



From Idea to US Utility Patent: An Overview

Applying for and ultimately receiving a US utility patent can be very worthwhile. A granted US utility patent includes a bundle of property rights. For instance, you receive the right to stop third parties from selling a product or practicing a method in the United States that is covered by one or more claims of the granted patent. However, the process of obtaining a patent, sometimes referred to as patent prosecution, is often not straightforward. First, there is the time component. Formal examination of a filed application may not begin for two or more years after it is filed. Even if examination is successful, the examination process may take a year or more to complete once it is initiated. Second, are issues related to substantive examination of a pending application including communications from and submitted to the United States Patent and Trademark Office (USPTO). Below is an overview that briefly walks through the major steps of patent prosecution, starting first with conception of an idea for which patent protection may be pursued and ending with a granted US patent.

Utility Patents and Patent Eligibility

The United States grants three different types of patents. A utility patent may be pursued for an invention that is useful (i.e., has utility) and is 1) a process; 2) a machine; 3) a manufacture; and/or 4) a composition of matter. A design patent may be pursued to protect the surface ornamentation of a product (e.g., a design that is embodied in or applied to a surface of a product) and/or the shape or configuration of the product. A plant patent may be pursued for a new plant that is either man-made or can be reproduced asexually and that has at least one significant characteristic that distinguishes it as a distinct variety. This paper focuses on utility patents.

According to U.S. patent law, one can patent by way of a utility patent “any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof.” However judicial exceptions and further guidelines have been developed that make eligibility more complicated than can be conveyed using a single sentence. For instance, judicial decisions have carved out exceptions to prevent various things from being patented, such as natural phenomena, laws of nature, and abstract ideas (e.g., mathematical concepts, mental processes, etc.).

Inventors, Applicants, and Assignees (Owners)

While filing a patent application in the United States, three roles should be identified: 1) the inventor; 2) the applicant; and 3) the assignee.

An inventor is an individual that has contributed to the conception of one or more claims located at the end of the patent application. The claims set the metes and bounds of the invention in the same way a deed does for a piece of real estate. An invention may have joint inventors if multiple people have contributed to the conception of the invention. It is important to accurately identify all true inventors of the invention; otherwise, any resulting patent may be found invalid for failure to list the correct inventors. Significantly, inventorship may change from the time an application is filed with an initial set of claims to the time a patent is granted with a potentially different set of claims. Thus, inventorship should be considered at the beginning of the patent prosecution process and at its conclusion.

An applicant is an individual or a party responsible for filing the patent application. Multiple applicants may be associated with the patent application. An applicant may include one or more inventors although an inventor does not also have to be an applicant; an applicant may include other persons or legal entities that are not inventors, such as a corporation. Often, for technical employees acting as inventors, the applicant may be their employer since the employer has a sufficient proprietary interest in the invention.

Rights to a patent are secured to the inventors associated with one or more claims of the granted patent. However, like real property, the rights to the patent can be transferred, or assigned, to another person or entity that then becomes the owner. At the beginning of patent prosecution, an assignee or owner is the person or entity to whom an inventor transfers rights of an invention as set forth in the patent application. For technical employees acting as inventors, their employer may be both the applicant and the assignee.

Capturing Innovation

If an inventor believes they have a patent eligible invention, they should gather information to evaluate the patentability of the invention and/or prepare a patent application. An efficient way to assemble and communicate this information is to complete an Invention Disclosure Form (“IDF”). An IDF includes fields for information such as title, inventors, conception dates, disclosure date, invention summary, etc. While an IDF is not required to file a patent application, it may be very helpful when submitting an invention for consideration by a patent attorney. It also helps to document the dates of conception of the invention to be covered by the patent application.

Prior to filing a utility patent application, an inventor may consider reaching out to a patent attorney for a Patentability Search and Opinion. During a patentability search, the patent attorney will search publicly available information called prior art to determine if similar inventions have been previously disclosed. The results of a search may suggest that it does not make sense to proceed with preparation of an application. Alternatively, the results may help focus the preparation of an application that emphasizes how the invention is perceived to be dissimilar from the located prior art.

First-to-File System and Utility Applications

A priority patent application should be filed before any public disclosure or commercialization of the invention occurs, as many countries around the world will not grant a patent if a public disclosure has occurred prior to filing. However, the United States offers a grace period of up to one year of limited scope in which a patent application may be filed should an inventor publicly disclose the invention prior to filing. A public disclosure may include a public use of the invention, a printed publication of the invention (via print or online), or an offer for sale of the invention.

Prior to preparing a utility patent application, an inventor may first consider filing a provisional patent application. A provisional application is an application that will never be examined by the USPTO or turn into a patent. Instead, it provides the applicant a one-year window of time to convert the provisional patent application into a formal utility patent application, which will be entitled to the filing date of the provisional application to the extent that the provisional application includes the same disclosure as in the subsequent utility application. Foreign patent applications claiming priority to the provisional application may also be prepared and filed during this one-year window. While this may seem trivial, establishing a filing date as soon as possible is important because while the US does have up to a one-year grace period as noted above, it is very limited in scope. Nor does most of the rest of the world provide even a limited grace period.

Claiming priority is the process of linking later filed applications to the earliest filed application to gain the advantage of the earlier filing date. However, certain dangers exist when attempting to claim priority to a provisional application. For instance, should a provisional patent application be filed without key inventive concepts of the invention, a subsequent utility application will not be able to claim priority to the filing date of the provisional application lacking these key inventive concepts. This could be highly problematic against competing applications filed after the original filing date of the provisional application, but before the filing date of the utility application providing the missing inventive concepts. Thus, a patent attorney may recommend filing a series of provisional applications during the one-year window between an initial filing and the deadline for filing any subsequent utility or foreign applications claiming priority to the initial provisional application filing date. The resulting application(s) would incorporate the teachings of the prior provisional applications as of the date the concept of interest was first disclosed in a particular provisional application.

Filing a provisional application is not required by the USPTO, and an inventor can proceed directly to filing a utility patent application. Often, preparing and filing a single utility application is less expensive than preparing

and filing a series of provisional applications that are ultimately converted into a utility application. Ultimately, provisional applications are most useful when time is of the essence between filing and public disclosure of an invention.

Parts of a Utility Application

A utility patent application is made up of several sections that each have a role in disclosing the invention: the (1) abstract, (2) specification, (3) drawings, and (4) claims.

The abstract is a single paragraph, limited to 150 words, which summarizes the invention described in the patent application.

The specification is the written description of the invention, along with the manner and process of making or using the invention. The specification must be clear, full, concise, and in exact terms to enable a person skilled in the art or science to which the invention pertains to make or use the invention. The specification includes a variety of sections including a background of the invention (or field of the invention), a brief description of any included drawings, and a detailed description of the invention with reference to included drawings. Additional optional sections may include a reference to related applications and a summary of the invention.

A utility patent application requires drawings in the form of distinct numbered figures to be submitted with the application if necessary to understand the subject matter to be patented. Almost every utility application in the US includes drawings comprising at least one figure. Each feature discussed in the detailed description should be labeled and identified with a corresponding reference number in the drawings.

The claims set the metes and bounds of the invention and define the scope of protection provided by the patent. In other words, the claims define the invention that is protected by the patent. The claims are a word picture of the subject matter of the invention which the inventor feels differentiates the invention from what has already been done.

A claim may be written in two forms: 1) an independent claim; and 2) a dependent claim. An independent claim is a standalone claim that contains all of the recitations believed necessary to define an invention to be protected. The key inventive concepts of the invention of interest should be stated in one or more independent claims. By way of different independent claims, it may be possible to protect different inventive concepts although the USPTO may argue that the claims are to different inventions by way of a restriction/election requirement as discussed below. A dependent claim may refer to a previously set forth claim and ultimately an independent claim, further limiting the scope of the previously set forth claims from which it depends. In other words, dependent claims provide a series of “fall back” positions that are narrower in scope than the claim from which they depend.

Everything in the claims must be described in and be supported by the specification of the application. Additionally, every feature recited in the claims must be illustrated in the drawings of the application. When an application is examined by the USPTO, an examiner reads the specification and drawings to glean an understanding of the invention and its features, then examines the claims of the application to determine patentability.

Filing A Utility Patent Application

When filing a utility patent application, to get a filing date the application must include at least (1) a specification; (2) claims; (3) drawings, if necessary, to convey the teachings of the invention; and (4) the identity of at least one inventor. Before a utility patent will grant, additional items that must be filed include a declaration by each inventor (or a substitute statement in the case of a missing inventor), a power of attorney, and any necessary assignments. Of course, governmental fees are required at different stages of the patent prosecution process including filing fees and grant fees. Many communications between an applicant and the USPTO relate to the submission and acknowledgement of the required paperwork including filing receipts, notice of missing parts, assignment recordations, and the like.

Ongoing Duty to Disclose Relevant Prior Art

At the time of filing and throughout the entire patent prosecution process until a patent is granted there is an ongoing obligation to disclose any potentially relevant prior art affecting the patentability of a pending utility patent application. An inventor, applicant or owner discloses potential relevant prior art references to the USPTO through the use of a form called an Information Disclosure Statement (“IDS”). Prior art is defined as art that was publicly available (i.e., in the public domain) prior to the earliest effective filing date of the application and that describes subject matter similar and/or identical to the invention of the application. Prior art may include written references such as patent literature including issued patents or published patent applications, or non-patent literature such as websites, scholarly articles, or marketing materials. Failure to disclose relevant material to the USPTO may lead to the patent being unenforceable in subsequent litigation. One source of new prior art may include prior art references associated with corresponding foreign applications undergoing their own substantive searches and examination. There is a grace period for submitting these newly located references to the USPTO once a foreign patent office discloses them to the applicant.

Preliminary Examination

Once filed, the USPTO assigns a patent to an examiner who is skilled in the subject matter being claimed to review the application in accordance with the guidelines and procedures set forth in the Manual of Patent Examining Procedure (“MPEP”).

The examiner may first review the application to determine if the application contains more than one invention. If the examiner believes that the application contains more than one invention, he/she may send out a Restriction/Election Requirement to ‘restrict’ the claims of the application to a single invention. An applicant has a limited grace period of generally two (2) months (extendable with the payment of additional fees) to reply to the Restriction/Election Requirement by filing a formal response. The response should include an election of one of the alleged inventions identified in the Restriction/Election Requirement for examination on the merits and, optionally, arguments explaining why the Restriction/Election Requirement is improper and/or why all the alleged inventions should be examined together.

The non-elected claims can be withdrawn from the application, and a new patent drawn to the non-elected invention may be pursued by filing a specialized continuation application called a divisional patent application. If filed prior to the original application granting, a divisional patent application allows an applicant to pursue the non-elected claims while maintaining the earlier filing date of the original application. Additionally, the law provides protection that a divisional patent application cannot be rejected based on the original application, if the divisional was necessitated by a Restriction/Election Requirement.

Substantive Examination

The examiner will then substantively examine the patent application. During substantive examination, the examiner reads the application and determines whether the application follows various formal requirements. The examiner then evaluates the claims of the application to determine patentability. The claimed invention is presumed to be patentable by the USPTO. Therefore, it is the examiner’s job to find sufficient evidence to support a position that the claimed invention is not patentable.

To find this evidence, the examiner reviews the prior art provided by the applicant and then often searches for additional prior art.

The examiner then compares the prior art of record to the claims of the application. If the examiner determines a claim is patentable, the claim is allowed. If the examiner decides a claim is unpatentable, the claim is rejected. A claim can be rejected if a single reference allegedly discloses every feature of the claim (i.e., a lack of novelty). A claim may also be rejected if, for example, several prior art references allegedly contain all of the features of the claim, and it would have been obvious to one of ordinary skill in that art or science to combine the references to create the claimed invention.

Receiving a rejection is wholly normal and a regular part of the process of obtaining a patent. According to the USPTO, applications receive two actions on average leading to the final disposition of a patent application, whether that be allowance, abandonment, or appeal. It is very rare to get an application allowed without one or more substantive office actions.

Office Actions

When an examiner believes that the application should not be granted a patent after conducting a substantive review of the claims, the examiner will prepare and send out an Office Action. The Office Action will identify the status of each claim (e.g., rejected, allowed, etc.), inform the applicant of any purported deficiencies and/or informalities in the specification, drawings, or claims, articulate the reasons for rejecting the allegedly unpatentable claims, and identify all of the prior art references that were relied on to reject the claims.

There are several types of Office Actions, the most common of which are a Non-Final Office Action and a Final Office Action. The main distinction between a Non-Final Office Action and a Final Office Action is that a Final Office Action reduces the options available to the applicant in responding, while a Non-Final Office Action does not. The first Office Action on the merits (e.g., that includes the initial substantive examination of the application) is usually a Non-Final Office Action and, under most circumstances, cannot be a Final Office Action.

Receiving an Office Action does not mean that an applicant cannot obtain a patent on their invention. The USPTO provides applicants a window of time during which the applicant may respond to the Office Action up to six (6) months after receipt, although extension fees may be required if one goes beyond three (3) months. Depending on the type of Office Action, an applicant may respond to an Office Action in a variety of ways, such as by filing a Response, an Appeal, a Request for Continued Examination, or a Continuing Patent Application (e.g., a Divisional Patent Application, a Continuation Patent Application, a Continuation-In-Part Patent Application). Alternatively, an applicant may choose to not respond to the Office Action at all and allow the application to go abandoned. Generally speaking, applicants usually respond to an Office Action by submitting a Response to the USPTO to have the examiner consider any amendments or arguments included in the Response.

Response to an Office Action

A Response to an Office Action is a paper traversing the rejection of the application that is prepared by the applicant (or their attorney) and submitted to the USPTO. A Response to an Office Action must address every objection and rejection set forth in the Office Action with suitable amendments to the application (e.g., the specification, the drawings, and/or the claims) and/or arguments explaining why an objection/rejection is improper and/or why a claim is patentable. One of the most common ways to overcome a claim rejection is to amend the claim in the Response to distinguish it from the references cited by the examiner in the rejection. As noted above, all amendments made to the application must be supported by material previously described in the specification and/or drawings of the application.

Prior to submitting a Response to a Non-Final Office Action, or even after filing a Response, it is often beneficial to have a real-time interview with the examiner. Interviews are granted as a matter of right before a Final office Action. An interview may be beneficial to discuss potential claim amendments in real-time, listen to how an examiner reacts to certain arguments, or provide an opportunity to clarify concepts to the examiner.

After a Response to a Non-Final Office Action has been submitted, the examiner will once again review the application, taking into consideration all amendments and arguments provided in the Response. The review can go in a few directions from here. If the examiner determines that the application should be granted a patent in light of the amendments and/or arguments in the Response, a Notice of Allowance may be sent out (discussed further below). If the examiner is still of the opinion that the application should not be granted a patent, the examiner may send out another Office Action, which may be another Non-Final Office Action or a Final Office Action. An intermediate position is also possible. The Examiner may decide that a subset of the claims are in condition for allowance while rejecting other claims.

If a Final Office Action is received, an applicant's options on how to proceed are typically limited. An applicant may still submit a Response to the Final Office Action. If the examiner determines that the application should be granted a patent in light of the amendments and/or arguments in the Response to the Final Office Action, a Notice of Allowance will be sent out. If the Response to the Final Office Action convinces the examiner that the Final Office Action was improperly made final, the examiner may withdraw the Final Office Action and send out another Non-Final Office Action. If the examiner is still of the opinion that the application should not be granted a patent, the examiner will usually refuse entry of the claim amendments included in the Response and send out an Advisory Action. An Advisory Action is a short memo in which the examiner briefly addresses the applicant's arguments and/or amendments.

Importantly, however, if a subset of the claims have been indicated as being in condition for allowance, amendments after receipt of an Advisory Action to have only those claims remain in the application will always be accepted by an Examiner. Remaining options are limited to submitting a Request for Continued Examination, filing a Continuing Application, or appealing the examiner's decision.

Request for Continued Examination or Continuation Application

A Request for Continued Examination ("RCE") essentially "resets" the examiner's office action counter and allows prosecution of the patent application to continue based on the then pending claims.

Alternatively, so long as the current application is still pending, it is possible to file a continuation application claiming priority back to the original priority date. A continuation application may make sense if the applicant wishes to pursue new claims that were not already considered by the examiner. Significantly, unlike the law in other countries, a US applicant is not bound by the original claims submitted with a utility application and may pursue new claims so long as they are supported by the application as filed. Even after an application is allowed as discussed below, it may make sense to file a continuation application to pursue additional features of the invention that are not covered by the current claims of the application. A divisional application is a special kind of continuation application and relates to claims removed from consideration by the examiner during prosecution, such as by way of a restriction/election requirement.

Appeal

In some instances, an applicant may choose to appeal their case to the Patent Trial and Appeal Board ("PTAB"). A pre-appeal process is also available to allow a preliminary consideration of the issues to be appealed. This can be very helpful when an examiner mistake would be clear to reviewing examiners looking at the prosecution history before the appeal is sent to the PTAB. An appeal provides an avenue for having the application reviewed by a panel of experienced patent examiners, along with briefs filed by both the applicant and the original examiner. In its decision, the PTAB may affirm the examiner in whole or in part, reverse the examiner in whole or in part, remand the case to the examiner for further consideration, state that a claim may be allowed in an amended form, or set forth a new ground of rejection.

Appeals typically take more than two years for a decision and there is expense associated with preparation and filing of the necessary papers and in potentially engaging in oral arguments before the PTAB. If an unfavorable result is received from the PTAB, an applicant can file a Request for a Rehearing, continue prosecution of the application with the filing of an RCE, or they can further appeal to a US District Court or the Court of Appeals for the Federal Circuit.

Allowance

Once an examiner is satisfied that an application meets the requirements for patentability, a Notice of Allowance will be mailed. After a Notice of Allowance has been mailed, the next step is for the applicant to pay an issue fee to have the application become a granted utility patent.

As noted above, a continuation application with new claims may be filed claiming priority to the original priority date. Any continuation application must be filed before the original utility application issues into a granted patent.

Once the patent has issued, an applicant is obligated to pay a maintenance fee at three points during the patent's lifecycle to prevent the patent from expiring. A maintenance fee is due (1) 3.5 years from the issue date, (2) 7.5 years from the issue date, and (3) 11.5 years from the issue date, with each fee more expensive than the last. The United States approach to maintenance fees is generous compared to many other countries, which typically have an annual annuity fee due to maintain the patent.

Payment of maintenance fees is acceptable up to six (6) months prior to the maintenance fee due date. Applicants are provided a six-month grace period to pay maintenance fees and, thus, may pay a maintenance fee up to six (6) months late with the payment of a surcharge. Even after a patent expires for failure to pay a maintenance fee, it may be possible to revive an expired patent although some rights may be lost, particularly if there is a delay in seeking revival. Once a patent becomes expired and it is not revived, all rights are lost. Thus, patent owners need to docket all maintenance fee dates since they are responsible for paying these fees.)

DISCLAIMER: This paper provides background information of potential interest to facilitate and inform a reader's specific inquiry to be made with legal advisers of their choosing. It does not constitute legal advice. This paper is neither a guide nor an explanation of all relevant issues under consideration. Moreover, the law is ever evolving; observations made today may be inapplicable tomorrow. Fishman Stewart PLLC assumes no responsibility for any use of, or reliance on, this paper.