

BASIC UNDERSTANDING OF INTELLECTUAL PROPERTY

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BACKGROUND

A company or individual entering the world of business should maintain ownership of its innovative developments. These innovative developments generally take the form of intellectual property, which is broadly defined as protectable developments of the mind. A more formal definition of intellectual property is an intangible or proprietary asset such as a patent, copyright, trademark, or trade secret.

To better understand the various aspects of intellectual property protection, it is best to first understand that most intellectual property, particularly inventions, begins as a trade secret. Although patents may be the most common and well-known form of intellectual property, at its outset all forms of intellectual property begin as a trade secret. A trade secret is used to protect important business information that a business or an individual does not want to disclose to the public. In other words, to rely on trade secret protection, one must ensure that such trade secrets remain confidential. As a business develops, it becomes increasingly difficult to keep such information confidential; as such, the chances are that this information will become released to the public and protection will be lost. Therefore, it is important to understand various other types of intellectual property protection such as patents, trademarks, and copyrights.

TRADE SECRETS

The use of trade secrets to protect one's ideas is extremely important and can be considered an essential part of a business. However, to use trade secrets as a form of intellectual property protection, trade secrets must be kept confidential. Thus, for a business or an individual to use trade secrets, one must utilize extreme care not to release these trade secrets to the public without an appropriate nondisclosure agreement in place. In addition, it is essential that trade secret information be marked appropriately (e.g., "confidential," "proprietary," or "not for public release,"), and agreements must be in place to prevent employees from releasing the trade secrets to third parties, especially as the employees leave the business and are employed by others.

A major benefit of utilizing trade secrets as a form of protection for your intellectual property is that as long as the invention is kept secret, trade secret protection lasts indefinitely. A key disadvantage to protecting your intellectual property via the trade secret route is that if such trade secret information is released to the public, it is no longer protected and can be used by anyone. Furthermore, if someone else or another company develops similar information and has not obtained that information illegally (e.g., stealing such information from the originator), the independent originator also has the right to use that information. In the event of independent derivation, the original developer of this trade secret information has no recourse against the second and further parties who have independently developed similar information.

The inventor/creator/owner must decide how to protect trade secret information that could be released to the public. If the trade secret information is in the form of an idea that can be protected by the patent system, then patenting that invention can enable the inventor to prevent others from making, using, selling or importing the invention—even if the idea may have been independently derived. The following section initially deals with patent protection in the United States and later in this paper in other countries.

U.S. PATENTS

It is important to understand that the U.S. patent system has recently undergone a major change by the enactment of the America Invents Act (AIA), which was passed into law on September 16, 2011. The AIA has altered a basic concept of patent law, that is, from a reliance on obtaining a patent based on when the invention was invented to when the patent application was effectively filed, for example, in the U.S. Patent and Trademark Office (USPTO). More specifically, the United States has gone from a first-to-invent system to a first-to-file system. Although the law was signed on September 16, 2011, many of the more significant provisions of the Act became effective on March 16, 2013. At this time, and for some time to come, inventions can fall under either the pre-AIA (the old law) or the AIA law. Therefore, one must understand both patent law pre-AIA and under the AIA. The following section, which deals with patents as a form of intellectual property protection, begins with an explanation of the first-to-invent system and concludes with an explanation of the first-to-file system. The following information deals with patent protection in the United States. Later in this paper, a brief overview of foreign patent protection will be presented.

According to the provisions of Article I, Section 8, of the U.S. Constitution, Congress is empowered to "promote the progress of science and useful arts by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries." As a result, the USPTO has been provided with the authority to grant patents to inventors to provide legal protection for their discoveries, i.e., inventions. The inventor (also referred to as the "applicant" in the United States) may be either an individual or a group of individuals (more commonly referred to as joint inventors). The inventor(s) must be an individual and not a corporation, partnership, joint venture, or other legal business entity. A patent can be granted only to a person. An inventor may assign his or her rights in the patent to other individuals or legal entities such as corporations.

Three types of patents can be granted by the USPTO: 1) utility, 2) design, and 3) plant. The most common type of patent (thus, the patent most individuals are familiar with) is the utility patent. Therefore, this paper is directed to an understanding of the utility patent. Briefly, the design patent protects a new, original, and ornamental design for an article of manufacture, while the plant patent protects a new and distinct, asexually reproduced variety of plant. All further references to patents in this paper will be to the utility patent.

Title 35, Section 101, of the United States Code (U.S.C.) provides the statutory basis for determining the type of subject matter upon which a patent may be granted. More specifically, this section states "[w]hoever invents or discovers any new and useful process, machine,

manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of Title 35.”

As seen from the above law, which sets forth the statutory criteria establishing subject matter eligible for patenting, one does not have to invent a basic process, machine, (article of) manufacture, or composition of matter to obtain a patent, since an inventor of an improvement on any of the above statutory classes of inventions, as well as an unobvious combination of old elements, may also be entitled to a patent. This, however, does not mean that everything under the sun may be patented. For example, printed matter, things naturally occurring in nature, and pure scientific principles do not fall under the scope of subject matter for which patents can be granted.

As technology and the law change, the scope of the subject matter upon which a patent can be granted has come under more careful scrutiny. For example, the U.S. Supreme Court case *Diamond v. Chakrabarty*, 447 US 303, 206 USPQ 193 (1980), can be broadly interpreted to hold that anything manmade, in contrast to things which already exist in nature, is eligible for patent protection. Consequently, microorganisms produced by genetic engineering fall under the realm of patentable subject matter. Furthermore, an early (1981) U.S. Supreme Court case, *Diamond v. Diehr*, 450 US 175, 209 USPQ 1, suggested that software could be afforded patent protection, although the dissent argued that to comply with 35 U.S.C. § 101, an invention must not depend entirely on the use of a computer. A few years later, the Supreme Court, in *Arrhythmia Research Tech. v. Corazonix Corp*, 958 F.2d 1053, 1058 (Fed. Cir. 1992), stated a two-part test to determine whether a claimed algorithm was patentable subject matter. Continuing to define the meets and bounds of computer-related invention patent eligibility, in 1996 the USPTO issued guidelines for use by Patent Examiners to ensure uniform and reasonable examination of computer-related inventions (*Examination Guidelines for Computer-Related Inventions*, 61 Fed. Reg. 7478 [Feb. 28, 1996]). These guidelines do not have the force of law, but they indicate the USPTO’s understanding of the law. The guidelines are a significant change in the atmosphere surrounding software patents and form a progressive approach thereto.

State Street Bank & Trust Co. v. Signature Financial Group, Inc., 149 F.3d 1368, 47 USPQ 2d 1596 (Fed. Cir. 1998) overturned the “so-called business method exception to statutory subject matter” to further expand the type of subject matter upon which patents can be granted to include business methods. In *Eolas Techs v. Microsoft*, 399 F.3d 1325, 1338 (Fed. Cir. 2005), the Federal Circuit concluded that there was no practical difference between a software invention and a hardware invention, which conceivably could have eliminated the special treatment given “software” inventions heretofore. However, “software” inventions are still treated separately under some circumstances. Further, because computer-related inventions, business method inventions, and drug administration methods are often claimed functionally, the three very different types of inventions have, for some analyses, been conflated, and also called out for special treatment.

Bilski v. Kappos, 130 S. Ct. 3218 (2010), rejected the Federal Circuit’s machine-or-transformation test as the sole test for determining patent eligibility. *Bilski*’s claimed invention spawned interim guidance for determining patent eligibility for business method patents (“process claims”). In *Mayo v. Prometheus*, 132 S. Ct. 1289 (2012), a process for administering a

drug also failed to pass § 101 muster, since an element of its process was held to be a natural law and the other elements were held to be well-known. Clearly, although 35 U.S.C. § 101 defines the type of subject matter that can be patented, the specific interpretation of this section of the statute is left to the courts. At this time, the big questions surrounding functional claiming and computer-related inventions have been unsuccessfully addressed at the Federal Circuit en banc in *CLS Bank International v. Alice Corporation*, 717 F.3d 1269 (Fed. Cir. 2013). The U.S. Supreme Court has granted cert to Alice Corp. to appeal the Federal Circuit's ruling. Although a computer-related invention seems to be subject to enhanced scrutiny in the U.S., if the invention meets all applicable standards of patentability, it can be considered for patent protection. On the other hand, if foreign patent protection is desired, special attention must be paid to claim drafting. The European Patent Office (EPO) does not grant patents for computer programs or computer-implemented business methods that make no technical contribution (EPC Art. 52(2)(c) and (3)).

Once it has been established that an invention is directed to subject matter upon which a patent can be granted, then the responsibility for issuing a patent falls within the authority of the USPTO, and the decision to grant a patent will rest upon other statutory requirements. These other statutory requirements are considered later in this paper.

Contrary to the belief of many, the granting of a U.S. patent does not give the inventor or patent owner the right to make, use, offer for sale, sell, or import his or her invention, but only the right to prevent others from doing so, called an exclusionary right. A product patent provides its owner with the right, within the United States, its territories and its possessions, to prevent others from making, using, offering for sale, selling, or importing the protected invention. A process patent confers on its owner the right to prevent others from using the process and from using, offering for sale, selling, or importing the product obtained directly from the patented process.

However, there are many instances when an inventor may be granted a patent on his or her invention and yet, due to prior unexpired, more basic patents, be unable to make, use, offer for sale, sell or import the invention without obtaining permission, generally in the form of a license, from the holder of the unexpired basic patent. For example, if Inventor A is the first person to obtain a patent on a pail and at a later date Inventor B obtains a patent on an improved pail having a handle, Inventor B—although granted a patent to a pail having a handle—cannot make, use, offer for sale, sell or import the pail having the handle without obtaining permission from Inventor A, the holder of the more basic patent on the pail. Since Inventor A may find the pail unacceptable for sale to the public without the inclusion of a handle thereon, Inventor A may approach Inventor B with the idea of granting rights to one another in their respective inventions by cross-licensing their patents. In fact, Inventors A and B may even start a business together to produce and sell the desirable pail with a handle.

Once the term of a patent has expired, the patent is placed in the public domain and anyone may make, use, offer for sale, sell or import the invention described therein, as long as an unexpired patent is not infringed.

Effective June 8, 1995, as a consequence of the General Agreement on Tariffs and Trade (GATT) Uruguay Round implementing legislation (Public Law [PL] 103-465) signed by

President Clinton on December 8, 1994, the term of a utility patent begins on the date of grant or issuance and ends, if all maintenance fees are paid, 20 years from the filing date of the application for the patent. If priority of an earlier application(s) is claimed under sections 120, 121 or 365(c) of the patent law, the 20-year period is measured from the date of the earliest of such earlier applications. The 20-year patent term may be extended for a maximum of 5 years for delays in the issuance of the patent such as those due to interferences, secrecy orders and/or successful appeals to the Board of Patent Appeals and Interferences or the federal courts and regulatory delays. The term of a patent may also be extended by delays caused by the patent office itself, subject to a list of requirements the patent applicant must fulfill in order to qualify for the term extension. For example, if an applicant requests an extension of time during prosecution, any patent term extension is adjusted downwards. If a lengthy patent term is of value to an applicant, the applicant should review and understand the rules for gaining and losing patent term extension (see *MPEP*, Section 2731). Further, the applicant should review the breakdown of patent term adjustments that can be found at the USPTO Private PAIR webpages for the patent in question. The applicant can challenge the USPTO's patent term adjustment calculations if the applicant feels that the adjustment has been incorrectly determined. For patent applications that have complicated prosecution histories, an applicant may use an automated way to compute the term adjustment and compare the result with the USPTO determination (see, for example, www.patentterm.com). All patents that are in force, or that will issue, on an application that is filed before June 8, 1995, will automatically have a term that is the greater of the new 20-year term provided above or the old 17 years from grant of the patent. If the appropriate maintenance fees are not paid, U.S. patents expire at the end of either 4, 8, or 12 years from the issuance date.

Effective November 29, 2000, the USPTO has published each application for a patent within 18 months from the earliest filing date for which priority is sought—or earlier at the request of the applicant. The way to prevent such publication is for the applicant to make a request upon filing, certifying that the invention disclosed in the application has not and will not be the subject of an application filed in another country, or under a multilateral international agreement that requires publication of applications 18 months after filing. This certification may be rescinded by the applicant at any time. Failure to properly rescind such certification could result in the abandonment of the application unless it is shown to the satisfaction of the USPTO that the delay in submitting the appropriate notices was unintentional. The publication of a U.S. patent application by the USPTO also provides for the applicant's further right to obtain a reasonable royalty from any person who, during the period beginning on the date of publication of the application, infringes the claims of the patent application, as long as the infringer had actual notice of the published patent application. In addition, the right to obtain these reasonable royalties shall not be available unless the invention as claimed in the issued patent is substantially identical to the invention as claimed in the published patent application and the action for infringement is brought not later than 6 years after the issuance of the patent. Further, the effect of the published application with respect to its status as prior art will fall within the criteria of 35 U.S.C. 102(e), that is, having an effective date as of the filing date of the published application.

It is important to realize that there are specific circumstances under which a patent cannot be granted by the USPTO no matter how earthshaking an invention may be. These circumstances

were clearly set forth in pre-AIA 35 U.S.C. 102(a-g) for cases with an effective filing date prior to March 16, 2013. The most commonly occurring bars to obtaining a patent may be brought about by the inventor himself or herself. For example, but not limited to, a bar exists if the invention is:

- Described in an unrestricted printed publication in the United States or a foreign country more than one year prior to the effective filing date of a patent application in the USPTO; and
- Placed in public use or on sale in the United States more than one year prior to the effective filing date of a patent application in the USPTO.

Under the pre-AIA 35 U.S.C. § 102, a person shall be entitled to a patent unless the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof. Under the AIA 35 U.S.C. § 102, a person shall be entitled to a patent unless the claimed invention was patented, described in a printed publication, or in public use, on sale, or otherwise available to the public before the effective filing date of the claimed invention. In summary, under the AIA, there is no territorial limitation on public use, sale, or otherwise availability to the public; and further, the AIA measures prior art based on the filing date of the application, not the date of invention.

On the other hand, under the AIA, an invention is not eligible for patent protection if the claimed invention was patented, described in a printed publication, or in public use, on sale, or otherwise available to the public before the effective filing date of the claimed invention. Exceptions to this rule are disclosures: 1) made by the inventor or someone who obtained information from the inventor, 2) one year or less before the effective filing date of the claimed invention. However, note that in most foreign countries, any disclosure before the filing of a patent application bars foreign patent protection.

Another bar to patentability is obviousness. Under pre-AIA 35 U.S.C. § 103, an invention is not eligible for patent protection if one or more § 102 prior art references would have been obvious to someone of ordinary skill in the art to which the claimed invention pertains. Under 35 U.S.C. § 103(c), an exception to this blanket rule is that if the invention and the prior art reference(s) were owned by, or under obligation of assignment to, the same person, the reference(s) does not qualify as prior art.

Under the AIA, 35 U.S.C. § 103 has been simplified to a single paragraph:

A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between 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. Patentability shall not be negated by the manner in which the invention was made.

A patent application filed on or after March 16, 2013, that relies on an application filed before March 16, 2013, is called a transitional application. Transitional applications are subject to pre-AIA 35 U.S.C. § 102 and § 103 provisions if they present only claims that rely on subject matter submitted before March 16, 2013. If any claims are presented that rely on subject matter filed on or after March 16, 2013, the entire set of claims is subject to the provisions of AIA 35 U.S.C. §102 and §103.

Since the complete rollout of the AIA, several new tools are available. For example, before a patent issues, anyone may submit publications potentially relevant to the patent application. The submission must assert the relevance of the document and be filed within six months of publication, or before the date of the first rejection, and before a notice of allowance issues. There is no fee for three or fewer documents.

Further, a supplemental examination can be used to inoculate the patent against claims of inequitable conduct, and can be filed throughout the life of the patent and only filed by the patent owner. Each request can only include up to 12 references. At the time of this paper, the fee of \$4400 for an undiscounted entity is approximately one-third of the fee for an ex-parte reexamination. However, the fee for a reexamination ordered as a result of the supplemental examination is \$12,100. A reexamination can be ordered if the supplemental examination brings up a substantial new question of patentability. The supplemental examination must be completed before the filing of a lawsuit, and must be filed prior to an allegation of inequitable conduct. Further, with respect to inequitable conduct and the duty of disclosure, *McKesson v. Bridge Medical* (434 F. Supp. 2d 810, USDC (E.D. Calif.), June 2006. No. CIV. S-02-2669 FCD KJM) held that information such as office actions from related cases need to be provided to the USPTO. However, in *Therasense, Inc. v. Becton, Dickinson and Company* (649 F.3d 1276 (Fed. Cir. 2011) (en banc), the Federal Circuit held that a patent applicant must misrepresent or omit material information with the intent to deceive the USPTO in order for a patent to be held unenforceable due to inequitable conduct, and only if the misconduct resulted in unfair benefit of receiving an unwarranted claim.

Still further, within nine months of issue, anyone can challenge a patent that issues after March 16, 2013. A post-grant challenge can be initiated if it is more likely than not that a claim will be shown to be unpatentable, or a novel or unsettled legal question is raised. A post-grant challenge cannot be initiated if the validity of a claim has already been or should have been challenged on the same grounds.

The AIA replaced Inter Partes Reexamination with Inter Partes Review (IPR). IPR must be requested by other than the patent owner, and is based on a patent or printed publication. 35 U.S.C. §102 and §103 grounds can be brought. Covered Business Method patents can be challenged by a party charged with infringement beginning nine months after issuance of the patent. The review is based on a prior art disclosure made before the invention was made.

The AIA introduced derivation proceedings that can be initiated by a patent applicant within one year of the date of the first publication of a claim that is the same or substantially the same as an earlier application's claim to the invention. The applicant must certify that the earlier application was not authorized by the applicant.

Other features of the AIA include the restriction on non-practicing entities from suing multiple defendants on the same patent unless there is a connection between defendants. The lack of best mode is no longer a defense against a claim of patent infringement, but disclosure of the best mode is still required; and there is now a limit on false markings claims.

The term “applicant” is no longer synonymous with the inventor. An assignee, a person to whom there is an obligation to assign, or a person with sufficient proprietary interest in the claimed invention, can be the applicant. Each inventor must still execute an oath or declaration, or a substitute statement, or an assignment containing statements required for an oath or declaration. Pre-AIA declarations will be rejected, and there is a fee to file a corrected declaration. The oath or declaration does not need to include the inventor’s citizenship or foreign priority claims, and the time by which the declaration needs to be filed is extended to when the application is in condition for allowance, provided a signed Application Data Sheet has been submitted.

Under the AIA, a fee structure for micro-entities can be used under certain circumstances, namely that the applicant is a small entity, has not been named as an inventor on more than four previous patent applications, did not have a gross income exceeding three times the median household income in the preceding calendar year, and did not convey a license or other ownership interest in the application to an entity that had a gross income exceeding three times the median household income in the preceding calendar year (and is not obligated to do so). Each inventor is considered separately for some of these requirements, and certification is required. For university spinoffs, the applicant must be a small entity, and the applicant’s employer, from which he/she obtains the majority of his/her income, is an institution of higher education, or the applicant has conveyed a license or other ownership interest in the application to such an institution of higher education (or is obligated to do so). There are other rules as well. Under the Patent Law Treaty Implementation, claims and drawings are no longer required to secure a filing date, and a nonprovisional application can be filed by reference to a previously-filed application.

PROVISIONAL APPLICATION

In accordance with the provisions of the Agreement on TRIPs¹, 35 U.S.C. § 111 and § 119 have been amended (effective June 8, 1995) to establish a domestic priority system. This system, which provides for the filing of a provisional patent application in the United States, permits the establishment of an initial effective filing date that does not serve as the basis from which the 20-year term of patent protection is measured.

The provisional patent application, which cannot be used for design patents, must contain a specification and any necessary drawings in compliance with pre-AIA 35 U.S.C. § 112, first paragraph (AIA 35 U.S.C. § 112(a)), and the required filing fee, but does not have to contain an oath, or a declaration, as with a complete patent application. More specifically, 35 U.S.C. § 112,

¹ The TRIPs Agreement is Ann 1C of the Marrakesh Agreement Establishing the World Trade Organization, signed in Marrakesh, Morocco, on April 15, 1994.

first paragraph, provides that the application (specification) "... shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his [her] invention...." Recent cases, for example, *New Railhead Mfg. LLC v. Vermeer Mfg. Co.*, 298 F.3d 1290, 63 USPQ2d 1843 (Fed. Cir. 2002), emphasize the requirement that a provisional patent application must fully comply with the enablement language of 35 U.S.C. § 112, first paragraph. Therefore, to avoid potential filing date controversies, a complete patent application should be as similar as possible in content and form as the provisional patent application upon which it relies for a filing date. With the enactment of the AIA and the first-to-file system, the enablement requirements become even more important since swearing back of prior art to establish first inventorship can no longer be relied upon in the AIA.

In *New Railhead*, the Federal Circuit held that the provisional application did not adequately support the claimed invention. The Court stated that

the disclosure must show he [the inventor] had invented each feature that is included as a claim limitation. The adequacy of the written description (i.e., the disclosure) is measured from the face of the application; the requirement is not satisfied if one of ordinary skill in the art must first make the patented invention before he can ascertain the claimed features of that invention. *Ibid.*, 1294.

The provisional patent application is kept in confidence by the USPTO until any complete patent application that claims the benefit of the filing date of the provisional patent application is published or issues. It will not be examined, cannot mature into a U.S. patent, and will expire 12 months after it has been filed. No Information Disclosure Statement is filed with the provisional patent application. As a result of the recently enacted Patent Law Treaty, there is a grace period of two months (with petition and fee) for restoring priority to a foreign/provisional application if the delay was unintentional.

To begin the patent application examination procedure and if the inventor wishes to rely on the effective filing date of the provisional patent application, the inventor must file—within 12 months (plus a grace period of 2 months if the delay past 12 months was unintentional) from the filing date of the provisional patent application—a complete patent application (which includes claims) that claims priority of the provisional patent application therein. An inventor may convert an existing patent application into a provisional patent application within 12 months (plus a grace period of 2 months if the delay past 12 months was unintentional) of the filing date of the complete patent application, but then must file another complete patent application also within the 12-month period before the examination can proceed. The 20-year life of the patent begins, however, from the date of filing of the complete patent application—not the filing date of the provisional patent application.

One or more complete patent applications can rely on one or more provisional patent applications for effective filing dates, subject to the previously stated qualifications. In particular, if a single complete patent application relies on multiple provisional patent

applications for an effective filing date, the complete patent application must be filed within 1 year (plus a grace period of 2 months if the delay past 12 months was unintentional) of the earliest-filed of the provisional patent applications. In addition, the effective filing dates for the claims in the complete patent application are determined by the subject matter of the provisional patent applications upon which the complete patent application relies.

INVENTORS

Inventions in the United States can be made by a sole inventor or joint inventors. U.S. patent applications must be made in the name(s) of the true inventor(s). The inventor(s) ownership of a patent application and/or the resultant patent can change by transfer of the inventor(s) ownership rights via an assignment to, for example, a company.

Determining inventorship is a complex exercise based on the facts of each case. The act of inventing requires both a conception of a complete and definite idea linked with the first reduction to practice of the thing conceived. This reduction to practice does not necessarily have to be an actual reduction to practice, but can take the form of a constructive reduction to practice through filing of a patent application. The percentage of an inventor's contribution is not the deciding factor in determining joint inventorship, but the fact that that contribution, no matter how small, if inventive, is set forth in a claim. U.S. patents can name different inventors or inventor groups for different claims.

Patents can be challenged and invalidated for improperly naming inventors. If inventorship of a patent is challenged, it is well recognized that the inventor named in the patent is presumed to be the correct inventor. A challenging party asserting patent invalidity has a heavy burden of proof. Nevertheless, patents have been invalidated for over- or under-inclusion of inventor designations. If an error in naming an inventor has been made without any deceptive intention, then correction of inventorship can be made.

Under foreign intellectual property laws, patent applications are usually filed in company names and the designation of inventors is voluntary.

PATENT EXAMINATION IN THE UNITED STATES

Once filed in the USPTO, the patent application generally remains in limbo for at least one year or more before being acted upon by a patent examiner, unless the application has been placed in special categories. For example, an application can be made special under the accelerated examination program (see 1308 OG 106 and <http://www.uspto.gov/patents/process/file/accelerated/index.jsp>), and the application can be made part of the Patent Prosecution Highway pilot program (see 1319 OG 63 and http://www.uspto.gov/patents/init_events/pph/index.jsp). Further, applicants can take advantage of the First Action Interview Pilot program (see 1347 OG 173 and http://www.uspto.gov/patents/init_events/faipp_landing.jsp) if the application meets certain requirements. This program can not only speed up prosecution, but provides a pre-Office Action window into the examiner's interpretation of the claims, similar to a PCT search report.

Unless the patent application is published during the entire pendency period of the patent application, that is, until the application is either abandoned or issues as a patent, the application is handled in a confidential manner by the USPTO, and the inventor may place the words "patent pending" on the invention. Currently, most patent applications are published; therefore, the patent examination process is not secret and is available through the USPTO's electronic system, known as the Patent Application Information Retrieval (PAIR) system. One can prevent a patent application from being published as long as no foreign protection is sought. A petition for non-publication must be sent to the USPTO at the time of filing of the application. Legal protection for the invention, however, is obtained only when the patent issues, although some rights are available based on a published application. The patent application is published 18 months after the filing date of the priority document unless the applicant specifically requests non-publication when the application is filed. There are limitations with requesting non-publication.

When the patent application is ready for examination, the patent examiner carefully reads the entire patent application and 1) determines whether the application, including the claims, meets the appropriate statutory requirements concerning appropriate disclosure and description and best mode and disclosure; 2) searches the prior art based on the scope of the invention claimed; and 3) prepares an Office Action in which objections and/or rejections of the claims are set forth in detail based on the findings of items 1 and 2 listed above. All correspondence, including Office Actions, between the USPTO and the inventor (applicant), is directed to the applicant, agent, or attorney as designated in the oath or declaration.

In the Office Action, the examiner may object to the specification and reject the claims under a number of different statutory provisions. The most common rejections are generally based on prior art under 35 U.S.C. § 102 or 35 U.S.C. § 103 in a manner described below. The prior art relied upon by the examiner is, in most instances, uncovered by the examiner's search, but may also include prior art that the applicant calls to the attention of the USPTO, or that is called to the attention of the USPTO by third parties. The examiner's search encompasses prior U.S. patents, foreign patents, and publications available to the examiner in the USPTO and any other prior art of which he or she may be aware. With these prior art references, the examiner will determine whether the invention, as defined by the claims, is patentable over the references.

To convey this information to the inventor, the examiner provides the Office Action to the applicant. The Office Action explains any objections that the examiner may have to the specification and drawings, and/or objections and rejections of the claims. An objection deals with problems relating to form, while a rejection deals with substance.

Claims that the examiner considers are not patentably distinguishable over the prior art are rejected. Claims rejected under 35 U.S.C. § 102 are considered to be clearly anticipated by a single prior art reference, that is, all elements of the claimed invention are fully described in a single reference. Rejections under 35 U.S.C. § 103 consider the claimed invention, although not exactly shown by a single reference, to be an obvious extension of the single or basic reference when combined with other references found by the examiner. The criteria the examiner uses in establishing obviousness are based upon the knowledge of one of ordinary skill in the art. It has been recognized that a scientist working in the field is generally considered highly skilled and therefore would normally exceed the requirements of one of ordinary skill.

Most patent applications will receive some form of rejection in the first Office Action. This rejection should not be considered by the inventor as a complete rejection of the invention. In many instances, sufficient persistence and good reasons supported by adequate persuasion and appropriate case law may remove the initial rejection. In the patent system, removal of the rejection or objection leads to an allowance of the claims. If any doubt as to patentability exists, the examiner will surely render a rejection in the first Office Action in order to receive from the inventor, via his or her attorney or agent, a response specifically pointing out where the examiner has either misconstrued or misapplied the references in the rejection of the claims.

The response to the first Office Action includes a detailed rebuttal of the rejection and, in some instances, if the examiner is correct in the rejection of the claims, a modification or amendment of the claims in order to overcome the rejection. These amendments to the claims will be considered by the examiner, and must be entered into the application as long as they do not contain new matter (that is, material that does not have a basis within the original specification).

To expedite prosecution and to build patents that will withstand litigation, recent developments in Supreme Court rulings could be interpreted to encourage applicants to limit the scope of their claims, define terms carefully, and avoid amending claims during prosecution. By loosening the strict teaching-suggestion-motivation test, *KSR Int'l v. Teleflex, Inc.*, 550 U.S. 398 (2007) broadened the ways in which an invention could be found obvious over the prior art. *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) provided well-received guidance for claim term interpretation. *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722 (2002), 493 F.3d 1368 (2007), cert denied 553 U.S. 1093 (2008) has resulted in a chilling of claim amendments during prosecution or, said another way, has resulted in applicants' more carefully drafting claims and not relying so heavily on claim amendments to seek the proper coverage.

Upon receipt of the applicant's response, the examiner will reconsider the rejection and, in some instances, conduct a further search of the prior art based on the amendments to the claims. The examiner may also, at this time, find the claims to be allowable.

The examiner's next Office Action—if it is a substantial repetition of the original rejection or is a new rejection based upon new prior art found by the examiner necessitated as a result of the amendments to the claims—generally contains a Final Rejection of the claims. This Final Rejection still does not mean that the invention is unpatentable. It may mean that there are still further arguments to be made by the inventor or it may require some change to the claims that will render the claims allowable.

The inventor, through his or her attorney or agent, under the provisions of 37 C.F.R. § 1.116, has an opportunity to submit to the USPTO a further response, including an amendment to the claims. The amendment to the claims after a Final Rejection will be entered into the application only if it places the application in condition for allowance or places the rejected claims in better form for consideration on appeal. The examiner need not enter the amendment in response to a Final Rejection.

If claims still remain rejected, the inventor's recourse consists of filing a request for continued examination in order to continue prosecution before the USPTO or filing an appeal of the rejected claims to the Patent Trial and Appeal Board (PTAB) of the USPTO. The appeal necessitates the submission of a brief pointing out in detail to the USPTO the reasons why the claims should be considered patentable and the patent application allowed to issue as a patent. Upon receipt of the appeal brief, the examiner may reconsider the rejection of the claims and allow the claims. If, however, the examiner stands by the Final Rejection, the examiner will send an Examiner's Answer to the applicant. The applicant has an opportunity to respond to the Examiner's Answer. Eventually the entire application, appeal brief, and Examiner's Answer go before the PTAB for a determination as to the patentability of the claimed invention. If the PTAB upholds the examiner, the applicant has further recourse by appealing the decision of the PTAB through the Federal Court system.

In most instances, examiners are extremely reasonable and, if sufficient persuasive arguments are presented by the applicant through his or her attorney, the examiner will make a just and appropriate determination as to the patentability of the invention based upon the prior art before the examiner. It is preferable if the applicant receives an allowance of claims defining the invention in broad terms. However, in cases where these broad claims are truly unpatentable, more specific claims may be found allowable and thereby result in the issuance of a patent. Although a patent containing more specific claims (sometimes referred to as picture claims) does not provide the legal protection afforded by claims broader in scope, the inventor does obtain a U.S. Patent for the invention. Once the patent issues, the inventor has the right to place a U.S. patent number on the invention.

FOREIGN PATENT PROTECTION

A U.S. patent is effective only in the U.S., its territories, and possessions. Therefore, to acquire protection in other countries, patent applications must be filed directly in those countries or under regional patent application systems that include those countries. Those regional arrangements include the European Patent Convention (EPC), which covers most, but not all, European countries; the African Regional Industrial Property Organization (ARIPO); the African Intellectual Property Organization (OAPI); and the Eurasian Patent Convention (EA).

In addition, the Patent Cooperation Treaty (PCT) provides the ability to file a patent application effective in a substantial number of countries or regions by a single application in a manner described in more detail below.

In any event, if a counterpart U.S. application or provisional application has already been filed with the USPTO, the applicant is required to file each foreign, national, or regional application, or a PCT application, within one year of the U.S. application filing date in order to obtain priority of the filing date of the U.S. application. If a provisional patent application has been filed prior to a U.S. application, the one-year period begins at the filing date of the provisional patent application and not the filing date of the U.S. application based thereon. In many instances, it is very important to obtain this priority date since foreign countries allow no grace period comparable to the limited U.S. one-year grace period for filing a patent application. In substantially all foreign countries, patentability is based upon absolute novelty, very similar to

the recently enacted AIA (i.e., except with some minor exceptions, a divulgence or published disclosure of the invention is a bar to prevent the patent from being granted). This is a distinct difference from the situation in the U.S., whereby an applicant (the inventor) has a one-year grace period (even under the AIA) in which to file a U.S. application after the disclosure, publication of a printed description of the invention, public use, an offer for sale, or a sale of the invention.

Filing one or more foreign patent applications can be a very expensive procedure, primarily because of fees and translations required in most countries. Filing an application through the PCT serves the purpose of starting the foreign patent application procedure without many of the costly expenses incurred by directly filing within a national country. Although the PCT application is not utilized directly within the foreign country designated, it basically creates the opportunity to extend the actual filings within those countries for up to 30-31 months² or more from the original priority date (e.g., in Canada one can extend filing to 42 months with payment of a surcharge). The use of the PCT application permits an applicant to make a more reasoned decision on whether to actually enter the national phase and encounter the many fees associated therewith.

Due to changes in the patent laws that went into effect April 1, 2002, the time limit for performing the acts necessary for national phase entry has been changed for most contracting states from 20 months³ to 30 months⁴ without filing a Chapter II Demand for Preliminary Examination (see www.uspto.gov/web/offices/pac/dapps/pct/chapter2.htm). Filing a Chapter II Demand in these states is warranted when you would like to receive a Preliminary Examination of your invention prior to entering the national phase. For those remaining contracting states⁵, applicants must file a Chapter II Demand for Preliminary Examination prior to 19 months from the priority date to extend the entry date into the national phase to 30 or 31 months from the priority date and, thus defer the heavy expenses involved with a foreign filing. It is generally recommended that the Chapter II Demand for Preliminary Examination be filed in most instances, whether required or not, since the Preliminary Examination is a valuable tool in deciding whether to enter the national phase.

Although filing a Chapter II Demand can be useful, if an applicant chooses not to file a Chapter II Demand, the PCT search report that results from filing the PCT application cites the references that the examiner has found to anticipate or make obvious the invention. These references, even without a Chapter II examination, can inform the applicant's decision to enter the national phase in selected countries. However, if the applicant is using the search report for this purpose, the applicant should take great care in selecting a searching authority. As of this writing, the existing searching authorities have widely varying reputed levels of success, from providing very little in the way of prior art to guaranteeing the acceptance of the search in an entire block of countries. International Searching Authority (ISA) options change regularly; see www.wipo.int/pct/guide/en/ for a list of ISAs.

² The reader must check with patent counsel as to the 30- and 31-month countries and/or to other variations.

³ 21 months for some states.

⁴ 31 months for some states.

⁵ Five contracting states as of February 2004.

Within approximately 16 months of the priority date, the PCT search report issues. Note that if a counterpart U.S. application is pending, any documents that result from the search report are required to be filed in an Information Disclosure Statement within three months of the date of the search report. Within 18 months, the PCT application is published. This publication should be noted as thereby voiding any secrecy of the application being filed in the U.S. and consequently, if secrecy is still desired, the PCT application should be abandoned prior to its publication. In those countries that still require the filing of a Chapter II Demand for Preliminary Examination, if no preliminary examination is requested, then entering the national phase must be requested generally within the 20th month⁶.

Since the filing of a PCT application involves expenses not incurred in the filing of a U.S. application, any decision seeking foreign patent protection should include a cost analysis of 1) filing the PCT application, 2) entrance into the national countries at a later date, and 3) pre- and post-issuance costs. The greatest benefit of filing under the PCT is the postponement of many of the highest costs to a time when the applicant (owner of the invention) can make a more reasoned decision whether this expense is warranted.

As previously pointed out, the filing of a PCT application must take place within one year of the filing of a counterpart provisional application or, if no provisional application is filed, within one year of the filing of a U.S. application. In addition, if no U.S. application has been filed, the PCT application may be used to designate the U.S. as a country in which patent protection is desired. Filing a PCT application avoids the necessity of providing translations at an early stage, and since the application is the basis for numerous foreign applications, all the material is submitted in a single PCT application. Entering the national stage, as pointed out above, can be delayed for 30 months or more from the priority date.

The filing of a foreign application or PCT application is in the name of an applicant who may not necessarily be the inventor. The practice of naming an applicant other than the inventor is a difference between foreign practice and U.S. practice. In the U.S., all patent applications are filed in the name of an inventor, with the ownership being transferred, if desired, by way of a separate assignment document.

Once a decision has been made to enter the national phase, the applicant is now confronted with the high expenses associated with foreign filings. During the period of time prior to entering the national phase, various amendments can be made to the patent application to reduce the costs associated with national examination and prosecution. At the point of entering the national phase, foreign agents are utilized to assist the applicant in the prosecution of the application in the various foreign countries designated. Note that each country has its own examination rules. After examination in those countries, and upon issuance of a patent, foreign protection begins and extends patent protection beyond of the boundaries of the U.S. to the designated countries/regions.

If multiple patent applications are pending in different countries, and if any two of those countries participate in the Patent Prosecution Highway (PPH) program, and if one of those two

⁶ The reader must check with patent counsel as to exact date entry into national phase must be made.

countries allows the application, the PPH program can be used to obtain patent protection in the other participating country.

COPYRIGHTS

If your idea takes the form of a work of authorship such as a work literary in nature, musical, dramatic, pantomime, choreographic, pictorial, graphic and sculptural, audiovisual, a sound recording, or a computer database and software, then your form of intellectual property protection may be that of copyright protection. Copyright protection, unlike patent protection, occurs upon the creation of the copyrightable work. This protection exists for the life of the author +70 years and, in the case of works for hire, exists 95 years from publication or 120 years from creation, whichever expires first. Copyright registration does not require the examination process that patent protection requires and is effective upon creation or, if desired, can be registered at the Library of Congress. Although no marking is required for copyrighted works, it is recommended that such works be marked with a copyright symbol, the year of creation and the owner's name, whether that name be a person or a company. Copyright ownership resides with the author until such author assigns ownership of this copyright to someone else (or to his or her employer when the copyrighted work is considered a work for hire).

Many kinds of works used in business are protected under copyright laws. U.S. copyright law starts out with the author or co-authors as owner(s) of the copyright for the work, but in a peculiar twist identifies certain kinds of work as works for hire, and bestows authorship credit and ownership in a hiring party upon creation. The works for hire include works made by an employee in the course of the employee's duties, with or without a written agreement for work-for-hire treatment. The law also allows valid written agreements for work-for-hire treatment to be made for limited categories of work, including films among several other categories. Several software ventures using programmers as consultants have found after the fact that there was no implicit work for hire or obligation of the programmer to assign rights to the venture.

Copyright protection, unlike patent protection, covers the appearance of the work but not the idea behind the work. For example, copyright protection alone for software covers the software code itself but not variants that could accomplish the same function. Software code that is resequenced or otherwise modified such that the task is accomplished in essentially the same way before and after resequencing may not infringe the copyright of the original software code. For this reason, copyright protection for software code should be used as an adjunct to patent protection. Further, with respect to restrictions on using software, open source licenses should be investigated and carefully complied with. It is also worthwhile noting that the U.S. Government cannot hold copyright on the works created by government employees, but can be the assignee of a copyright created by non-government entities.

TRADEMARKS, SERVICE MARKS, AND TRADENAMES

Another form of intellectual property protection is trademark protection, which provides protection for words or symbols or combinations thereof used by a manufacturer or merchant to identify a source of goods. The trademark becomes effective when used on goods in commerce, whether or not the mark is registered at the state or federal level. A federally registered mark

obtained from the USPTO must be in use in interstate commerce, while a state registration can be obtained for intrastate commerce. One benefit of trademark protection is that when the trademark is appropriately used and renewed, trademark protection lasts indefinitely.

For a trademark to meet the requirements for federal registration on the principal register, the mark: 1) must be in use in interstate commerce, 2) must not be descriptive of the product or service with which it is associated, and 3) must not be confusingly similar to another registered mark (in appearance and description). The applicant must supply a specimen of use that is an example of the mark associated with the product or service. The specimen could be a CD label for software, a web page including the mark and a product or service description, or a product or service brochure that includes the mark and the product or service description, for example. The applicant must provide a date of first use of the specimen in interstate commerce.

Trademark protection could be one of the first forms of intellectual property protection obtained by a young company. When a company considers using a mark in commerce, the most prudent course of action is to search for others who might be using the mark for similar products or services. If similar marks are found, other marks could be considered before any resources are applied to branding. At this time, the business owner should consider whether international trademark protection could be needed. As with international patent protection, international trademark protection could be necessary if the business expects to have a market outside the U.S. and wants to make sure that others do not ride on the coattails of the business' goodwill reflected in its trademark.

Although the business owner could do a preliminary search through a standard search engine and even through the USPTO, the business owner should seek a professional to perform a full search before investing in extensive branding, especially if foreign protection is needed. The relative ease with which infringers are discovered makes using a trademark without being relatively certain that the mark is not in use elsewhere practically a necessity. Consider a case in which a business builds a well-recognized brand in the U.S. and plans to sell its products under its U.S. name in Canada. But there is already a similar or identical mark registered in Canada to another company selling products similar to the U.S. business' products. The U.S. business must rebrand in Canada, which could be an undesirable consequence of failing to search, failing to choose a mark that is not already in use, and failing to register abroad.

Note that identical marks can be registered in the U.S. as long as they are not associated with similar products. One test the USPTO uses when determining whether to grant federal registration is whether the proposed mark is confusingly similar to an existing mark. If a business is found to infringe another's mark, the business could be limited to using its infringing mark in a particular geographic area (the mark could become useless if it is associated with an online product or service), or could be stopped from using the mark altogether. As soon as the company begins to use a mark in commerce (interstate or intrastate), the mark should be followed by a superscripted "TM" (® must not be used until the trademark is federally registered) to notice the public of the business' intention to use the phrase or logo as a trademark.

State trademark registration carries fewer teeth than federal registration because each state conducts its own search, which may not be as comprehensive as a federal search. Moreover, one

state's registration cannot override another state's. Therefore, although it is possible to obtain state registration, it should be used for businesses that are strictly limited to in-state activity. Tradename and tradedress are variants of trademark law that involve business names (versus product or service brands) and product appearance.

This paper provides general information and does not constitute legal advice.

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