

# WHAT INVENTORS MUST DO (AND MUST NOT DO) TO FULLY PROTECT THEIR INVENTIONS

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## A. WHAT IS A PATENT?

A patent is a *legal* monopoly granted by the federal government to inventors of certain qualified inventions. A patent can protect any new, useful, and “unobvious” apparatus, process, chemical composition, and even a business method, and gives its owner the right to prevent all others (in the country of issue) from making, selling, importing and even using the patented invention (35 U.S.C. 271).

The “patented invention”, in turn, is that which falls within the scope of the patent’s “claims” (strangely worded, numbered paragraphs at the end of each patent that tell the public specifically that which the patent owner may prevent others from making, selling or using). A brief introduction of patent claims appears later in this article.

## B. WHEN SHOULD ONE SEEK A PATENT?

A patent can be extraordinarily valuable, in part, because its protection, if valuable in the first place, extends from the grant of the patent until twenty years from the filing date of the underlying application (provided periodic maintenance fees are paid (35 U.S.C. 154)). It is the “utility patent” which is the most common and most useful type of patent for U.S. inventors (another kind of patent -- the design patent -- will be discussed below, and provides little protection for most inventions).

If one invents something that solves a problem or meets a need in a new, more efficient, more cost effective, and/or more effective way, and there is a market for such a solution, patent protection should be considered. Otherwise, the invention will eventually fall into the public domain and likely will be of no value whatsoever to the inventor.

A reason often cited by many who fail to seek patent protection is intent to simply “sell their idea” to a company, and thereby avoid the expense of patent protection. Unfortunately, this is rarely a viable option, and the associated disclosure to third parties and delays in seeking patent protection, if at all, will often lead to a complete loss of the potential for patent protection.

An invention that is not the subject of *at least* a patent application has no legal protection, other than possible contractual confidentiality obligations (only applicable to those who actually sign a confidentiality agreement), or trade secret protection (not feasible for any invention that cannot be

maintained as secret, must be made public for commercial gain, and/or that can be understood and replicated upon such public exposure). Therefore, most companies to whom inventions are offered for sale or license, without accompanying patent or patent application ownership potential, are unlikely to pursue the purchase or license. This is true because, without *at least* pending patent protection, such a company's competitors are perfectly free to take and copy the subject invention immediately upon learning of it, without paying anyone anything. It is the patent application or resulting patent for an invention, which gives it protection and transferability. Otherwise the free enterprise rules (to which patents are merely legal exceptions) apply, and all are free to copy, improve upon, and compete for market share in selling the subject invention.

Inventors also sometimes fail to seek patent protection, if they feel that they will never be in a position to actually make the subject of their invention, such as when commercializing the invention would require significant manufacturing capabilities or expansive distribution networks. This is unfortunate, because a patent holder can (and most inventors do) license their patent rights to others who are better suited to manufacture or otherwise commercially exploit the underlying invention. In such cases, the patent holder simply collects royalties for the duration of the license, while the licensee, in essence, does all the work (manufacturing, distribution, sales, etc.).

#### C. WHEN IS AN INVENTION ENTITLED TO PATENT PROTECTION?

Generally speaking, an invention may be protected by patent if: (1) it fits into one of the legal categories of protectable inventions (as mentioned above: a mechanical device, a machine, a chemical compound or composition, a process, or a business method (35 U.S.C. 101); (2) the invention is new ("novel") -- no one else has, before certain prescribed dates and under certain circumstances relating to geography, either patented, used, sold or otherwise publicly disclosed the invention which is sought to be patented (35 U.S.C. 102); (3) the invention sought to be patented, at the time of its invention, would not have been "obvious" to persons skilled in the relevant field of (35 U.S.C. 103); and (4) the invention is "useful" (i.e. an embodiment of the claimed invention achieves some useful function (35 U.S.C. 101)). More detailed discussions of the sometimes confusing issues of novelty and obviousness appear later in this article.

#### D. THE PATENT PROCESS.

The process for seeking patent protection can be divided into three primary stages: (1) selecting a patent attorney who will best represent your needs in identifying your

protectable intellectual property); (2) researching the apparent patentability of the invention; and (3) formally entering the patent system by filing a patent application.

1. Choosing a Patent Attorney.

Easily 95+% of attorneys are *not* licensed to practice before the Patent Office and cannot, therefore, legally represent an inventor in seeking a patent. Therefore, when choosing from available *licensed patent attorneys*, the most important considerations include: (1) the patent attorney's overall expertise and knowledge of the field of technology in which one's invention falls; (2) one's comfort level in dealing with a particular patent attorney; and (3) appropriate cost for high quality services. On this latter point: one should not simply look for the "cheapest" patent attorney whom they can find - there is often a "get what you pay for" element to any choice for professional services. Furthermore, hourly rates are rarely indicative of the value that one will receive from a patent attorney. By way of illustration: one will typically pay a much higher *hourly* rate for an experienced, partner level patent attorney than for a second year, junior associate. However, rest assured that the partner, with years of experience, would accomplish more in one hour than the two-year associate can accomplish in several hours.

It is also this author's opinion that patent litigation experience is a very strong "plus" when choosing a patent attorney. The high-stakes arena of patent litigation - the most rigorous test possible for the validity and infringement of any patent - affords *litigating* patent attorneys considerable insight into "preparing for the worst" when drafting a patent application. This experience and insight, and the impact on patent work at the outset, simply cannot be achieved in any other way. There are very, very few licensed patent attorneys who litigate patent cases, but searching for such an attorney is often worth the extra effort.

When seeking counsel for patent litigation (as opposed to seeking patent protection at the outset), different considerations come into play. Patent litigation involves law, procedures and techniques that are mastered by very few, even among otherwise highly experienced litigators. Whether to be found in a single lead counsel, or through a combination of attorneys, it is absolutely essential that those representing patent litigants have both experience in litigation in general, and in patent law and procedures specifically. This author has observed on far too many occasions in which otherwise fine attorneys "fall flat on their faces" when attempting to handle patent matters without adequate assistance from experienced patent counsel. With billion dollar judgments not unknown in the patent litigation realm, and with litigation costs reaching millions of dollars on each

side of the docket, the stakes are simply too large in any serious patent litigation matter to involve attorneys who merely “dabble” in this area.

## 2. Patent Research.

In most cases (though not all), an inventor's patent attorney will, before filing a patent application, conduct a preliminary investigation to determine whether or not patent protection for a particular invention appears to be available. No patentability search will establish patentability with absolute certainty, in part, because certain circumstances that may prevent patent protection simply cannot be researched (recently filed patent applications and foreign language documents that will not be examined under normal search budget constraints are two such examples). Also, because patentability research usually has as its sole, legitimate purpose the determination of whether or not seeking patent protection *appears* to be a reasonable financial risk, research that is possible, but that would cost as much as, or more than the patent application, can seldom be justified, even though foreign patents and references may ultimately prove equally fatal to a patent application than can a domestic reference. In short, patentability research is designed merely to determine if a patent-blocking reference (“prior art” as it is known in the patent field) is immediately apparent, after a reasonable degree of inquiry, at a relatively reasonable cost.

Ideally, patentability research will involve both the inventor and the patent attorney. The inventor will be able to assist in the research by calling upon his or her own knowledge of related inventions in the relevant field of technology and by relating those to the patent attorney. In addition, literature searches, best conducted by the person(s) most familiar with the field, can help immeasurably. The role of the patent attorney is most often in conducting a search of the records of the Patent & Trademark Office. The objective is to locate the most pertinent issued patents upon which a patent examiner would rely in judging patentability. On average, a patent search requires about three week's time, though the process can be accelerated if necessary.

As noted, patentability research is only designed to give some indication of the apparent patentability of an invention, based on readily identified prior art. Patentability research is not at all designed, nor can reasonably be expected to determine, whether or not making or practicing any particular invention will infringe an earlier patent. It is entirely possible to obtain a (very valuable) patent that covers an invention that, if made or practiced, may infringe an earlier patent. This seems like a paradox to many, but, for reasons described below, is not necessarily so.

### 3. The Patent Application.

If the results of the patentability research reveal nothing that would clearly stand in the way of patent protection the next step in the process is to prepare and file a patent application with the United States Patent & Trademark Office.

A patent application is not simply a form with blanks to fill in, but is rather a very lengthy and complex legal document. Most often, the patent attorney will spend quite a number of working hours to prepare the patent application. The inventor will ordinarily be consulted at a number of stages along the way to insure that the description and claiming of the invention is consistent with the inventor's conceptions.

When the patent application is complete, the inventor will be asked to carefully review the application itself and to review and sign an inventor's "Declaration and Power of Attorney." This latter document is one in which the inventor, under penalty of perjury, verifies the true inventorship of the subject invention, and appoints the named patent attorney to represent the inventor before the United States Patent & Trademark Office.

Some time after the filing of a patent application the application is assigned to a patent examiner, whose job it is to determine whether or not the invention is, in fact, patentable. The patent examiner conducts patent and literature searches to determine whether or not the precise invention sought to be patented (as defined by each claim) has already been patented and/or whether or not past information in the relevant field of technology makes the invention "obvious".

In addition to comparing the scope of the submitted patent claims against the "prior art", the patent examiner will examine the "specification" of the patent application (the detailed description, usually including drawings, of the details of making and using the subject invention). At this stage, the examiner is to determine whether or not the inventor has satisfied the requirements of patent law (35 U.S.C. 112) that the patent application provide an "enabling disclosure." An enabling disclosure is that description, in words and drawings that sufficiently teach the making and use of the subject invention, such that one who is reasonably skilled in the field of the invention may do so without undue experimentation. Full disclosure of every aspect of an invention, including the best envisioned way(s) to make and use the object of the invention, is part of the bargain that the inventor makes with society in being granted patent protection. When an inventor opts for patent protection, nothing can be withheld in terms of details of the invention and its highest

and best use. If any such information is withheld from the patent application, any resulting patent will be invalid.

A patent examiner's opinion of patentability is communicated by way of an "office action" in which the examiner sets out, with respect to each patent claim, the reasons why the claim does, or does not, cover a patentable invention. The office action may include rejections of some, all, or none of the original claims and will explain the basis for the rejection(s), if any. Most often, rejections of any given claim will be based on one or more earlier patents or publicly available documents that the examiner's research uncovered.

An office action is not the "final say" with respect to patentability. In fact, one should usually expect a first office action rejection of at least some of the patent claims. The patent attorney can, depending on the circumstances, respond to any rejections of claims with arguments, which attempt to refute the bases for such rejections, with amendments to the claims that adjust their scope to a patentably permissible degree, or some combination of both. An experienced patent attorney will be able to secure an allowance of the patent in the vast majority of cases in which initial patentability appeared likely, and the patent examiner fails to cite any previously unknown or insurmountable item of prior art.

If the patent attorney and the examiner come to an agreement about the proper scope of the patent claims, the applicant must then pay an issue fee, if the patent is to issue. The time between filing of a patent application and issuance of a patent typically extends anywhere between eighteen to thirty months, depending on the degree of backlog of patent examiner who is assigned the patent application. If, on the other hand, the patent attorney and the examiner do not reach an agreement on the appropriate scope of patent protection by the time of the second office action, the patent attorney can appeal the examiners' decisions (35 U.S.C. 134), or can file a "continuation application" for a second round of examination and argument with the Patent Office (35 U.S.C. 120).

All of the above procedures are designed to produce patents which fairly award patent protection to worthy inventors, but which does not take from the public anything which is already in the public domain. It is a long and complicated process, but one which typically works very well in the end.

#### 4. Full Disclosure.

The patent application process includes many steps and stages, but one aspect deserves special comment – the patent applicant’s “Duty of Candor”.

A “Duty of Candor” applies to anyone who invents, owns an interest in any invention, or is involved in the prosecution of a patent application filed with the United States Patent & Trademark Office. In brief, the Duty of Candor provides that any such persons must voluntarily disclose to the Patent Office any known information that may reasonably bear on the issue of patentability. The information is not limited merely to that which would prevent a patent from issuing, but includes information that might reasonably be considered (in whole or in part, separately, or in combination with other information) to be relevant to the novelty and non-obviousness of the subject invention.

Information that is to be disclosed to the Patent Office is provided by way of one or more Information Disclosure Statements, and one’s patent attorney will work with inventor(s) to gather and submit all such information.

The recommended mindset for all involved in the prosecution of a patent application is: “When in doubt, disclose”. Therefore, when working with a patent attorney, at the very outset, it is important that he or she be made aware of any and all information that may need to be disclosed in an Information Disclosure Statement. This would include, *at least*, any *prior* inventions, apparatuses, events, or circumstances that in any way relate to the subject invention. This certainly includes any and all prior-to-patent filing disclosures to others, whether by publication, internet posting, public presentations, tests, and research collaborations.

Information disclosed to the Patent Office may, or may not bar patent protection, but intentionally failing to disclose information that is later found to be “material” will likely render any resulting patent (and, in some instances, related patent(s)) unenforceable.

#### E. PITFALLS FOR THOSE WHO WAIT TOO LONG.

The cardinal rule for anyone interested in seeking patent protection is to err on the side of filing for patent protection before making any disclosure of the invention to anyone else. This is not always possible (or even necessary), but should be the first inclination of an inventor who wishes to patent his or her invention. The proper approach for specific circumstances should be addressed to a registered patent attorney.

Simple delay in filing for patent protection (if long enough) can result in abandonment of inventions (loss of inventions to the public domain). Most often, however, abandonment results from a delay of more than one year in filing for patent protection after some form of public disclosure of the invention.

The root of this problem stems from the underlying rationale of the patent system itself. The patent system is based on the dual premise: (1) that society is best served through the advancement of science and technology, and (2) that science and technology are most effectively advanced by rewarding those who fully and promptly disclose their patentable inventions to the public at large by way of patent applications and resulting patents.

As mentioned above, the potential reward for such full and prompt disclosure is a patent, which represents an assignable and licensable legal monopoly for making, selling and even using the claim-covered invention in the country of issue.

An example of the specific mandate of the United States patent statute which encourages prompt filing for patent protection is, pursuant to 35 U.S.C. 102, that an inventor must file for patent protection, or publicly disclose the invention, before anyone else (for any patent application filed after March 16, 2013, pursuant to the “America Invents Act”). Furthermore, the inventor(s) must file a patent application for U.S. patent protection no later than one (1) year of the first of:

- (1) the patent applicant’s own first printed publication or public use or disclosure of the invention (anywhere in the world); or
- (2) the patent applicant’s own first sale or offer for sale of the invention.

Other deadlines also appear in this statute, and the ones listed above are merely the most common examples. Also, an earlier version of 35 U.S.C. 102 (discussed briefly below) applies to patent, the applications for which were filed before March 16, 2013. Even if considering only these deadlines, such common events as publishing a journal article that discloses an invention, presenting a paper at a symposium, offering to sell an embodiment of the invention, and practicing a patentable process in a non-experimental commercial context are just some examples of events which ordinarily mark the beginning of the one-year grace period for filing a patent application in the United States (most foreign countries do not allow any grace period, as will be discussed in more detail below). If a patent application is filed in the United States even one day more than a year following any such event, no valid patent protection will be possible. Also, as discussed in more detail below,



the one-year grace period for filing for patent protection does not apply for foreign patent protection. So, those who need foreign patent have an even shorter time frame in which to file.

F. "PATENT PENDING".

While a patent application is pending, the application's owner (either the inventor, or someone to whom the application has been assigned) has the right to identify products of the invention as "patent pending". While, contrary to popular belief, this designation does not legally prevent others from copying the invention, it is often a well-recognized deterrent to copying.

As a practical matter, one who sees "patent pending" on or in association with a product is faced with two, at least temporarily unanswerable questions: (1) what kind of patent protection can the applicant ultimately get in this case?; and (2) if a patent is to issue, when will it issue? Because of the strict secrecy of pending patent applications for the first 18 months of their pendency, no one but the inventor, the inventor's employer (if applicable), the patent attorney, and the patent examiner(s) can find out what a pending application claims or when the application was filed.

Therefore, anyone who is thinking about copying a product which is marked "patent pending" must reasonably consider that any investment for tooling up to practice the invention, to hire personnel, to advertise, to establish distribution, etc. may well be wasted, if a patent covering the product does ultimately issue. One must consider that this (the patent issuance) could happen immediately, or years down the road. For many, this dilemma presents too much of a gamble and they tend to avoid copying "patent pending" products, even though the law does not require that they do so until/unless a patent actually issues. In short, the "patent pending" designation is often viewed as a very valuable, practical deterrent to invention copying, even though it is not a legal deterrent.

An important caveat is needed with respect to "Patent Pending." One cannot enjoy the benefits of the "patent pending" designation, unless a patent application with claims fairly seeking to cover the subject product has actually been filed. A penalty of up to \$500.00 per incident of "false marking" is possible under federal statute.

## G. FOREIGN PATENT PROTECTION.

Most foreign countries have patent systems, which grant rights similar to those, described here for U.S. patentees. Currently, there is no "international patent." Each country, and some groups of countries (the European Community, for example), each have their own patent systems, and only patents issued in each such country or region provide protection there.

When considering foreign patent protection, an inventor must simply decide which countries or regions represent sufficiently valuable markets for the subject invention to justify the often-high cost of foreign patent protection. With respect to some countries, one must also consider the degree to which any patent can reasonably be enforced, because a patent issued by a country with an ineffective patent enforcement system is of little or no value.

As noted above, it is vitally important to note that most foreign countries do not allow any grace period for filing a patent application after public disclosure of an invention (such as the one-year grace period afforded by the U.S. patent system as described above). A filing date for a patent application in such countries must come *before* any public disclosure of the underlying invention (anywhere), if valid patent protection is to be available. This is known as the rule of "absolute novelty".

Fortunately there are treaty-based procedures (35 U.S.C. 351) through which one may file a single patent application in his or her own country, which application will suffice for establishing a filing date in most foreign countries, provided certain procedures are strictly observed thereafter. A U.S. inventor, for example, need only file one patent application with the United States Patent & Trademark Office prior to publicly disclosing or exploiting the invention, and the right to obtain patent protection (in most foreign countries) can still be preserved, though the foreign patent applications will not actually be filed until well after the public disclosure.

If the U.S. filing date is to "count" as the filing date in most foreign countries, the inventor (or invention owner by assignment) must, within a year of the U.S. patent application filing, either file the same application in the country or countries in which patent protection is desired, or file a Patent Cooperation Treaty Application (which extends the deadline for filing in the individual foreign patent offices by, in most cases, 30 months from

the United States filing date). In either event, if the signatories of the referenced treaties, the U.S. filing date will be honored as the filing date in such countries for purposes of overcoming the absolute novelty rule. While most countries of interest to U.S. inventors or invention owners are signatories of the relevant treaties and conventions, one should consult their patent attorney with respect to countries of specific concern, before any public disclosure of an invention.

Finally, when speaking of foreign patent protection it is important to debunk a common myth -- that foreigners can, to get around U.S. patents, simply copy inventions abroad and then ship the products into the U.S. If the only concern of an inventor is that their invention will be copied, sold or used in the U.S., a properly prepared U.S. patent with adequate claim coverage will be sufficient. Infringing products can be stopped at the borders through a variety of means. An inventor needs foreign patent protection only if he or she wants to be able to prohibit copying and sales in foreign countries.

#### H. HOW DOES PATENT PROTECTION WORK?

##### 1. Patent Claims

As mentioned earlier in this article, a patent's *claims* define that which does and does not infringe the patent, or what is "covered" by the patent. Despite widespread assumptions to the contrary, a patent's coverage is NOT defined by the written description of the invention, the drawings in the patent, the title, or any other part of the patent, though such components may aid in interpreting a claim.

Much as a property description on a land deed precisely defines where strangers cannot go without trespassing, one looks to a patent's claim(s) to determine that which, without permission of the patentee, members of the public cannot legally make or do, if they are to avoid infringing the patent. On the other hand, a patent claim's validity rests upon whether or not the wording of the claim defines its reach to cover (or not) something that is found in the "prior art" (public knowledge or circumstances that predated the effective filing date of the underlying patent application and/or existed at the time of the patent applicant's act of invention).

One might, therefore, think of a patent claim as either a "checklist for infringement", or a "checklist for validity." By way of illustration: suppose a patent claim in a patent for a hypothetical machine ("widget") reads:

1. A widget comprising:

A,

B,

C, and

D.

For purposes of our example, each of “A”, “B”, “C”, and “D” represents a machine component, whereas in process or chemical composition patents, they might represent, respectively, process steps or chemical constituents. In a patent claim for a machine, “A” in this example might read “an electric motor”, and “B” might read “a gearbox, interfaced with said electric motor”, and so on. Importantly: the word “**comprising**” means “including, *but not limited to.*”

Someone who, without authorization of the patent holder, makes, sells, imports, exports, or even uses anything that includes A, B, C and D (all listed elements are “checked off”) will infringe the claim. So, if someone (again without permission) makes a widget that includes A, E, B, R, C, Z, T, and D, there is infringement of our widget patent claim, because the widget *includes* A, B, C, and D. It is of no consequence that E, R, Z, and T are also present. Contrary to widespread myth, one does *not* avoid infringement of a valid claim by adding elements or characteristics to a patented device or process, but rather only by eliminating one or more listed elements, such that the “checklist” is not fully satisfied.

Most patents have a number of claims, and each numbered claim stands independently in defining the owner’s patent protection. In essence, each claim is truly a separate, independent patent, at least in terms of that which is covered by the patent.

Most patents have multiple claims only so that the owner has “fall-back positions”, in the event that some of the broadest claims are later found to be invalid. If the broadest claim(s) survive, the narrower claims are most often irrelevant to a patent infringement matter.

Suppose our hypothetical patent also includes the following claim:

2. The widget of Claim 1 further comprising:

E.

This is known as a “dependent claim”, and is read to include everything of the claim to which it refers (claim 1 in this case), plus the recited extra element (E).

Now assume that Claim 1 is found to be invalid (a discussion of patent claim validity issues appears below).

So far as the subject patent is concerned, everyone would be free to make a widget “comprising” (including) A, B, C, and D, because such a widget would no longer satisfy the broadest surviving “checklist” (Claim 2, that now includes E), and A - D is in the public domain. Only a widget with A, B, C, D, *and* E would now satisfy the broadest checklist for infringement (patent claim) and would infringe the patent. Only if *all* claims of a particular patent are found to be invalid will a patent become wholly ineffective.

The same principles apply to each of any number of claims in a single patent - each claim essentially constituting a separate patent, and each claim standing or falling on its own issues of validity.

Determining a patent claim’s coverage (whether for infringement or validity analysis) is often quite difficult. The effective meaning of each checklist item of a patent claim is typically far from clear, and is often only established after patent litigation and ensuing appeal(s). Even so, it is imperative that anyone involved in patent infringement or validity analysis understand, as much as is possible the meaning of each “checklist item.” The patentee must know, for example, what its patent covers to assess suspected infringement, while members of the public (particularly one who is accused of patent infringement) must know that which they cannot do without permission of the patentee. Furthermore, judges and juries must know when patent claim elements are “checked off” when presented with issues of infringement and/or validity.

In the context of patent litigation, a claim construction hearing (or “Markman Hearing”) involves presentations on behalf the patentee and the accused infringer(s) concerning the parties’ respective positions on proper definitions of patent claim terms. The product of a claim construction hearing is an order of court that defines claim terms (“checklist items”) so that the court and (often) jury can properly measure infringement and/or validity issues relating to each patent claim at issue. Even the court’s order does not conclusively answer the question of a patent claim’s coverage or validity. Under current law, the Court of Appeals for the Federal Circuit independently determines the proper

definitions of claim elements and, therefore, that which can and cannot infringe (or invalidate) a claim.

Therefore, before a final appeal involving any given patent, one can only apply considerable experience and seasoned judgment in predicting the scope of a patent, its likely validity, and (ultimately) its value.

It bears emphasis that many acts, thought by many as safe ways to “end-run” a patent, may very well amount to patent infringement. The discussion thus far focuses on the simplest form of patent infringement - the making, selling or using of anything that fully satisfies a patent’s “checklist(s) for infringement.” However, under certain circumstances, making, selling, using, or importing only a subset of the checklist items may still constitute infringement, and even “inducing” someone else to infringe may create liability for patent infringement (35 U.S.C. 271). Analysis of the many variations of patent infringement is well beyond the scope of this article. Therefore, a patent professional must be consulted if concerns over patent infringement arise, both to assess the likelihood that infringement may have occurred, and to take the steps necessary to meet any allegation of infringement.

## 2. Validity.

There are a number of issues that can affect the validity of a patent’s claims, but two issues - novelty and obviousness - are usually of most significance in patent cases. A patent claim must define a combination of elements (“checklist items”) that, as a whole, are both “novel” and “unobvious” when viewed against the “prior art” (documents or circumstance that predated the effective filing date of the underlying patent application, or that were known at the time of the patent applicant’s act of invention).

As illustrated below, measuring a patent claim for validity based on the required novelty (35 U.S.C. 102), involves determining whether each and every item in the checklist is found in (all claim elements are “checked off” by) a single item in the “prior art”. If such is the case, the claim is invalid.

In the context of measuring obviousness (35 U.S.C. 103), the question becomes whether or not the checklist merely includes items that would have been obvious to combine from two or more items or circumstances that were known to those of ordinary skill in the field at the time that the patent applicant made the invention that is covered by the claim.

a. Novelty. As mentioned earlier, there are two versions of the “novelty” provisions of the U.S. patent statutes (35 U.S.C. 102 – “Section 102”) – the newer version applies to patents flowing from patent applications filed on or after March 16, 2013, and the older version is applicable to any patent that flows from an application filed before March 16, 2013. Because patents based on patent applications filed as late as March 15, 2013 may remain in force through March 15, 2033 (assuming that all maintenance fees are paid, or no litigation-based or administrative invalidation occurs), the older version of 35 U.S.C. 102 will remain relevant for many patents through March 15, 2033.

When applicable, the newer version of “Section 102” provides that a patent claim of a U.S. patent will be invalid if: (1) the combination of all of its limitations (A, B, C, etc., as above) was first publicly disclosed or described in a patent application filed by someone ***other than the inventor(s)***; and/or (2) ***the inventors*** in any way publicly disclosed the invention ***more than a year before filing the patent application***.

For example, if a patent applicant files an application for our above-described widget on July 2, 2013, its sole claim was the A, B, C, and D claim, and the inventor sold a widget with parts A, B, C, and D before July 1, 2012, the claim cannot properly be allowed by the Patent Office, or if allowed, will be invalidated in court. On the other hand, if someone other than the patent applicant also invented the same widget (even if he or she invented after the patent applicant) and publicly disclosed the widget on or before July 1, **2013** (one day before the filing date), the patent applicant cannot obtain a valid patent. When applying the new version of Section 102 to such a scenario, the identity of the first to invent is irrelevant, as is the location where a third party disclosure occurs.

When applicable, the older version of Section 102 takes into consideration the earliest inventorship in certain scenarios, as well as includes certain geographical limits on relevant sources of invalidating prior art. The most frequently relevant sections of the old version of Section 102 are as follows:

- (a) the claimed invention was publicly 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 by the applicant***; or

(b) the claimed invention was patented or described in a printed publication ***in this or a foreign country*** or in public use or on sale ***in this Country, more than one year prior to the date of the application for patent in the United States***; or

\* \* \* \* \*

(e) the claimed invention was described in a ***U.S. patent*** granted on an application filed by ***another before the invention thereof by the applicant***; or

(g) ***before the applicant's invention***, the claimed invention was made ***in the U. S.*** by another who had not abandoned, suppressed or concealed it. In determining priority of invention there shall be considered not only the respective dates of conception and reduction to practice, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.

Now, let us look at a very similar scenario as that just mentioned, but applying the old Section 102 (simply adjusting the dates to one year earlier than those above). If a patent applicant files an application for our above-described widget on July 2, 2013, its sole claim was the A, B, C, and D claim, and the inventor sold a widget with parts A, B, C, and D before July 1, 2012, the claim cannot properly be allowed by the Patent Office, or if allowed, will be invalidated in court (the same result as under the new Section 102). However, if someone other than the patent applicant also invented the same widget and publicly disclosed the widget after July 2, 2011 (up to a year before the patent application filing date), the patent applicant may still be able to obtain a valid patent, if he or she can establish their status as the first to invent the claimed widget. Also, in stark contrast to the new version of Section 102, the old Section 102 allows that pre-filing or pre-invention disclosure occurring solely outside of the United States, and involving no printed publication, patent or the like, would not block the patent applicant's right to patent protection, regardless of the priority of inventorship or disclosure date. Further still, the referenced first-inventing patent applicant can obtain a valid patent on the widget, even if the third party was the first to file a patent application.



b. Obviousness. Section 103 (35 U.S.C. 103 – “Section 103”) of the U.S. patent statute represents an additional condition for patent protection, though not one that is ordinarily considered until or unless novelty is established. Section 103 provides, in effect, that a valid patent claim must include more than merely a combination of elements that (though never proved to be assembled in one place before, as would be the issue for novelty) would represent an obvious combination to a person who is reasonably skilled in the relevant field of technology. For example, even if no single “widget” that included all elements of our hypothetical claim from above - A, B, C and D – could be found in the prior art, that claim will still be invalid under Section 103 if it would have been obvious to someone reasonably skilled in the widget field to assemble all of the “checklist items” (A, B, C and D) of that claim.

Therefore, suppose that A, B, and D were, in combination, well known and used before the patentee’s invention of the widget that “comprises” A, B, C and D. However, further assume that no one can be proven to have included C in a widget. Even so, if to a person who is reasonably skilled in the widget field, it would have been obvious to combine C with A, B, and D to provide whatever benefit for which the widget was intended (simply a case of no one ever getting around to doing it), then the A, B, C, and D claim will be invalid. It is only if adding C to A, B, and D would NOT have been obvious to a person reasonably skilled in the relevant technology field (at the time of the invention) would our widget claim with limitations A, B, C, and D be valid.

“Obviousness” would understandably appear at first to be nearly impossible to establish or refute in reality. However, United States law allows consideration of a number of real-world factors to assess obviousness. One example – that of “Long-Felt, But Unsatisfied Need” illustrates how obviousness can, in fact, be recognized or refuted with reasonable reliability. Whether in the process of seeking patent protection, or in litigating the validity of an existing patent’s claim(s), it would be relevant and admissible evidence were it to be shown that there were long-felt problems, or significant needs that the claimed invention first solved. A particularly clear example of relevant long-felt, but unsatisfied need evidence would be that of a medical device that first enabled certain life-saving procedures. It could hardly be said that such a device would be “obvious”, if, before the subject invention and availability to the public, people were dying for lack of the device.

Other relevant obviousness considerations in any given case may include (among a number of others) “commercial success” (if attributable to the claimed features of the invention) and “teaching away in the art” (a conventional belief in a technological field that the now-claimed, beneficial invention would never work, or was otherwise not worth pursuing).

### 3. Overlapping Patents.

It is often a point of confusion to that valid patent claims may “cover” inventions, part of which are also “covered” by prior patents. In other words, one patent might cover a product, process, etc. that, if made, might infringe an earlier patent. Such a situation does *not* necessarily mean that the latter patent (claim) is invalid.

How can this be? There are only four basic requirements for patent protection: (1) novelty of the claimed invention (all elements of each claim); (2) non-obviousness of the claimed invention; (3) usefulness or “utility” of the invention and (4) that the invention is within the subject matter categories that are protectable under patent law. Contrary to popular belief, the mythical fifth requirement - that making the patented invention would not infringe an earlier patent - simply does not exist.

Suppose, for example, that Smith owns the patent with our A, B, C and D claim (assume that this is the only claim in Smith’s patent). Now suppose that a second inventor, Jones, invents an improved widget which includes A, B, C, D and X. If A, B, C, D, and X is a new combination (Section 102), and it would not have been obvious to add X to satisfy whatever need that A, B, C, D, and X addresses (adding X makes a much better widget), then Jones may be able to get a perfectly valid patent claim which covers A, B, C, D, and X. This is true, even though Jones will infringe Smith’s patent, if he, without Smith’s permission, builds a widget with A, B, C, D, and X (with, or without additional components).

Building A, B, C, D, and X would infringe the Smith’s “dominant” patent (having claims that cover A, B, C, and D), because A, B, C, D, and X satisfies the Smith’s “checklist for infringement” of A, B, C, and D.

On the other hand: can Smith, who has the “dominant patent”, make A, B, C, D, and X without Jones’ permission? After all, A, B, C, D, and X is “covered” by Smith’s A, B, C, and D claims. Smith *cannot* make A, B, C, D, and X, because doing so would infringe the Jones patent (it would satisfy Jones’ checklist of A, B, C, D, and X).

A situation involving dominant and subordinate patents does not at all mean that the subordinate patent is worthless. If Jones' widget with A, B, C, D, *and* X is, in fact, the best widget ever made, there is likely a lucrative market for the product.

In our hypothetical, Smith, who owns the patent with the claim of A, B, C, and D, would be foolish to simply shut down Jones and prohibit the making of A, B, C, D, and X. If typical of most such cases, Smith should, instead, license his patent to Jones and receive royalties, or some other valuable consideration. In a "cross-licensing" deal, Jones may also license Smith to make A, B, C, D, and X. Under this arrangement, both parties are allowed to make, use, etc. that which is covered by their respective patents, and (presumably) everyone makes money by selling the most desirable product with the greatest market potential. Absent such an arrangement between dominant and subordinate patent holders, a stalemate exists, both parties lose economically, and the consuming public is denied the products and benefits of the latest technology.

#### 4. Old Parts Do Not Mean Invalid Patents.

As may be clear from the preceding section, the fact that part of a prior invention or patent is well known does not mean that a patent cannot be obtained on a new combination of old parts, or even a new use for something that is old and well-known.

As the above example as relates to Smith and Jones points out, just because Smith already invented and patented A, B, C, and D does not mean that Jones cannot patent his invention of A, B, C, D, *and* X.

An easily remembered example of this principle comes from a patent infringement case of many years past. In that case, the defendant (the accused infringer) was arguing that the subject patent should be invalidated because "all the inventor did was just put a bunch of old parts together in a new way" (or words to that effect). In a famous and oft-quoted court opinion, the judge wrote his reply: "Only God works from wholly new parts." This points to the fact that every invention is, to one degree or another, a mere rearrangement of existing parts, steps, or connections.

Sections 100 and 101 patent statutes provide that improvements of existing inventions, and even merely new uses of old things are patentable, if only the claimed combination of features, improvement, or new use is, in its entirety, new, unobvious, patentable subject matter, and useful:

### **35 U.S.C. 100**

When used in this title unless the context otherwise indicates -

- (a) The term "invention" means invention or discovery.
- (b) The term "process" means process, art or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material.

### **35 U.S.C. 101**

Whoever 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 this title (emphasis added).

#### **I. THOUGHTS ABOUT PROVISIONAL PATENT APPLICATIONS**

A fairly recent development in U.S. patent law is that of the "Provisional Patent Application." The provisional patent application is often promoted, in part, as a way for inventors to save money. This author believes that, in many cases, use of the provisional application ultimately *increases* costs to inventors, though there are occasions when such a filing is appropriate, or even unavoidable. Of greater concern is my belief that the use of provisional patent application procedures exacerbates certain risks to ultimate patent protection, when compared to traditional, non-provisional applications.

A provisional patent application is widely believed to "save" money by eliminating the requirement for patent claims, the drafting of which does indeed require considerable legal expertise and time (and, therefore, money). Also, the filing fees for provisional patent applications are much lower than for a non-provisional patent application. However, if a patent is ever to issue on the basis of a provisional patent application, the provisional application must be converted to a non-provisional application (essentially the same

application as could have been filed at the outset) within one year of the original filing. It is at this stage that the “savings” of a provisional application become illusory.

Additional expense to inventors arises, in part, when the patent attorney, after doing nothing on the patent application for up to a year, must “get back up to speed” on the subject matter (for the second time) to convert the application to a non-provisional application, one part of which involves drafting the claims. Also, the filing fee for converting the provisional to the non-provisional patent application is the same that would have been paid at the outset, had a non-provisional application been filed. This fee is in addition to the initial provisional filing fee, so there are no filing fee savings whatsoever in pursuing the provisional patent application route, if patent protection is ever to be achieved.

In this author’s opinion, the greater danger associated with provisional patent applications is unrelated to extra expense, but rather to the ultimate ability to obtain a valid patent (at any cost). Both provisional and non-provisional patent applications must include, *at the time of filing*, the earlier-referenced “enabling disclosure” -- sufficient information to allow a person who is reasonably skilled in the relevant field to make and use the claimed invention without undue experimentation. If an application (provisional or non-provisional) is found to have lacked an enabling disclosure, its effective filing date is lost, and with it, any satisfaction of filing deadlines otherwise provided by the application (being the first-to-file, or filing within one year of one’s own public offering disclosure of the subject invention, for example). This reality is very much at-odds with the commonly held, but mistaken belief that provisional patent applications (if merely setting out one’s ideas or concepts without details amounting to an “enabling disclosure”) are somehow useful as “place cards” for creating or maintaining protection for those mere ideas or concepts. Nothing could be further from the truth. Let me repeat: *nothing could be further from the truth*. Further still, because of a variety litigation and licensing-related contingencies later in a patent’s lifecycle, it may be that filing a defective provisional patent application will be found to have been far worse than having filed nothing at all. The reasons for this latter statement are well beyond the scope of this article.

So, how is a provisional patent application more problematic in relation to enabling disclosures? A provisional application essentially sits at the Patent and Trademark Office, with no substantive action or evaluation whatsoever. It is only when/if the application is

converted to a non-provisional status that any examiner determines whether or not the applicant has satisfied (among other things) the requirement for an enabling disclosure.

Assume that: (1) an applicant files a provisional application after a public offer for sale, description of the invention in a printed publication, etc. (but before the one year deadline); (2) the application is converted to a non-provisional application after the one year deadline; and (3) the application is found, upon examination, to lack an enabling disclosure. In such a case, it is too late to correct the problem -- the invention is irrevocably lost to the public domain. No patent application was effectively ever filed, and the one-year deadline for doing so has passed. If a non-provisional application had been filed instead, the applicant might have had a chance to learn of, and correct the problem in time to beat the one-year deadline.

For these, and several other reasons, this author believes that provisional patent applications should be used only when circumstances render filing a non-provisional application unfeasible (such as when an inventor waits until the "last minute" to decide to file an application, and there is not adequate time to draft good patent claims).

## J. DESIGN PATENTS

Almost everything discussed so far in this article has concerned utility patents. Also available are plant patents and design patents. Plant patents are of little concern to most inventors and will not be discussed here. However, design patents are worthy of mention because they are, unfortunately, often used in deceiving unsuspecting inventors.

Design patents merely protect the aesthetic appearance of manufactured items -- basically how products look apart from their purely utilitarian features. Under the right circumstances, design patents can be very valuable. However, for the vast majority of inventions, design patents are worthless, or very nearly so. Most products of invention can be designed to look any number of ways other than the way they are depicted in a design patent. Therefore, the inventor who has only a design patent cannot stop anyone who copies his or her invention, so long as the copier sufficiently changes the way the item *looks*.

The primary problem with design patents lies with their abuse by certain invention companies who promise "patent protection" to unsuspecting inventors, without explaining the critical differences between design and utility patents. These companies seldom

disclose that design patents are virtually worthless in preventing most types of invention copying. It is far too common for inventors to spend many thousands of dollars with invention companies (sometimes more than would have been required to obtain legitimate utility patent protection through a reputable patent attorney), only to end up with an unrealistically optimistic "product evaluation and market study), a virtually useless design patent, and a usually meaningless "introduction of the invention to industry" (the main selling point for typical invention companies).

Most states require that invention companies disclose to prospective customers the number of customers who have received more money in royalties and license fees than they paid the invention company for the purported marketing, patent and publicity services.

A very telling statistic is that the number of such customers, for most invention companies known to this author, is usually zero. Therefore, one should always look at this disclosure document before paying any money to any invention company, and take the information into consideration before entering into any legal relationship with them.

#### L. CONCLUSION.

Obtaining a utility patent is a lengthy and complex process. However, obtaining the exclusive right to make, sell and use the invention or to collect royalties for allowing others to make, sell or use the invention can be a very profitable undertaking. With quality assistance by a registered patent attorney, the process need not be confusing or unnecessarily expensive for the inventor.

This article is intended to provide an overview of the patenting process, and not to provide specific legal advice for any reader. Each specific situation involves variables, which determine the precise path the inventor should take to properly protect his or her invention. Questions related to any specific patent situation should be promptly addressed to a registered patent attorney.

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#### ABOUT THE AUTHOR

David G. Henry, Sr. is a practicing Intellectual Property and Export Control Attorney, heading the Intellectual Property Section of the law firm of Gray, Reed & McGraw ([www.grayreed.com](http://www.grayreed.com)). David is a licensed patent attorney in both the United States and Canada, and provides IP and Export Control consulting services throughout the world.

David's practice includes prosecuting patent and trademark applications before the United States Patent and Trademark Office and in patent offices throughout the world. His clients range from Fortune 100 companies and University Systems to individual "backyard inventors." As an active intellectual property litigator, Mr. Henry is also involved, at any given time, in a number of federal court actions throughout the U.S. (and some in Canada) concerning claims of patent, trademark, or copyright infringement.

As part of David's "give-back" to his alma mater, David is now in his 22nd year of teaching patent and trademark courses at Baylor Law School, and more recently joined the faculty of both the Graduate School's EMBA and Baylor Business School's Technology Entrepreneurship Programs in the U.S. and China. David also serves as CEO of TeXess IP and Export Control Consultants ([www.Texess.com](http://www.Texess.com)) and as the Vice Chairman of the Military Child Education Coalition.

David hosts the PilotAtLaw.com web site where, among many other topics, he showcases his popular and unique photography collection gathered during his frequent flights (as pilot) throughout the United States in support of his private practice and his legal, consulting and volunteer work.

Mr. Henry is a Lieutenant Colonel in the United States Air Force's Auxiliary where his unit flies humanitarian, search and rescue and disaster relief missions under auspices of the U.S. Air Force and a variety of federal and state emergency services agencies. Mr. Henry also channels his passion for aviation into his private practice as he flies, nationwide, to meet clients and manage his various patent and trademark projects and cases. It is, in part, because of his well-known stance that "geography is never an issue when working with me", that Mr. Henry's practice extends throughout the United States (and beyond).