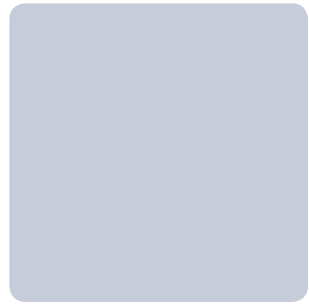
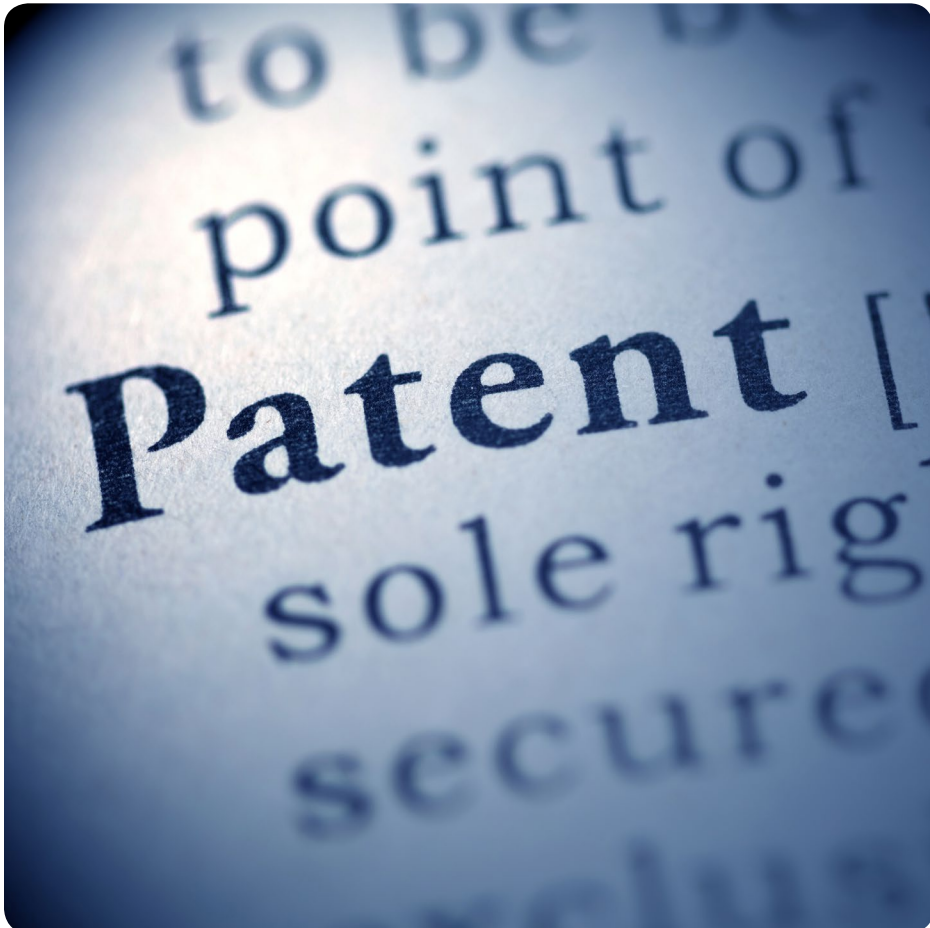
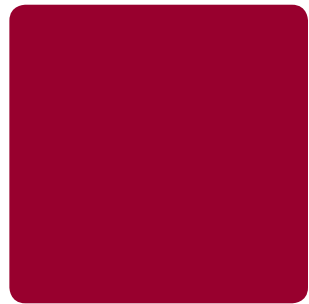


## Basic Information Regarding U.S. Patents



## Table of Contents

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Basic Information Regarding U.S. Patents .....	1
What Is A Patent? .....	1
What Can Be Covered By A Patent? .....	2
Who May Obtain A Patent? .....	3
How Does An Inventor Obtain A Patent? .....	3
When Should An Inventor Apply For A Patent? .....	5
Costs .....	5
Summary .....	6

## Basic Information Regarding U.S. Patents

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The following is a basic introduction to U.S. patents, designed to help inventors decide whether it would be worthwhile to pursue a patent in the U.S.

### What Is A Patent?

A U.S. patent is an official document from the U.S. government granting to the recipient, called the patentee, specific rights identified in the document and in the U.S. patent statute. These rights are known as patent rights and are defined in the statute (35 U.S.C. § 154) as “. . . the right to exclude others from making, using, or selling the invention throughout the United States.” The key phrase in the statute is “exclude others.” Thus, a patent is a grant of intellectual property rights by the United States which permits the patent owner to stop others from exploiting a patented invention for a limited term.

A patent document includes three essential components: a specification explaining the patented invention; drawings of the invention; and claims defining that which the patent right covers. The claims of a patent are of greatest significance for defining the extent of the intellectual property right granted by the U.S. government.

It is also important to realize that a patent confers no positive right to make, use, or sell the invention. What is granted is strictly the negative legal right to exclude others. A new product may be patented, but governmental regulatory approval may still be required before the patented product can be marketed. Furthermore, the grant of a patent does not assure that practice of the patented invention will not infringe a patent owned by another. For example, a patent might be granted for an improvement to a previously patented device, but practice of the improvement invention might still infringe the claims of the earlier patent on the device. Similarly, when a patent expires, it is not always true that the patented product may be freely exploited by anyone. There could exist another unexpired patent having claims that would be infringed by making or selling the product covered by the expired patent.

The geographic extent of enforcement of a U.S. patent is limited to the fifty states and U.S. territories and possessions. Thus, a U.S. patent provides no exclusive rights in Canada, Japan, Europe, or in any other foreign country, but the importation of products from abroad that infringe a U.S. patent may be stopped, if the infringer is sued here. In some circumstances, importation of a product made by a patented process may also be blocked.

A patent is not self-enforcing. The government will not take any enforcement action on behalf of the patent owner. The government simply grants the right to exclude and leaves it to the patent owner to enforce their right (or choose not to). The government's role in case of a violation of rights is to provide the federal judicial system where a lawsuit can be brought.

### What Can Be Covered By A Patent?

Once an inventor determines that there is a potential market for a product or process, and business judgment suggests it should be commercialized and exclusive rights sought for the invention, the question is: can the invention be patented?

Not every invention is patentable in the United States. To be patented, an invention must fall within certain statutory categories. Utility patents are granted on new and useful inventions or discoveries of:

1. Processes,
2. Machines,
3. Manufacturers,
4. Compositions of matter,
5. Processes involving new used of known processes, machines, manufactures or composition of matter, and
6. Improvements in any of the above.

They also cover asexually reproduced plants. Utility patents have a term of 20 years from filing (17 years from issue for some older patents and applications). Design patents are granted on a new, original and ornamental design for an article of manufacture. These have a shorter (14-year) term. Utility patents are the focus of the remainder of this memo.

The U.S. Patent and Trademark Office (USPTO) has generally expanded the limitations of these invention classes to keep up with technology. Inventions relating to living organisms, computer software (in some forms) and business methods (particularly those implemented in computers) have been found patentable. Recently, the patentability of some software and business methods (particularly those that can be characterized as abstract ideas), has been called into question.

Understanding what kinds of developments may be patentable (if they meet the other requirements of the law) can be aided by identifying some things that are not patentable. Subject matter not patentable includes information printed on paper for human (as opposed to machine) reading, perpetual motion machines, promotional schemes, intended results or desired goals, bare functions (without apparatus), vague or abstract concepts or ideas, and laws of nature (as distinguished from devices applying such laws).

For any invention for which a patent is sought, there are three general requirements for patentability that the invention must satisfy. A patentable invention must be (1) new or novel, (2) useful, and (3) not obvious. The “useful” requirement is easily understood. The “novelty” requirement means simply that the subject matter as a whole has not existed before. The non-obviousness requirement is more difficult. The section of the statute involved (35 U.S.C. § 103) states:

A patent... may not be obtained... if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains.

To determine the “obviousness” of an invention, one must first identify the prior art, i.e., what others have done before. Locating the most pertinent prior art is not easy, in view of widespread technological activity around the world. As a practical matter, one can never be totally certain of having located the most pertinent prior art; there is simply too much technical knowledge and too many publications. However, a determination of patentability requires some comparison to known prior art. A preliminary search can be done to locate prior art and to guide the patentability judgment. The USPTO website database at [www.uspto.gov](http://www.uspto.gov) has a collection of issued patents and one of published patent applications that anyone can access who wants to do some of their own searching of patent prior art. Another source is [http://www.google.com/advanced\\_patent\\_search](http://www.google.com/advanced_patent_search).

Patentability is evaluated by asking whether or not the invention would have been obvious to a person of ordinary skill in the field who is aware of that prior art. Therefore, to be patentable, an invention must differ from the prior art in a way that is not just an obvious change or addition. In considering whether the invention involves such an “inventive step,” people may disagree on the abilities expected of the fictitious “person of ordinary skill,” on the content of the prior art, or on the conclusion that the fictitious person would reach. Any such disagreement can cause disagreement on the patentability of the invention in question. Thus, obviousness can be the most difficult requirement for patentability.

### **Who May Obtain A Patent?**

U.S. patents must list the name of each individual inventor of the subject matter claimed and may be granted only to the first and original inventors (or those asserting his/her rights). A person who merely recognizes the commercial merits of an existing product or who discovers it in forgotten prior art or in a foreign country may not properly receive a patent. It is common practice for employed inventors to assign patent rights to their employers. In that event, although the inventors must still sign the application, the employer controls the application process and owns the invention and any resulting patent.

The law recognizes that an invention may be made by one, two, or several persons. Accordingly, patent applications frequently name joint inventors. Problems may arise from joint inventorship. Specifically, unless there is an agreement or assignment of the patent to one of the inventors or to a third party (such as the inventors’ employer), each joint inventor has the right to exploit the invention with no duty to account to the other joint inventor or inventors for his/her actions. This is true regardless of the ownership percentage any one joint inventor may hold.

### **How Does An Inventor Obtain A Patent?**

The steps involved in obtaining a patent include preparing a description of the invention; optionally conducting a patentability search on the invention; preparing and filing a formal patent application in the USPTO; prosecuting the application in the USPTO; and, finally, issuing the patent.

As an initial step, the inventor should organize materials to begin the patenting process. The inventor can help his/her patent lawyer by preparing a written description, drawings, and perhaps a prototype, if practical. At a minimum, the materials should include a description of known relevant prior art inventions and a detailed description of the best mode of practicing the invention. If there are some likely alternative embodiments of the invention, those should be described also. The inventor does not have to detail each and every possible embodiment, but describing alternatives or modifications helps the lawyer to prepare patent claims adequate to provide good protection for the invention. The description and drawings should be clear and must be sufficient to instruct a person skilled in the art how to make and use the invention.

A good description and drawings need not be long. If the inventor isn't sure whether something should be included, he/she should put it in and let the patent lawyer decide whether or not to make it part of the patent application. If the inventor has relevant prior art documents, copies of these should be provided to the lawyer along with a description of their possible relevance to the new invention. Drawings prepared by the inventor should be clear and sufficiently detailed. It is helpful practice for the inventor to number the various parts of the invention and to key the numbers to the written disclosure. If alternative embodiments of the invention are described in the disclosure, then drawings should be submitted illustrating each embodiment.

If a model or prototype of the invention exists, it should be shown to the patent lawyer. If this is not practical, photographs of the prototype may be used. Concealing facts concerning an invention is not helpful and may result in an inventor getting an invalid or unenforceable patent at his/her expense.

Inventors may also want to work with their patent attorney to obtain a preliminary novelty search to locate the most accessible prior art for an evaluation of patentability. But to be economically reasonable, such a preliminary search is necessarily limited and less extensive than a search for evaluating the validity of an important, commercially successful patent. In some instances it may be reasonable to forego a search before filing a patent application. For example, if the subject matter is difficult to search, the product already has been scheduled for production, or the inventor has a thorough knowledge of the prior art, a preliminary search may not be cost effective, timely, or useful.

If a search reveals that the invention is not patentable, then the cost of filing a futile application will be saved. If the search reveals that the invention may be patentable, the references located in the search can be used to provide useful background information and indicate the possible scope of potential patent claims.

If the search reveals that a patent application can be recommended, then the patent attorney can be requested to proceed with a patent application. This is the document filed in the USPTO for the purpose of obtaining a patent.

The U.S. also permits filing of provisional patent applications. Provisional applications do not need to have claims and have no requirement as to form. Accordingly, provisional applications can be cheaper and quicker to file. These provisional applications are not examined. Rather, they establish a filing date and priority for the subject matter they disclose (assuming the description is sufficient to instruct a person skilled in the art how to make and use the invention). To get legal protection, the provisional applicant must file a non-provisional or regular patent application within one year of the filing date of the provisional application, and this regular patent application must be prosecuted to issuance. While provisional applications can provide an opportunity to establish an early filing date, that filing date is only applicable to the contents of the provisional application as submitted; material added at a later date in a non-provisional filing claiming priority of the provisional application will have only the later date as priority. Most importantly, an invention will have the early, non-provisional filing date only if it is fully disclosed (i.e., enabling disclosure, written description, and best mode requirements are met) in the non-provisional filing.

### When Should An Inventor Apply For A Patent?

Timing of filing is important, both as it relates to the activities of the inventor and the discoveries of others. A patent application is not proper until the invention has been fully conceived. At a time when the complete invention is fully, mentally worked out in an operating form, such that it can be described in such a way that others can make and use it, the inventor may properly pursue patent protection. An actual working prototype or reduction to practice is not necessary.

A U.S. patent application must be filed within one year after the invention is first described in any publication, placed on sale, sold, or used publicly. The general rule is based on the philosophy that the inventor abandons his/her patent rights if he/she does not file a proper patent application within one year from the earliest disclosure or commercial activity with respect to the invention or discovery. There are limited exceptions to the rule, as in the case of true experimental use to study or improve the invention.

As another timing consideration, any publication or public use of an invention that takes place before the filing of an application in the United States may bar the inventor from later obtaining a valid patent in many foreign countries. Most countries do not provide the one-year period of grace we have in the United States, but rather have an "absolute novelty" requirement. This means that a filing date must be established before any making public of the invention. The usual way to do this is to file in the U.S. and later use an international treaty to claim the U.S. filing date as the foreign filing date, which is permitted by the treaty when the foreign filing is made within one year of the U.S. filing.

An inventor may keep his/her invention secret for a long time (provided it is not commercially used) and still obtain a patent. However, a delay in applying for a patent may result in the loss of all patent rights to a second, independent inventor who files more promptly.

Generally, it is wise to keep careful, dated records of an invention and its development, which should be signed by a witness, and to file an application for a patent at the earliest practical time, preferably before any public description, or commercial development or public use of the invention.

### Costs

Costs for preparing and obtaining issuance of a patent application may vary widely. An example set of costs for filing and pursuing a utility patent application are provided here broken into several components:

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Initial searching and patentability report (optional): \$500 - \$2500

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Provisional application (optional): preparation, usually \$2000 - \$8000 (plus government costs)

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Regular utility application: preparation, usually \$8,000 - \$20,000 (plus government costs)

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Response to Office Action: preparation \$2000 - \$7500 (may involve additional government costs)

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USPTO Allowance review and Issue Fee payment: \$1000 plus government costs

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These application and response costs are only rough estimates. The ranges can be exceeded for inventions of particular complexity, situations where close prior art is involved, and other special circumstances. For design patents (ornamental designs) the preparation costs and government fees are generally much lower.

After a U.S. patent is issued, USPTO maintenance fees become due at 3.5, 7.5, and 11.5 years from issuance.

Foreign patent protection can involve significant costs, including annual annuity payments and translation and foreign attorney fees. Foreign patent protection details are beyond the scope of this discussion.

**Summary**

The preceding is only a brief introduction to the law and considerations surrounding the decision to file a U.S. patent. It may not address your particular situation. We urge any inventor, or employer of an inventor, making such a decision to consult with a patent attorney for specific advice. It is also important to realize that a patent may not be the best or the only form of legal protection for a planned business activity. Often it is worthwhile to consider how trade secret, copyright, trademark, or other intellectual property protection might apply.