

AN INTRODUCTION TO PATENTING IN THE UNITED STATES

Some basics; and an update on the America Invents Act or “AIA”

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WHAT IS A PATENT?

A patent is a grant by the U. S. Patent and Trademark Office (the “PTO”) of the right to exclude anyone besides the inventor or the owner of the patent from practicing the invention defined in the patent document. The grant is provided to an inventor who discloses the invention to the Patent Office in a detailed, written Application for Patent that survives an examination when compared against the prior art.

The examination of the application seeks to determine whether the invention is for subject matter that can be patented, whether it is novel, and whether it is “non-obvious” to other persons with “ordinary skill” with the same type of subject matter. See 35 U.S.C. §101, §102 and §103 respectively. This examination is performed by a trained examiner who searches for the most relevant prior art –usually other patents, patent applications, published articles, or other evidence that the same invention existed before the inventor filed his or her patent application.

Subject matter that is eligible for a “Utility Patent” includes things that have utility such as “any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof.” 35 U.S.C. §101. A “Design Patent” can also be granted for “a new, original and ornamental design for an article of manufacture.” 35 U.S.C. §171. Also, a “distinct and new variety of plant” that is asexually reproduced may be eligible for a “Plant Patent.” 35 U.S.C. §161.

Several kinds of subject matter that cannot be patented include a law of nature, a physical phenomenon, or an abstract idea such as a purely mental process or an algorithm, which all lie outside of the definition of Utility Patent because they are either naturally-occurring concepts or something that in-and-of-itself provides “no useful, concrete and tangible result.” *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368, 1373-74 (Fed. Cir. 1998). Those examples do not themselves have utility.

When a patent application is allowed by the examiner and the applicant pays the required fees to the Patent Office to issue and publish the patent document, the patent is printed and bound in a high quality booklet and sent to the applicant. The cover page bears the name and number of the patent, the name(s) of the inventor, and the date the patent was issued. A patent is a legal document that defines a personal property right of the owner and may have substantial value. It is analogous to a deed for real property, may be recorded in the PTO, and should be kept in a safe place.

A patent has a limited term. The grant of a patent lasts until it expires 20 years after the application for the patent was filed, as long as the applicant or owner pays the required maintenance fees that are due at four year intervals after the patent issued.

While a patent application is pending in the Patent Office, the applicant may include the legend "Patent Pending" on the article that contains the invention to be patented. Once the patent is granted, the applicant should mark the article with the patent number or the legend "Patented," or "U. S. Patent," to notify the public that the article is patented.

WHAT ARE THE BENEFITS OF A PATENT?

The basic right embodied in a patent is the right to exclude others from using the invention without prior authorization of the patent owner. This right is limited to the term of the patent, that is, until the patent expires. Patents are a valuable asset of a company whose products are covered by patents it holds, which may include patents it owns or that are licensed from others. These assets are taken into account in the economic valuation of the company. A patent or a portfolio of patents is evidence of a strong technological position in a market or industry. Patents can also provide a source of revenue (royalties) through licensing to others of the technology covered by the patent.

Other benefits are that patents provide competitive advantage in the marketplace through their value as a deterrent against a would-be competitor. This is one reason for marking the product as being patented. Patents are an aid to marketing a covered product or method. Patents also enable a defensive position of the owner against the aggressions of a competitor through cross-licensing. Further, patent damages in case infringement is proven can be substantial.

In a true story, a patent was used to protect a local company's computer modem manufacturing in the early 1990s. The modem product was a low cost unit that was subject to a license that required a royalty payment that was a larger % of the selling price than could be sustained. One of the company's engineers studied the patent of the licensor, and invented a way to make its modem so that it did not need the license. That company obtained a patent on that invention and was able to preserve its market for the modem product.

WHAT ARE SOME EXAMPLES OF A PATENT?

One famous example is U. S. Patent No. 223,898 issued January 27, 1880 to one T. A. Edison for the *Incandescent Lamp*. (See illustration) Although others had conceived various kinds of electric lamps as many as 45 years before Edison, his was the first practical electric lamp, and an invention that had great utility.

Another example, one that many would unhesitatingly categorize as frivolous or even dangerous is U. S. Patent No. 606,887 issued July 5, 1898 to J. B. Campbell for an apparatus for

Electric Extraction of Poisons. (See illustration). This invention, when the potential hazard of passing an electric current through a person's body is considered, is at best dubious.

The U. S. has granted well over eight million patents since 1836 when patents were first issued with individual serial numbers. Most, like the first example have the requisite utility and are not dubious or crazy as in the last example.

The late 1800s were a time of innovation in the United States for other articles that are still in use today. G. B. Seldon's *Road Engine*, U. S. Patent No. 549,160 issued in 1895 (See illustration) is generally considered to be the first invention of the automobile in the United States. *A Clasp Locker or Unlocker for Shoes*, U. S. Patent No. 504,038 issued in 1893 to W. L. Hudson (See illustration), is widely known today as the zipper.

WHEN IS AN IDEA PATENTABLE?

Inventors occur in all walks of life. Some are individuals, some are employees or owners of small businesses who discover a useful idea in the course of their business, and others work for large corporations that rely on innovation to remain competitive. Inventions most often occur as the result of confronting some problem for which no apparent solution is known to exist, or one that exists cannot be used for reasons of cost or that the available solution has significant disadvantages.

Thus, finding a solution to the problem that is *new and original* may be eligible to be patented. Sometimes it is said "why didn't someone think of this before?" This is an indication that the idea is *not obvious*; otherwise someone would have thought of it before. Such ideas are the result of insight into the problem and its aspects. It is a creative act to see a new way to assemble several components or to arrange the steps of a process or to eliminate or replace something that is not necessary or is a hindrance to the desired function.

When this "Aha moment" happens, it is time to write down a description of the problem and the solution and the date the idea came into being. This description, which will usually include drawings or other illustrations, is an important record. When shared with others this record is called a disclosure of invention. Before this is done, however, it is recommended to consult a patent attorney to evaluate what should be done with the idea before disclosing it to others.

WHAT'S INVOLVED IN GETTING A PATENT?

First, a word about your patent attorney. He or she is a licensed attorney who is also registered by the U. S. Patent and Trademark Office to represent patent applicants. Registration means this attorney is also qualified to represent inventors because their educational background is in engineering or science and they have demonstrated competence in the complex procedural aspects of getting a patent. These qualifications are required to properly perform the preparation,

filing, and prosecution (representing the inventor before the Patent Examiner) of the application for a patent.

A patent attorney is also experienced in advising an inventor about the patent process and understanding whether their invention is ready for patenting. Your patent attorney will probably begin by recommending a “patentability search” for prior art – to see if the same invention has already been patented. This is useful information for deciding whether the investment in the patent application process is economically feasible, and for determining the potential scope or breadth of the invention that might be patented.

If it is decided to proceed, a patent application will be prepared that includes a set of drawings, a detailed written description of the invention, and a set of claims that define the invention in legal language. A patent application, which is similar to a technical paper, is written by the patent attorney. Writing the application, preparing the drawings, and drafting the claims are time-consuming tasks. While this can be undertaken by the inventor, it is recommended that the job be left to a patent attorney.

When the application is submitted – “filed” – in the Patent Office, it is assigned a serial number and an examiner according to the type of subject matter described in the application. Then it is placed in the queue of applications awaiting examination by the assigned examiner. Usually, the wait is 1-1/2 to 3 years, and may be longer depending on the volume assigned to the examining group receiving the application. For applicants desiring examination and allowance within 12 months, and who are willing to pay a premium fee (\$2,400 for small entities), a new Prioritized Examination procedure is available. Finally, all applications remain confidential until published by the Patent Office 18 months after the date the application was filed.

When examination begins, the examiner will perform a patentability search and prepare a written opinion about whether he or she considers the claimed invention to be patentable as compared with the prior art found in the search. More often than not the claims are rejected as not being patentable. The written opinion, called an “Office Action,” is sent to the applicant or applicant’s attorney for response.

It is the applicant’s or the attorney’s duty to respond to the Office Action in a timely manner, typically within three months. The response usually contains carefully thought out arguments to counter the evidence in the prior art used by the examiner to justify the rejection of the claims. Sometimes it is necessary to amend the language of the claims to clarify the invention (avoid ambiguity) or to better distinguish the claimed invention from what the examiner opines is in the prior art found in his or her search.

If the applicant’s or attorney’s arguments are found to be persuasive, and matters of form are in proper order, the examiner will allow the application. Often it is necessary to go through several cycles of office action and response before agreement is reached on the patentability of the claimed invention. In some cases it may be necessary to re-file the application under a

procedure called Request for Continued Examination (RCE). Such request may be needed to overcome new grounds of rejection of the claims asserted by an examiner, usually when claims are amended by the applicant. Once allowed, the patent will be granted when the applicant pays the required issue and publication fees. The patent will be printed, bound, affixed with an official seal, and issued to the applicant.

THE AMERICA INVENTS ACT (“AIA”) ~ signed September 16, 2011 by President Obama

This statute, long anticipated, makes significant changes to the patent laws of the United States. The statute became fully effective March 16, 2013. The changes affect inventors, patent attorneys, and operations in the U. S. Patent and Trademark Office. The AIA is a comprehensive, detailed statute, with sufficient material to occupy lengthy dissertation about its many aspects. This presentation, however, will highlight some of the changes of most importance to inventors and their patent attorney representatives. Specific questions should be referred to a patent attorney for consultation in light of the particular facts of a matter or question.

THE FIRST-TO-FILE SYSTEM

A major provision of the AIA is to change the United States’ patent system from a “First-to-Invent” system to a “First-to-File” system. This change is made so that the patent system of the U. S. is more like that of the rest of the developed world, which uses the first-to-file system.

The new first-to-file system presumes the first inventor or applicant to file an application for an invention has the prior claim to that invention. The right of the inventor is determined by the date his application was filed, and whether, in a “derivation proceeding” in the Patent Trial and Appeal Board (PTAB), someone else made the invention. Under the old first-to-invent system, the presumption favored the first inventor who could demonstrate he was the first person to invent the thing sought to be patented. The right of the inventor in the old system was determined by a complex and lengthy procedure in the PTO called an “interference” between two pending patent applications, which among other things required a detailed review of the evidence of conception and diligence by the inventor in bringing the invention into being and filing a patent application.

First-to-file and first-to-invent are substantially different concepts, which greatly affects the kind of prior art that applies during the examination of the application for a patent. Please note this Disclaimer: The following paragraphs are summaries of the principle differences, and not to be construed as actual statements of the law. This discussion should be taken as an introduction to the statute.

PRIOR ART UNDER THE NEW SYSTEM

Under the old first-to-invent system, prior art included mainly (A) inventions known or used or patented or described in a publication by others anywhere, before the invention by

applicant; (B) inventions known or used or patented or described in a publication or were in public use or on sale in the U. S. more than one year before the filing date of the application; (C) the invention was described in a published application filed in the U. S. by another before the invention by applicant; or (D) the invention was described in a patent granted on an application filed by another in the U. S. before the invention by the applicant.

Under the new first-to-file system, which became effective March 16, 2013 and replaced the old system, effective prior art includes most kinds of prior art available to the public anywhere in the world, in any form, before the filing date of the applicant's patent application. There are exceptions, which have effective dates limited to earlier than one year before the filing date of the applicant's patent application. This in effect provides a "grace period" of one year for the inventor to file an application and covers (1) disclosures (in any form) of a claimed invention made by the applicant(s) or someone who obtained the disclosure from the applicant(s); or (2) the subject matter disclosed had been publically disclosed by the inventor(s) or someone who obtained the subject matter from the inventor(s).

Further, the effective filing date of patents or published patent applications as prior art is as of either (A) the earliest filing date of a "parent" patent application relied on for priority for the same subject matter in a later continuing or divisional (i.e., "daughter") patent application; or if (A) does not apply, (B) the actual filing date of the patent or patent application.

IMPLICATIONS UNDER THE FIRST-TO-FILE SYSTEM

One important conclusion to be drawn from this change to the "first-to-file" system is that inventors must (A) avoid disclosing their invention to others before their application is filed. Also, (B) it is recommended to file a provisional patent application as soon as the concept is clearly defined and at least one embodiment of the concept is visualized so that it can be reduced to a sketch. A provisional patent application is quick and inexpensive to file, and establishes an original filing date for the invention. The applicant then has one year to replace the provisional application with a complete "non-provisional" patent application.

One important practice under the old system that should be retained is for inventors and applicants to keep careful records of the development of the invention and documents associated with efforts to obtain a patent. These include records of all disclosures to others, confidentiality agreements with recipients of such disclosure, consulting agreements with persons hired to assist in the development and preparing and filing a patent application, assignments of rights in the invention, documents regarding offers for sale or licensing of the invention, and documents evidencing the sales of the invention or products or processes that embody the invention.

REVIEW OF ISSUED PATENTS

Another major provision of the AIA is to provide procedures for a review of issued patents involved in a patent infringement dispute where the validity of at least one claim of the

patent is challenged. There are two procedures, available to entities besides the patent owner (i.e., a third party), which take place in the Patent Trial and Appeal Board (PTAB) upon petition to the PTO. These petitions may be granted if it is likely that the petitioner will prevail on at least one claim of the patent. A Post Grant Review (PGR) of an issued patent having a priority date on or after March 16, 2013 is provided for reviews within 9 months of issue of the patent, and the petition can be based on any statutory grounds. An Inter Partes Review (IPR) is provided for petitions filed more than 9 months after the patent has issued. Grounds for challenge under IPR are limited mainly to prior art evidence of lack of novelty or that a claimed invention is obvious in view of certain prior art.

There are several advantages to these new procedures that should significantly lower the costs of challenging the validity of a patent and lead to faster resolution of disputes. First, the burden of proof (preponderance of evidence) is lower than it would be in litigation. Second, the patent owner is allowed to file a preliminary response. Third, the petition is decided within three months and a final determination is made within 12 to 18 months. Fourth, estoppel will apply before the US PTO, Federal District Court, or the US ITC on “any ground that the petitioner raised or reasonably could have raised during that post-grant (or inter partes) review.” No estoppel attaches, however, if the petitioner and the patent owner reach a settlement before the final decision of the PTAB is reached, or if a party withdraws or both parties request termination of the proceeding.

THIRD PARTY SUBMISSION OF PRIOR ART IN PENDING APPLICATIONS

The AIA left in place several other kinds of challenges a petitioner may make to a patent application or an issued patent. A third party petitioner may submit, in writing, relevant prior art for consideration in a pending patent application if before (a) a Notice of Allowance; or (b) the later of either 6 months after the publication date of the application, or the date of the first rejection of any claim in the application. In addition, a third party may petition the PTO in an ex parte Reexamination of an issued patent, an existing procedure untouched by the AIA.

SOME COMMENTS REGARDING SUBJECT MATTER

Several provisions in the AIA that are new affect the kind of subject matter for which a patent may be obtained. In one provision, inventions for “any strategy for reducing, avoiding, or deferring tax liability, whether known or unknown at the time of the invention or application for patent, shall be deemed insufficient to differentiate a claimed invention from the prior art,” and are therefore prohibited. AIA, Sec. 14(a). This prohibition does not apply to preparing tax returns or performing financial management.

Another new, but temporary, transitional provision of the AIA affects so-called “business method” patents. This provision, available to a defendant alleged to infringe a business method patent directed to financial activities (e.g., a financial services provider), may petition the PTAB for a transitional post-grant review of the validity of the “covered business method patent”

asserted against it. Covered are business method patents that claim “a method or corresponding apparatus for performing data processing or other operations used in the practice, administration, or management of a financial product or service.” Excluded from coverage under this provision is a “technological invention” for “claimed subject matter as a whole” that “(1) recites a technological feature that is novel and unobvious over the prior art; and (2) solves a technical problem using a technical solution,” as determined on a case-by-case basis in the post-grant review proceeding. See 37 C.F.R. §42.301.

To clarify these terms (and this is the author’s suggestion), one may begin by considering whether a business method is merely a sequence of steps of a mental process – such as a list of instructions or an algorithm for performing a service. Such a method is ephemeral – it is an abstraction that only represents the service. In contrast, if a method or process is performed by a particular machine or apparatus, such as a computer programmed to carry out the method, or the method or process transforms a particular article or thing to provide a tangible result, the method or process may be patent eligible. Even data, if it is changed in form to have a particular function or a different use, may be the thing transformed.

CONCLUSION

Patenting an invention is a procedurally rich process. This monograph reviews (A) what a patent is, what can be patented, and outlines the process by which a patent is granted; (B) the benefits of a patent; (C) some important examples of patents granted in the United states; (D) a discussion of when an idea may be patentable; and (E) what is involved in getting a patent, including the role of a patent attorney in preparing and prosecuting a patent application that leads to the grant of the patent.

The First-to-File system adopted by the America Invents Act (“AIA”) effects substantial changes to the U. S. Patent system including (A) the determination of who has priority to an invention; (B) the effective date and the identity and location of prior art that pertains to an invention; (C) the strategies of an inventor before applying for a patent; (D) the procedures available for challenging or reviewing the validity of an issued patent; (E) the procedures for submitting prior art materials that may be relevant to the examination of a pending patent application; and (F) several new approaches to determining what subject matter may be patented.