” under current U.S. law (effective March 16, 2013), it cannot have been published, used, sold or made publicly known, anywhere in the world, prior to the date of filing of the patent application. This requirement often is referred to as “absolute novelty,” and is a requirement that has long been imposed by most other nations as a

condition for patentability. It does not matter, for most purposes, who was the first to invent a patentable invention; what matters is who was the first to file a patent application claiming it. An invention will still be considered “new” even if it was previously “invented” by someone else, as long as the “someone else” hasn’t already filed a patent application covering the invention.

The U.S. does temper the absolute novelty and first-to-file requirements in one respect. There is a one-year “grace period” for inventors who have published the details of their own inventions. Such inventors are allowed one year following the date of publication within which to file a patent application, without having their own earlier publication cited as a bar. Delay remains risky, however, since in most cases, there is no protection against third-party publications. (There are, however, procedures intended to prevent third parties from learning about an invention and then sneaking into line ahead of the true inventor.)

For U.S. patent applications filed prior to March 16, 2013, the rules are different. The invention in question must not have been invented, known, or used by any other person earlier than the date of the claimed invention; and if there is a contest between two otherwise-qualified applicants, each seeking to patent the same invention, priority will be given to the earliest inventor rather than to the earliest applicant. In addition, although there is a “novelty” requirement, for the most part only uses and publications that occurred more than a year prior to the filing date of a patent application can be cited as a barrier to patentability. In other words, the applicants in these earlier-filed applications effectively were given a one-year “grace period” during which time they could try to exploit their invention without needing to worry about losing patent rights during this time to someone who filed an earlier application or published an article. In addition, in many circumstances, foreign uses would not be taken into account at all as “prior art” that could defeat patentability. These old rules may seem unimportant to a new inventor, but they are critical to those whose applications still are wending their way through the Patent Office, and will remain critical for many years in interpreting the validity and scope of issued patents for which applications were filed prior to March 16, 2013.

Most foreign nations do not have a grace period of any sort and instead operate under a strict “absolute novelty” and “first-to-file” system. Under those systems, virtually all prior patents, public disclosures (no matter who made them), sales, and offers for sale constitute barriers to patentability. Thus, if an inventor is considering applying for foreign patents, total secrecy up to the time of application for the first patent should be maintained. (Bear in mind that Canada is a foreign country; many inventors seem to forget this because cross-border marketing is so common.)

Because the requirements of absolute novelty and of inventorship can be decisive factors in settling competing claims to the same invention, it is an excellent idea for all inventors to keep dated and witnessed records (such as lab notebooks) showing the progress of their work. Those notebooks should include a description of any disclosures to third parties, describing what was done and said, and should list all those persons who have been involved in the work. And, because of the fairly recent, extensive legislative changes, any inventor who intends to publicize or sell an invention before applying for a patent should double-check with a practitioner to ensure the rules have not further changed—either as a result of more legislation, court decisions, or administrative procedures—and to discuss the most appropriate strategy for preserving

potential patent rights.

2. Usefulness Requirement

The requirement that the invention be “useful” means the invention must be capable of use for some beneficial purpose, and must actually work. Applications to patent “perpetual motion” machines, for instance, are routinely rejected by the examiners on grounds that they will not work as claimed. Vague ideas are not “useful” and hence are not patentable. Utility patent protection is not available for decorative features, because they are not useful. For design patents, however, the “utility” requirement is waived and a requirement that the invention be ornamental (“the ornamental design of an article of manufacture”) is substituted.

3. “Non-obviousness” Requirement

The third requirement for patentability is that the invention be “non-obvious”. This means that the invention would not have been readily apparent to someone of ordinary skill, who was familiar with what others had done in the same field, at the time of the invention. For example, in evaluating a new eyeglass frame, one would probably look to the relative skill and capabilities of an average optician or eyeglass manufacturer, and ask whether such a person would have known how to make the invention in question if he had wanted to do so at the time the invention was made. It is important not to evaluate obviousness with “20-20 hindsight,” since many valuable inventions seem obvious once they are announced, but fulfill a long-unmet need that existed precisely because no-one knew how to solve the problem.

E. THE PATENT SEARCH

Deciding whether inventions are “new”, “useful” or “ornamental”, and “nonobvious” is a task that requires familiarity both with the technology involved, and the technicalities of the patent law. Usually before incurring the expense of filing a patent application, and sometimes even before investing tremendous resources in new product development, it is advisable to have a search performed.

1. What is a “Patent Search?”

A patent search is an examination of what has been done before, in areas relevant to the invention, to assess the novelty and non-obviousness of the invention. Typically, it involves an investigation of earlier patents and possibly of other relevant publications in the field, and seeks to learn whether aspects of the invention have been disclosed in these documents. Expanded searching may look at catalogs and other trade literature, both printed and electronic, for the same purposes. Based on the search results, a patent attorney or experienced patent litigator can give an opinion as to the scope of coverage of prior patents, and whether it does or does not appear likely that a patent could be granted for the new invention. Often, the search results will not only tell the inventor what has been done in the past, but may suggest possible modifications to the new invention which may improve it and make it more likely to be patentable.

2. Conducting the Patent Search

The extent of any patent search will depend on the client's budget, the invention's value, and the degree of certainty required. Law firms may do all or some of the search in-house and may use the services of companies that specialize in patent searches. Different patent firms have different resources available to them for in-house searching. These resources may include copies of summaries of patents, issued weekly by the United States Patent and Trademark Office; access to on-line computer databases of patent and other scientific literature; paper copies of patents; and other material. Further searching may be conducted by experienced searchers at the Patent Office in Alexandria, Virginia.

3. Search Resources for "Self-Service" Inventors

While attorneys and law firms will have resources that make searching more efficient and effective, there are various searching resources open to budget-conscious inventors:

- **The Patent Office**: The Scientific and Technical Information Center of the United States Patent and Trademark Office located at 1C35 Madison West, 600 Dulany Street, Alexandria, VA, has available for public use over 120,000 volumes of scientific and technical books in various languages, about 90,000 bound volumes of periodicals devoted to science and technology, the official journals of 77 foreign patent organizations, and over 40 million foreign patents on paper, microfilm, microfiche, and CD-ROM. In addition, the Patent Search Room located at Madison East, First Floor, 600 Dulany Street, Alexandria, VA, is where the public may search and examine U.S. patents granted since 1790 using state of the art computer workstations. A complete patent backfile in numeric sequence is available on microfilm or in optical disc format. Official Gazettes, Annual Indexes (of Inventors), the Manual of Classification and its subject matter index, and other search aids are available in various formats. Patent assignment records of transactions affecting the ownership of patents, microfilmed deeds, and indexes are also available.
- **U.S. Patent & Trademark Office Online Database**: This online service is available at the Patent Office website, accessed from the Patents "quick links" on the homepage: www.uspto.gov. Inventors who are comfortable using the Internet and conducting relatively unguided searches can perform text-based searches of all patents published since 1976, as well as patent applications published since March 15, 2001. In addition, one can download the images of any United States patent issued since 1790; the pre-1976 patents are not formatted for text searching. Special software is required to view the pictures associated with these patent copies, and instructions for downloading it are on the website. While obviously not entirely comprehensive, this free database does provide a useful tool for beginning a search, and has the advantage of being protected against data-mining.
- **Other Online Resources Require Caution**: Commercial search engines such as Google also offer search capability. The downside is that such search engines often track the searches that are performed and in some cases sell or disclose to others the results of that data-mining. Anyone using free databases other than the

Patent Office option should be extremely careful not to reveal the details of their invention during the search process.

- **Patent Depository Libraries:** While less convenient than online searches, inventors are fortunate to have available the resources of the Patent and Trademark Depository Library system. Located in 52 states and territories of the United States, these library depositories provide users with access to copies, on computer and/or microfilm, of each United States patent. Reference librarians will help the inventor try to determine which of the Patent Office's subject classifications best describes the invention; and then review abstracts or complete copies of each patent in the identified subject areas. This is a somewhat arduous task because of the form in which the data is maintained; but is an excellent, inexpensive way to get at least a beginning idea of prior patents related to the invention. The number and location of these libraries varies from state to state. In North Carolina, there are two patent depositories, one located at N.C. State University's D.H. Hill Library, in the Government Documents section, and one in the J. Murray Atkins Library at UNC Charlotte. In Puerto Rico, there are two such depositories, one each in the General Libraries of the University of Puerto Rico campuses at Bayamón and at Mayagüez. California has six, most located in public libraries around the state. More specific information including telephone numbers can be obtained from the U.S. Patent and Trademark Office's website, at: www.uspto.gov. (The information currently appears on the following subpage, but the Patent Office frequently changes its subpage locations so if it has moved, use the "resources" page to find it: <https://www.uspto.gov/learning-and-resources/support-centers>).

F. THE PATENT APPLICATION

In return for granting exclusive rights in his invention to a patent owner, the law requires a complete disclosure of the invention so that the public will know how to take advantage of the invention at the termination of the patent period. This disclosure is set forth in the patent application.

1. Preparing and Filing a U.S. Patent Application

A utility patent application must include a description of how the invention works, drawings (in most cases), and an explanation of the best way known to the inventor of making and using his invention. The applicant must also disclose any known similar products or methods which exist, and which would be relevant to examination of the claims of the patent application.

Depending on the type of patent being sought (i.e., utility, design, or plant), the specifics for each of these elements of the application may vary. For example, consider the "description" element. A utility patent application requires a detailed written description of how to make and use the invention. A plant patent application, on the other hand, must include a detailed botanical description of the plant, together with a description of the invention that is "as complete as is reasonably possible." A design patent must include very detailed drawings that show the entirety of the design for which protection is claimed

Once it has been prepared, the application must be submitted to the Patent and Trademark Office along with a signed declaration attesting to the truth of everything set forth. Ordinarily, the inventor or the inventors ordinarily must sign this declaration. Corporations and other business entities that may own patents or patent rights are not considered inventors. However, individual inventors may assign all their rights to corporations; and although the corporation cannot ordinarily sign the actual application, the corporate assignee is entitled to own the patent application and any patent that ultimately may issue, and can direct how the application is to be handled.

The Patent and Trademark Office has very specific rules about the content and style of a patent application, as well as who can file and handle a patent application. Because these rules can be complex, and because the legal concepts that apply to patents also can be complex, most patents are filed by patent attorneys on behalf of individual or corporate clients.

2. Provisional Applications: An Alternative When the Need is Urgent or Cash is Low

A potentially less complex procedure is available if rapid filing is desired. This is the filing of a “provisional” patent application. **A provisional patent application is not the same as a regular patent application. It is never examined, and it automatically expires at the end of twelve months.**

A provisional application essentially gives the inventor a twelve-month extension to file a regular patent application. That extension only applies, however, to the invention as it is disclosed in the provisional application. There are slightly fewer technical requirements for the document, and formal claims are not required. Nonetheless, a provisional patent application must contain a complete written description of the invention, and any drawings necessary to understand the invention, each of which must meet requirements set by the Patent Office. An inadequate disclosure will provide little or no benefit.

If a regular application is filed in time (not later than 12 months after the provisional application), and correctly references the earlier provisional application, then the formal patent application will assume the benefit of the earlier filing date of the provisional application—but only as to the information that was disclosed in that earlier provisional application and now is claimed in the regular application. Assuming the provisional application clearly disclosed the invention, the application then can proceed through the regular examination process. However, if a regular patent application is not filed within the twelve-month time frame, then the provisional application is deemed abandoned and any benefit from filing it is lost.

While the provisional application seems simple, it is important that it be comprehensively written and meet the Patent Office’s guidelines. There also are some complex issues surrounding how to “convert” from a provisional application to a regular application. Thus, most experts in the field recommend that a provisional patent application ordinarily should be prepared with care similar to that used for a regular application, and that competent patent counsel should be consulted.

3. Options for the Self-Help Inventor

Individual inventors are allowed to file their own applications if they choose to do so, just as defendants are allowed to represent themselves in court if they choose. For most individuals, because of the complexity of the rules and the importance of linguistic nuances, this is not a wise choice. Instead, it is better for a budget-conscious inventor to work closely with a selected patent attorney and to do as much of the leg-work and as many of the drawings as possible to reduce the cost. This is true even when filing a provisional patent application, where the rules are fewer.

Inventors who chose to “go it alone” should be aware that the requirements for obtaining patents, the stylistic requirements, and the fees, are subject to change, often with little notice. While there are many self-help manuals available (including a manual published by Nolo Press that can be purchased online or in bookstores, and other material that may be included in the reference material available at an inventor’s local Patent Depository Library), it would be unwise to assume that the latest changes have been incorporated into these references. An inventor should verify the current requirements before filing an application. If an inventor files an incomplete application, it may not be accepted by the United States Patent and Trademark Office and this may result in a complete or partial loss of rights to the invention, both in the United States and overseas.

4. Filing Fees

Whether filed by a patent attorney or by an individual inventor, filing fees must be submitted with the application. The filing fees, as well as most other fees charged by the Federal government in connection with patent applications, currently are lower for individual inventors, nonprofit entities, and small companies than for businesses with over five hundred employees. In fact, for certain individuals and nonprofit organizations that qualify as “micro-inventors,” fees can be as low as 25% of the usual rates. Hence, individuals, nonprofit organizations, and small entities should indicate with their application that they meet the criteria for these reduced fees.

The fees for provisional applications are lower than those for a regular patent application, since those applications essentially act only as place-holders and are not subject to examination.

Self-help inventors should particularly note that filing fees are subject to change and do increase with unfortunate frequency. Inventors who are filing a patent application without the assistance of an attorney, should check the current fee schedule and be certain to enclose the correct amount.

5. The Examination Process

If a regular patent application meets the initial guidelines for entering the application examination process, it will be assigned a serial number and filing date, and the examination will commence. Provisional applications are assigned a number and filing date, but are not examined.

There are several thousand patent examiners in the United States Patent and Trademark

Office; the number varies each year, primarily as a result of budget allocations. They are divided into groups, each with responsibility for a particular type of invention. Each application is assigned to one of these specialty technology groups, and to a particular examiner within the group. Depending on the workload in the group, the type of invention and the complexity and quality of preparation of the application, the patent application process may take from one to four years, the average being around two years. During that process, it is not uncommon for the examiner to change, but the examination group ordinarily remains the same.

Applicants are understandably concerned with what occurs during this lengthy process: how secrecy is handled, when and how applications are published, and what happens when an application is rejected or approved.

6. Secrecy of Application Contents

During the first eighteen months of the examination process, the content of a U.S. patent application is kept secret. No one outside the Patent Office, other than the inventor or the inventor's designated representative, will be told the title of the application, the name of the inventor, the subject matter of the invention, or anything else concerning the application. If no patent ever issues, the invention is never revealed to the public.

After the first eighteen months, secrecy is not automatic except in the case of applications filed before November 29, 2000, or for design patent applications. Utility and plant patent applications will be published at the end of eighteen months from their earliest filing date (and, as is typical, the Patent Office will assess a publication fee for each published application, which the inventor must pay before any patent will be issued). There are two ways to avoid publication:

- **No-Foreign-Filing Certification:** The inventor can file a certification that the invention disclosed in the application has not been and will not be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication of applications eighteen months after filing. If this is done, the application will be kept secret for the entire time until a patent is issued (or until the application is abandoned).
- **Abandonment:** The inventor can abandon the application. In that case, unless the application is relied on for purposes of another application that ultimately issues as a patent, the abandoned application will be kept forever secret.

7. Early Publication of Application and its Claims

It may seem counter-intuitive, but there are circumstances in which an inventor may want an application published early. This typically occurs when infringement is occurring or likely (see the discussion of Enforcement of Patent Rights in Section G, below). As a result, for an additional fee, applicants are allowed to request early publication of their application. In such cases, the applicant will want to be as certain as possible that at least some of the claims to be published are likely to issue in substantially unmodified form, and that those claims—even if very narrow and specific—cover the infringer's activities. This can require a great deal of advance planning in drafting the application, and in handling the prosecution stage, so any

applicant in this circumstance should notify his attorney at the earliest possible time.

8. The Examination Process

Most utility patent applications are rejected initially, often because the examiner has located one or more patents previously issued which he or she thinks are similar to what the patent application now claims, and would have made the invention obvious. Various technical objections also are not uncommon. After a rejection, the task becomes one of amending claims and arguing with the examiner about why prior inventions do not render the present invention unpatentable. A good search conducted prior to filing the application increases the chances that potential objections will be known in advance, and can be dealt with, but no search is perfect, and it is not possible to predict an examiner's actions with certainty.

Although it is safe to say that far more applications are filed than patents are issued, the numbers fluctuate and there is disagreement on those numbers. For example, in 2005, the Patent Office reported that approximately 406,000 patent applications were filed, and approximately 165,000 patents were issued. An independent tally suggested that the number of issued patents was closer to 143,000. There is no doubt that the number of patents issued each year has increased over the decades as the number of applications has increased. In any event, it is clear that the number of patents issued is far fewer than those filed. The Patent Office reported that in 2018, over 597,000 utility patent applications were filed, but fewer than 308,000 utility patents were issued. These discrepancies are due not only to rejections and to abandoned applications, but also to Patent Office backlog. Well-drafted patent applications increase the chance of ultimate success, but there are no guarantees. Being granted a patent on an invention is an achievement not only of creativity but also of complying with an array of legal and administrative requirements.

9. Once the Application is Approved: Issue and Other Fees

Once an application is approved, the Patent Office sends a notice listing any last formalities that must be complied with, and requires payment of an issue fee before the patent actually will be issued to the patent owner. Any publication fee that has not already been paid also must be paid before the patent will be issued. After these fees are paid, a notice is sent that lists the date (always on a Tuesday) when the patent will be issued. When that date comes, the patent will be issued.

Note that issuance of a patent is not the patent owner's last contact with the Patent Office. Instead, fees must be paid at regular intervals to keep the patent in force, as discussed below.

G. DURATION OF PATENT PROTECTION

1. Usual term of patents.

A patent gives the owner the right to exclude others from making, using or selling the patented invention. For owners of utility and plant patents, this right to exclude will begin on the

date the patent is issued and ordinarily will end twenty years from the date the patent application was filed. Patents resulting from applications filed before June 8, 1995, will have a term which varies depending on exactly when they were filed and how long they were in the processing stage. The term can be either seventeen years from the date of issue, or twenty years from the date the application was filed. In some cases, where successive related patent applications have been filed, the date for measuring the start of the twenty-year term may be earlier than the filing date of the current application. If it is important to know the precise expiration date of a patent, an experienced practitioner should be consulted for advice.

In the case of a design patent, the term is fourteen years from the date the patent is issued.

2. Patent Term Extensions

No patents—regardless of type—are renewable. In special cases, such as a drug being certified by the Food and Drug Administration, the term may be extended for a limited period, in order to compensate the patent owner for the delay in marketable time caused by the government regulatory process. Other reasons for term extensions include delays in issuance of a patent due to Patent Office delay or to appeals, or the existence of government secrecy orders which prevented commercial exploitation of a patent. In most cases, the extension period will not be greater than five years.

3. Keeping the Patent Alive: Maintenance Fees

During the life of a patent, the invention and the patent may become more or less valuable.

To maintain the exclusivity afforded by a utility patent, the patent owner must pay periodic maintenance fees. Under the current laws and regulations, these fees must be paid not later than four, eight, and twelve years from the date of issue (and should be paid no later than 6 months prior to those dates in order to save money based on the Patent Office's current fee schedule), or all patent rights will be lost. In some cases, if a patent does not appear to be commercially valuable, the owner may choose not to pay the maintenance fee and thereby to let the patent lapse.

H. OWNERSHIP ISSUES: THE EMPLOYED INVENTOR

1. Who Owns Inventions Made at Work?

The inventor of a patentable invention normally will own the invention, the patent application and, ultimately, any issued patent. Employed inventors are in a different situation. If they have been “hired to invent”, that is, hired specifically for the purpose of inventing products or methods of the type which they did create, then the invention ordinarily will belong entirely to the employer, and the inventor is not entitled to any rights in the application or the patent nor to receive any special payment.

In other situations, where an inventor who was not hired to invent nonetheless uses the

employer's time and materials to invent, the resulting invention will ordinarily belong to the inventor himself, but the employer will often have what is called a "shop right" to use the invention, without paying the inventor anything.

Even where an inventor might otherwise have sole or part ownership of an invention that relates to the employer's business, trade secret laws (discussed in our "Trade Secrets" article) can prevent employees from exploiting those inventions.

2. Changing the Usual Rules: Creating Employer Rights in Inventions

In most U.S. states and territories, employers can give themselves additional rights in their employees' inventions by use of employment contracts and invention assignment agreements. Several states, including California, Illinois, Minnesota, North Carolina, and Washington, have laws that restrict the terms of such agreements, to protect employees, while at least one state's statutes suggest exactly the opposite result, giving more rights to employers. Thus, if an ownership issue arises, it is important to review the laws of the states involved. From a planning perspective, it is important for employers concerned with these issues to consult counsel to draft appropriate employment agreements, before disputes arise—and then to use these agreements consistently and appropriately.

In North Carolina, employers can require employees to assign to their employer all inventions which were developed in whole or in part during the employee's work hours; or which were developed with the employer's facilities, supplies, equipment or trade secret information; or which relate to the employer's business or to its present or demonstrably anticipated research or development; or which result from any work performed by the employee for the employer. In addition, employers may require that their employees grant all rights in certain inventions to the United States government.

Employers also can require that employees *disclose* all their inventions. This allows the employer to make its own determination whether the rights should belong to the company, the Federal government, or the inventor.

Attorneys experienced in the field best handle drafting and interpreting employment agreements. Restrictions on employees often are not favored. Overly broad agreements, even those which are acceptable in all but one respect, can be entirely invalidated by the courts. Properly drafted, however, and signed by employees who received something of real value in exchange (continuation of an existing employment relationship ordinarily is not enough), such agreements can be a significant business asset.

I. COMMERCIALIZING THE INVENTION

Patents have a big gold seal with a red ribbon and look attractive, but their value is not as wall decor. It is difficult to market unpatented technology, because such technology gives little competitive advantage. Even if the technology is not known to competitors initially, once an unpatented product is placed on the market, it usually can be copied freely. Unprotected ideas

may give a head start, but that usually is all.

A patent, however, gives the patent owner and anyone he may license, a monopoly over the patented technology. Even a pending application, because it gives rights of priority, typically adds value to an invention and enhances commercialization opportunities.

1. Selling or Licensing the Rights to an Invention

A patent owner can license or assign (sell) the patent rights. The owner of a patent application, or even of an unpatented invention, also can license or sell those rights. Rights in inventions frequently are licensed or assigned (sold entirely), at royalty rates ranging from two percent to six percent in the manufacturing industries, or even more depending on the industry, the nature of the invention, and the terms of the license.

It is important to recognize that joint owners of a United States Patent have the right to exploit the patent *independently*, ordinarily without any obligation to the other owners unless there is an agreement to the contrary. Thus, unless there is an agreement to the contrary, joint patent owners can compete with each other in seeking licensees and need not share any income they receive. That principle remains true even if the one receiving the greatest income actually contributed least to the invention. In contrast, joint owners of foreign patent rights typically are required to act jointly. The American result is not the one most co-inventors expect, and can result in unanticipated competition from one who was thought to be a trusted colleague. Properly drafted agreements can help avoid disagreements and resulting diminution in patent value. (Our article on agreements provides further assistance in this area.)

It is not uncommon for licenses to be signed after a patent application has been filed but before the patent issues. These licenses are based on an expectation that some type of patent protection eventually will be granted. Often such licenses include a provision that a lower royalty (or even no future royalties) will be paid if patent protection is not obtained. Licenses sometimes are entered, or inventions sold, even before any application has been filed, based on trade secrecy and the inventor's providing information of value to the recipient.

The United States Patent and Trademark Office publishes a listing of United States patents that are available for licensing or sale. Inventors who have no other contacts may choose to try this avenue of publicizing the availability of their patent rights.

2. License Terms

In negotiating any license, the patent owner must consider a whole host of very basic considerations, including such issues as:

- whether to grant exclusive rights (so that the invention can be exploited by one and only one licensee) or nonexclusive rights;
- what type of payment provisions to include (for instance, a lump sum payment or an advance and then regular royalty payments based on sales);
- whether future patent rights also are included in the license;
- what kind of ongoing long-term relationship, if any, the patent owner wants with

- the licensing company; and
- how long the license should last, and what should trigger any premature end to it.

All of these issues, and more, will affect the patent owner's future income and options. No agreement should be signed, not even a "letter of intent", before it has been reviewed by an experienced attorney. Many inventors have learned to their sorrow that "letters of intent" were binding, and unfavorable, contracts.

J. ENFORCEMENT OF PATENT RIGHTS

1. "Patent Infringement"

Patent infringement occurs when someone makes, uses, offers for sale, or sells a patented invention without permission of the patent owner, during the life of the patent. Those who assist an infringer can also be considered infringers, under theories of contributory infringement and vicarious infringement.

2. Remedies for Infringement

Patent owners and the holders of exclusive patent license have the right to sue infringers.

U.S. patent statutes provide very harsh penalties for willful violations of patent rights, and our federal courts are able to enforce these. Even if the infringer can show that the infringing product or process was developed without knowledge of the patented product or process, the infringer still is subject to suit.

If the court is satisfied that infringement occurred, the infringer may be ordered to stop making the infringing product, or to stop using the infringing process. In addition, the infringer may be required to pay the patent owner an amount equal to all the damages caused by the infringement. Damages can include lost sales and even loss of sales of related products, if this can be proven to have occurred due to the infringement. If the patent owner has not lost any money, but the infringer has made or saved money, the damage award may be based on these benefits to the infringer.

The damages awarded can be trebled in appropriate cases, and the infringer also can be ordered to pay the patent owner's attorneys' fees.

3. Prerequisite for Relief

The patent owner will not be awarded any money, unless the infringer "knew" that there was a patent on the item or process. Actual knowledge is not required; the patent law provides ways for the patent owner to give legal notice to the whole world. Where a patent covers only a method of carrying out a process, marking is not required and the existence of the patent is sufficient. For patents covering products, or both methods and products, additional notice must be given—either on the product itself (by putting the word "Patent" or the abbreviation "Pat"

followed by the patent number; or virtually, by putting “Patent” or “Pat” followed by a web address, and then listing the patent number at that web address). If for some reason the patent owner failed to give notice when required to do so, notice can be given by a letter advising of the existence of the patent. Such letters must be carefully drafted. Otherwise they can result in a lawsuit before the patent owner is ready, in a part of the country the patent owner did not choose.

4. Period for Which Damages Can Be Awarded

The damage award may include all damages incurred from the date the patent issued or, if later, the date the infringer received notice of the patent’s existence—for as much as six years prior to the date suit is brought. It used to be the case that no damages could be awarded for any period before a patent actually issued. However, if an application has been officially published by the Patent Office prior to issuance of a patent, the patent owner may be entitled to a “reasonable royalty” for any infringement that occurred between the publication date and the date the patent ultimately issued. Pre-issuance damages are assessed only if the earlier-published claims are substantially the same as those that ultimately are granted. This is why some applicants opt for early publication of their applications, as discussed earlier, and why it is so important to work closely with the patent attorney on the form of the claims if infringement is suspected while the application still is in process.

K. DEFENDING AGAINST CLAIMS OF PATENT INFRINGEMENT

1. What to Do When Sued or Threatened with Suit

A claim of patent infringement should not be taken lightly, and competent counsel should be consulted at the earliest opportunity. If threatening letters or verbal accusations are received, it is not wise to wait until suit is actually filed. As noted above, the damages that can be awarded can be substantial, and an injunction could put a product line, or even an entire firm, out of business.

2. Defenses and Other Options

Patents are, by law, presumed valid. Nonetheless, there may well be valid defenses to the claim of infringement. For instance, it may be that the claims of the patent, which define the scope of the protection granted, do not actually cover the allegedly infringing product or process. In that case, there is no infringement. Even if infringement is clear, there may still be defenses related to the patent’s validity. A defense of invalidity attempts to show that for some technical or legal reason, the patent issued should not have been allowed and it is, in fact, an invalid patent. If either non-infringement or patent invalidity is proven, then infringement has not occurred and the suit must be dismissed. Other defenses also can be explored by counsel, depending on the facts of the specific case. For example, a law passed in 1996 gives physicians an exemption from infringement liability in many cases when they use patented medical or surgical procedures to treat their patients.

In appropriate cases, the old adage that “the best defense is a good offense” may come

into play. Counsel may, with that in mind, recommend taking advantage of Patent Office procedures that allow defendants to seek re-examination of the patents that have been asserted against them. Such proceedings have one very significant advantage: the Patent Office does not observe the presumption of patent validity. Thus, where an investigation locates publications and other disclosures that may precede the priority date of a patent, or where it appears that a business method patent fails to meet the standards established by the courts for patentability, counsel may advise seeking re-examination of the patent in suit, and asking that the court halt the litigation until the Patent Office has finished its own evaluation.

While a patent defendant should not give up hope when sued, it would be foolhardy not to seek counsel promptly. Litigation has increased at a rate of slightly over 6% per year since 1991, fueled by the willingness of judges and juries to award damages where warranted. Most patent cases settle before trial; those that are tried can result in hefty awards. Damage awards are increasingly scrutinized, but those that are well-founded are sustained.

L. SUMMARY

The holder of a valid U.S. patent can prevent others from making, using, or selling the invention in the United States for the life of the patent. The patent owner ordinarily may make, use or sell the patented item or process, or license others to do so, so long as he does not infringe the prior patent rights of others. Stringent remedies are available against infringers, which enhance the value of the patent owner's exclusive rights. While obtaining patent rights can be a fairly lengthy and somewhat expensive process, these rights can be the backbone of a business and ensure an exclusive position in the market.

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