

AN OVERVIEW OF THE UNITED STATES PATENT SYSTEM

(Note: Significant changes in United States patent law were brought about by legislation signed into law by the President on December 8, 1994. The purpose of this legislation was to implement the patent-related provisions of the General Agreement on Trade and Tariffs (GATT), to which the United States is a party. This summary attempts to cover the highlights of the pre-existing law and point out the areas in which the GATT implementing legislation substantially altered prior practice.)

1. What is a patent?

Prior to GATT, a patent could be defined as a grant by the United States government giving the patent owner the right for a specified period of time to exclude others from making, using or selling an invention within the United States, its territories, and possessions. As of January 1, 1996 (the effective date of this aspect of the GATT legislation), the definition of a patent will be expanded to give additional rights to the patent owner: the right to exclude others from *offering to sell* a patented invention in the United States and from *importing* a patented invention into the United States during the patent term. A patent obtained in the United States affords no protection in foreign countries.

2. Who may apply for a United States patent?

Anyone may file for a patent in the United States, regardless of age, sex, or nationality if the applicant is the true inventor of the subject matter claimed in the application. The applicant is required to sign the patent application and execute a sworn statement that he is the true inventor.

3. Who qualifies as an inventor?

In the first place, no one can be classified as an inventor under United States patent law without having been involved in the actual making of the invention. Employers and research sponsors who merely furnish funds are not inventors. But what about the technician who builds the invention in accordance with the ideas of another? Many people are somewhat surprised to learn that the technician is not an inventor either. The law deals with the issue of inventorship by dividing the inventive process into two distinct and separate parts: (1) conception and (2) reduction to practice. Only those persons who participated in the conception of the invention are considered to be inventors. Conception is commonly defined as the devising of a complete means for accomplishing a particular result. (For an expanded discussion of inventorship, please see the publication titled "Who is an inventor?" which is available from the UT Office of Technology Services.)

4. Can more than one individual be listed as an inventor on a United States patent application?

Certainly. An unlimited number of persons may be named as inventors in a single patent application, provided that each one of them meets the requirement of contributing to the conception of the invention. In fact, the law says not only must all persons named in the patent application be actual inventors, all the actual inventors must be named.

5. Is there more than one type of patent?

Although inventions such as the telephone and the radio come first to most people's minds when they think of patents, there are actually three different kinds of patents, each type carrying a different set of requirements:

- (a) Utility patent--This is the type of patent that the general public is most familiar with. It covers any new, useful, and unobvious process, machine, article of manufacture, composition of matter, or any new, useful, and unobvious improvement thereof.
- (b) Plant patent--This type of patent protects any distinct and new variety of plant (other than those which are tuber propagated or a plant found in an uncultivated state) which has been asexually reproduced.
- (c) Design patent--This type of patent covers any new (original) and ornamental design for an article of manufacture. The design patent protects only the appearance of the article and not its function or structure.

6. How long does patent protection last?

Prior to GATT:

- (a) Utility patents and plant patents were both granted for a term of 17 years from the date of issuance. The 17-year term applied to any patent that expired prior to June 8, 1995.
- (b) The 17-year patent term of utility patents was extendible under certain circumstances involving regulatory review (as by the Food and Drug Agency, for example) of a product covered by the patent before commercial marketing or use of that product.
- (c) Design patents were (and will continue to be) granted for 14 years from the date of issuance (as the GATT rules regarding patent term do not apply to design patents).

After GATT:

- (d) In general, the term of post-GATT utility patents and plant patents begins on the date of issuance and end 20 years from the date of filing. This rule applies to all United States patents that issue from patent applications filed on or after June 8, 1995.
- (e) The term of so-called "transitional" patents is automatically the greater of the old 17-year term or the new 20-year term. This rule applies to:
 - (i) all United States utility patents and plant patents that were in force (i.e., issued and unexpired) on June 8, 1995 (regardless of filing date); and
 - (ii) all United States utility patents and plant patents issuing on or after June 8, 1995 that are based on an application filed prior to June 8, 1995.

Even though the term of an existing patent may be extended for up to 3 years by the application of these transitional rules, the enforceable rights of the patent owner during that "bonus" term are limited with respect to activities of an infringer that began prior to June 8, 1995.

- (f) The availability of post-term extension for utility patents due to pre-marketing regulatory delay (see Section 6(b) above) remains unchanged under the new GATT legislation . However, under post-GATT rules, the 20-year patent term may also be extended up to 5 years for delays due to interferences (see Section 19 below), secrecy orders imposed for reasons of national security, and/or successful appeals to the Board of Patent Appeals and Interferences or the federal courts. Any extension available under the new rules is *in addition to* any extension available for pre-marketing regulatory review as provided in existing law.

7. Does the holder of a patent continue to have any control over the use of his or her invention after the patent expires?

No. A patent is essentially a monopoly granted by the government for a limited time in order to induce individuals to freely disclose their inventions for the benefit of the general public. In order to preserve and protect the public

benefit, the law provides that free use may be made of any invention covered by an expired patent. In addition, the law provides penalties for patent misuse, which includes among other things the attempt to restrict use of an invention beyond the life of a patent.

8. What criteria must an invention meet in order to be deemed “new” for patent purposes?

The United States follow what is sometimes called a “first-to-invent” standard. In other words, the applicant for patent must not merely be an actual inventor in the sense that he did not knowingly copy the work of another. The applicant must be the first inventor and not have abandoned, suppressed or concealed the invention. Even though an individual conceives an invention all by himself, and it is entirely original to the best of his knowledge, a patent will be denied if his invention can be found in the prior art, defined to be every bit of information that is accessible to the general public. In general, an invention is considered to be old, and therefore not patentable, if it was:

- (a) known or used by others in this country before being invented by the applicant for patent, OR
- (b) patented or described in a printed publication in the United States or a foreign country before being invented by the applicant for patent.

9. Can an inventor accidentally cause his own invention to become a part of the prior art before a patent application is filed?

Yes. Unfortunately the following situation commonly arises: An inventor is anxious to tell other people about his invention so he publishes a paper or freely allows others to use his invention. By the time he finally gets around to filing a patent application, his invention has been accessible to the general public for over one year and therefore a part of the prior art. The inventor by his own action has inadvertently forfeited all right to patent protection.

10. When must a patent application be filed in the United States?

In order to preserve his rights, an inventor must file a United States patent application within one year after his invention is in public use or on sale in this country AND within one year after being patented or described in a printed publication anywhere in the world.

11. Do the same rules apply in foreign countries?

Generally not. In most foreign countries, a patent application must be filed prior to publication or other public disclosure of the invention in order to preserve patentability. This does not mean, however, that the foreign application must be filed prior to public disclosure--a timely-filed United States application will suffice to preserve for one year the ability to file a foreign application with no loss of rights.

12. What is meant by the requirement that an invention must be useful and unobvious?

In addition to meeting the novelty requirement, an invention must also meet certain requirements of utility and unobviousness in order to be patentable. In order to be deemed “useful”, an invention must have at least one significant or beneficial use. This rule has been construed by the courts to mean that it must also have at least one moral or legal use as well. With regard to drugs, the utility requirement also includes a certain minimum level of safety. In order to meet the requirement of “unobviousness”, the subject matter of the invention as a whole must not have been obvious at the time the invention was made to a person having ordinary skill in the art. Because of this requirement, mere changes in color or size, or substitution of one material for another are ordinarily not patentable

because they are deemed obvious. Keep in mind that although a new use for an old article may form the basis for a patent, the new use must also be unobvious.

13. What goes into a patent application?

- (a) **Specification:** This is the first part of the application. It contains a description of the invention that is so precise and complete that it will enable any person who is skilled in the art to make and use the invention without undue experimentation. It must also contain a description of the best mode known to the inventor for carrying out the invention.
- (b) **Claim(s):** Each claim consists of one complete sentence, the purpose of which is to inform the public of what will infringe the patent. A claim is essentially a metes and bounds description which encapsulates the invention and distinguishes it from all prior art. Because there is precise type of vocabulary and sentence structure that is used in patent claims, an inventor is creating a very real risk that his patent will be denied if he attempts to draft patent claims on his invention himself, although he is allowed to do so by the patent office.
- (c) **Drawing(s):** A drawing is usually required for patent applications involving apparatus and articles of manufacture, and may be required by the patent Examiner for almost any type of subject matter. The patent office has very specific requirements for the size and quality of drawings, and therefore, should normally be done by a draftsman with experience in this area. Plant patent drawings should be artistically executed, and must be in color if color is a distinguishing characteristic of the new variety. Photographs are now accepted for plant patents.
- (d) **Oath:** The patent application also must contain the inventor's oath that he believes himself to be the original and first inventor of the subject matter claimed in the application.
- (e) **Filing Fee:** The fee for a utility patent is \$750, for a design patent it is \$330, and for a plant patent \$520. These fees are reduced by half if the applicant has small entity status. Other fees such as surcharges for filing an incomplete application may also be assessed.

14. What is a provisional application?

The GATT legislation created an entirely new type of patent application called a "provisional application" which has several important benefits: It has minimal legal and formal requirements; it provides a mechanism whereby applicants can quickly and inexpensively (in terms of patent office fees) establish an early effective filing date; and it provides up to 12 months to further develop the invention, determine marketability, acquire funding or capital, and seek licensing or manufacturing. This aspect of the GATT legislation took effect on June 8, 1995.

A provisional application (like a "regular" patent application) must be made in the name of the inventor(s) but (*unlike* a regular patent application) there is no requirement that the inventor(s) file an oath. A provisional application cannot mature into a patent, it is not examined, and by law it will automatically go abandoned no more than 12 months after filing. This means that in order to take advantage of the early filing date of the provisional application, the applicant must file a "regular" application within one year. If a patent issues, its term will be measured from the filing date of the "regular" application instead of the provisional application, in effect giving the patent owner 21 years from start to finish instead of 20.

The requirements of a provisional application are:

- (a) a specification (description of the invention);
- (b) drawings (where necessary for the understanding of the invention);

- (c) a filing fee in the amount of \$160 (unless the applicant is a small entity in which case the fee is \$80); and
- (d) a cover sheet identifying it as a provisional application.

15. What happens to a patent application when it gets to the Patent and Trademark Office?

Each patent application is assigned to the specific group of Examiners who are in charge of the class of patents that the invention falls into. Applications are normally taken up for examination in the order they are filed, so usually no further action will be taken for several months due to the backlog of pending applications. When the Examiner does begin his examination, he will first study the application to make sure that all the legal requirements have been met. If so, he will then make a search of the prior art and make a preliminary decision. By a document called an Office Action, the Patent and Trademark Office will notify the inventor or his patent attorney of the Examiner's decision. In the vast majority of cases, the first Office Action will be a rejection. The inventor will then have between 30 days and 6 months to respond to the rejection by pointing out the errors in the Examiner's reasoning. The application will then be reexamined, and the inventor will receive a second Office Action, which is usually made final. If it is a rejection, the inventor may then appeal or file a continuation application to preserve his rights.

16. What happens if the Examiner decides that a patent should be awarded?

The U.S. Patent and Trademark Office will send the inventor what is called a Notice of Allowance. At this point the inventor may request that any errors in the patent be corrected. To cause the patent to actually issue, the inventor must pay an issue fee within three months. About three or four months after the Patent and Trademark Office receives the issue fee, the patent will issue and a record of it will be made available to the public. The issue fee for a utility patent is \$1300, for a design patent \$470, and for a plant patent \$630 (all reduced by half for small entities).

17. What about maintenance fees?

Maintenance fees must be paid at specified intervals in order to keep utility patents (but not design patents or plant patents) in force. In general, these fees are due 3 1/2, 7 1/2, and 11 1/2 years after the issue date of the patent, but upon payment of an additional surcharge, they may also be paid at any time during a six-month grace period after the due date. Unless each maintenance fee (and any applicable surcharge) is paid by the end of the grace period, the patent will expire automatically on the 4th, 8th, or 12th anniversary of the issue date, as the case may be. Currently, the first maintenance fee is \$890; the second is \$2050; and the third is \$3150. All maintenance fees are quoted without surcharge and are reduced by half for small entities.

18. Are pending patent applications open to the public?

No. Strict secrecy is maintained over all patent applications until the patent actually issues. At that time the Patent and Trademark Office makes its complete file on the patent available for inspection by anyone who is interested.

19. What happens when two or more inventors apply separately for a patent on substantially the same invention?

If the invention is patentable, a proceeding known as a patent interference will be declared by the Patent and Trademark Office to determine who is the first inventor. Each party to the interference must present evidence to prove the date on which he made the invention. Any party who is unable to produce such evidence will not be

allowed to claim a date of invention which is earlier than the date on which his patent application was filed. In the simplest situation, the person who proves that he conceived the invention first will prevail; however, under complicated factual situations the first to conceive may not be determined to be the first inventor for patent purposes. Since conception and diligent reduction to practice determine who is entitled to the patent, it is very important that the inventor keep good records.

20. Who can own a patent and what rights does a joint owner have?

Any number of persons may own a patent jointly. For example, each inventor initially owns an undivided part interest with his co-inventors or with their assignees. Ownership of a fractional portion of a patent, however small, entitles that owner to make, use and sell the invention for his own profit without accounting to his co-owners for any royalties that he receives. In the absence of a contract to the contrary, he can also sell all or part of his interest in the patent or license his rights under the patent to third parties, all without regard to the other owners. For this reason, the assignment or sale of a fractional portion of a patent is very dangerous unless there is a binding legal agreement between the co-owners specifying their respective rights and obligations.

(NOTE: All fees quoted became effective on January 1, 2003, and were current as of July 1, 2003, but may change periodically.)

FOR ADDITIONAL INFORMATION: This brief overview of the United States patent system does not purport to cover the subject in sufficient depth for an inventor to make an informed decision concerning the patenting of an invention. For additional information, faculty and staff of The University of Tennessee are invited to contact the University of Tennessee Research Foundation by phone at 865.974.1882 or at the following address: 1534 White Avenue, Suite 403, Knoxville, TN 37996-1527.

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