Patent Drafting Strategies for Maximizing Enforceable Patent Rights

PART I

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INTRODUCTION

Preparing a patent application that will yield a strong patent with commercial value is a demanding art. The patent practitioner must not only accurately identify the client's "invention," but must describe it and claim it in a manner that will produce the broadest coverage and thwart the inevitable validity challenge that will be made if the patent is litigated. This month, we examine strategies for achieving these objectives, focusing on the initial tasks of understanding the invention, preparing an initial set of preliminary claims, and beginning to draft the specification. Next month, we will continue to discuss preparing the specification. We will also discuss constructing a final claim set and strategically using continuation applications.

To obtain strong, valuable patents, the practitioner needs to put himself or herself in three roles. First, put on the hat of the competitive engineer/designer/developer. To obtain broad protection, the invention and prior art must be sufficiently understood to envision modifications and design-arounds that fall within the inventive concept.

Second, put on the hat of a defendant in a future infringement suit. Should the patent be litigated, defendants will look for anything in the specification and file history that can be used to limit the claims. Unfortunately, there is a great deal of tension in the canons of claim construction, adding uncertainty as to how the claims will ultimately be construed. To better ensure a strong patent, "test-drive" the claims and specification by considering the possible ways a defendant may try to limit the scope of the claims.

Third, put on the hat of a judge or juror in a future infringement suit. Claim terms must be readily understandable. It is critical to condense complex technology into understandable terms with clear explanations in the specification.

With these broad goals in mind, set forth below are some specific recommendations for preparing patent applications.

UNDERSTAND THE "INVENTION"

The first task is to identify and understand "the invention," i.e. what is novel and non-obvious about what the client has created. Start with the inventor. Obtain a thorough understanding of how any different embodiments work and what their constituent elements are. After receiving an invention disclosure, ask questions to clarify what is disclosed or investigate other possible invention embodiments that may or may not have been disclosed. Also, confirm with the inventor that the disclosed invention is the best mode known for practicing the invention. The specific embodiments or examples are good sources of information regarding the best mode.

To understand the "invention," you must understand the prior art. To get the process started, ask the inventor what he or she thinks is new about the invention. Inventors may not be aware of all the prior art, but they will likely have a sufficient understanding to provide some guidance as to the important aspects of their work which may be patentable.

Next, assuming that you have the benefit of having conducted a prior art search, study the prior art carefully, noting how the references operate and how they differ from your client's invention. This will crystallize the novel and non-obvious aspects of your client's invention which distinguish it over the prior art. Identify the key references that bear the strongest similarity to your client's invention. You will want to test your claims against these references to make sure that the references do not anticipate them or render them obvious. Also, ask the inventor how he or she distinguishes the invention from the prior art.

BE ORGANIZED

After studying the client's invention and embodiments, make sure to prepare as many drawings as are necessary to clearly illustrate the invention. For each embodiment, prepare drawings that show each element that will appear in the claims. The drawings will then provide you with a structure for organizing the presentation of the invention in the written description. Assign element numbers to each element that is described and illustrated. A good practice is to start with the numeral 10 and continue using increments of two, e.g., 12, 14, 16. This provides you with flexibility to use the unassigned odd numbers in the event you later wish to add another element.

PREPARE AN INITIAL SET OF PRELIMINARY CLAIMS

Once you have a firm grasp of the novel and non-obvious features of the client's invention, prepare one or two independent claims reciting only those essential features. The goal here is to develop preliminary claims to guide you in drafting the specification, after which a detailed claim set will be prepared.

Since these initial claims recite only essential features, they should represent the "core" embodiment of the invention. With the first couple of claims complete, prepare other claims dependent from the independent claims and add further elements or features that elaborate on or further specify the nature of the elements recited in the independent claims.

PREPARE THE SPECIFICATION

Keep the Background Brief

The Background of the Invention should only contain a general recitation of the current state of the technology at issue. It should not discuss any one prior art reference. Anything more may provide future defendants with ammunition for limiting claim scope or invalidating the patent.

The Background section can be used to provide information for rebutting obviousness rejections during prosecution, e.g. by describing the deficiencies in the prior art which the invention overcomes. We do not recommend this approach. For years, it was common practice for the Background to include a comprehensive disclosure of the state of the art and to include comments about the deficiencies in specific references. However, the Patent Office and the Courts may use those statements as admissions of unpatentability of the claims. For example, in In re Nomiya, 509 F.2d 566 (C.C.P.A. 1975), the Court of Customs and Patent Appeals considered the Patent Office's rejection of the applicants' claims based on two figures which were labeled as "prior art" in the subject patent application and held:

> We see no reason why appellant's representation in their application should not be accepted at face value as admissions that Figs. 1 and 2 may be considered "prior art" for any purpose, including use as evidence of obviousness under § 103.

Id. at 570-571.

A related issue concerns reciting "objects of the invention" in the specification. These should be avoided or minimized because defendants will argue that they are claim limitations, and that any accused devices not fulfilling those functions are not encompassed by the claims. Defendants may also attempt to use such statements to limit the scope of equivalents under the doctrine of equivalents. For example, in Vehicular Tech. Corp. v. Titan Wheel Intern., Inc., 141 F.3d 1084 (Fed. Cir. 1998), the Federal Circuit reviewed the District Court's grant of a preliminary injunction against a defendant accused of infringing a patent directed to automotive locking differentials. In the specification, the patent "announce[d] a function desired by the patentee, namely, a spring back-up." Id. at 1091. The Federal Circuit held that the accused device's inability to perform that function "strongly suggest[s] that the [defendant's] structure is more than insubstantially different from the claimed spring assembly," rendering it non-equivalent. Id. at 1091.

The Background of the Invention can be useful in providing a judge or jury with an understanding of the context of the invention and its importance in the evolution of the subject technology. Although we do not recommend doing so, it can be used to preempt or rebut an obviousness rejection during prosecution. In any event, it must be carefully drafted to minimize the likelihood that it will be used to limit the scope of the claims.

Describe Known and Foreseeable Alternatives

Here, the practitioner will put on the competitor's hat and try to envision alternative ways of practicing the client's invention. The goal is to prevent design-arounds or other slight modifications that fall within the scope of the client's inventive concept.

An invention will often depend on the use of a particular type of element or feature that is described in the specification. If there are other types of elements or features that can be substituted to perform the same task, it is important to describe them in the specification—and as further discussed below—to recite them in the claims. This is especially true for means-plus-function claiming under 35 U.S.C. § 112, ¶ 6 because "Literal infringement of a § 112 ¶ 6 claim requires that the accused device perform the identical function and be identical or equivalent to the corresponding structure in the specification." Lockheed Martin Corp. v. Space Systems/Loral, Inc., 324 F.3d 1308, 1320 (Fed. Cir. 2003). For example, if an invention element is a movable member, the claims recite a means for moving the member, and the written description identifies a hinge as the only type of means for moving the member, then the claims will be limited to a structure which is identical or equivalent to that of a hinge.

Use Clear and Concise Language

In drafting the written description, it is important to use words consistently throughout. It is also important that the words and terms used to describe the invention elements and/or features have a clear and unambiguous meaning. Any ambiguity could result in the claims being indefinite. Moreover, under the canons of claim construction, courts can resort to the specification to resolve ambiguities, increasing the possibility that the claims will be limited to a preferred embodiment.

If there is any doubt about the meaning of a claim term, include its definition in the written description. Feel free to cite a technical article or dictionary for the definition; however, consider a broad functional definition. If the term only has meaning in a particular technical field at issue, make sure to disclose that fact in the written description as well. Keep in mind that "the patentee's lexicography must, of course, appear with reasonable clarity, deliberateness, and precision." Abbott Laboratories v. Syntron Bioresearch, Inc., 334 F.3d 1343, 1354 (Fed. Cir. 2003) (citations omitted). Otherwise, the patentee's proffered definition of a term may be trumped by its "ordinary meaning." Id. at 1355.

Explore the Operable Range of Numerical Parameters

If the invention includes an element that is novel by virtue of a numerical parameter, be sure to fully describe the operable range of the parameter. This will reduce the likelihood that a would-be infringer will obtain a claim construction that limits the claims to a specific numerical value or an overly narrow range. First, describe a broad range that encompasses the operable limits of the invention without encompassing the prior art. Second, describe a narrower numerical range that captures preferred embodiments of the invention. And, Third, describe a narrowest numerical range that captures a most preferred embodiment. If there is any doubt, the specification should also describe how to measure the numerical parameter.

If you will be relying on the numerical range to support the patentability of the invention, you may need to describe the benefits of the specified ranges over the prior art. Inventions that rely on numerical ranges are frequently rejected as obvious matters of "routine optimization" which are not sufficiently inventive to render an invention non-obvious. If the importance of the range is not stated in the application, you may have to submit a declaration during prosecution to establish that the ranges produced unexpected results beyond those which would be expected by routine optimization. IPT

Next month: more on the specification, constructing a final claim set, and strategically using continuation applications.

Patent Drafting Strategies for Maximizing Enforceable Patent Rights — PART II

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Last month, we began our discussion of patent drafting strategies by focusing on the initial tasks of understanding the invention, preparing an initial set of preliminary claims, and drafting the specification. This month, we continue our discussion of specification strategies and examine strategies for constructing a final claim set and using continuation applications.

PREPARE THE SPECIFICATION (continued)

Provide Examples

The use of examples is not necessary but may be a convenient way to provide the invention's best mode. In addition, a number of foreign countries require the written description and claims to recite a working embodiment of the invention. In such countries, examples in the specification are deferred to for purposes of examining the patent application. When using examples, it is important to ensure that the examples conform to the claims and remainder of specification. For example, if the claims recite a particular numerical range of an ingredient or variable, all of the examples should disclose invention embodiments that fall within that range. If no actual data has been provided by the inventors, you can disclose theoretical examples. However, it is important not to suggest that you are using actual data because such a misleading suggestion could result in a charge of inequitable conduct. Make sure that the specification uses the present tense and not the past tense for "hypothetical" or "prophetic" examples. See Hoffman-La Roche, Inc., 323 F.3d 1354, 1363-1368 (Fed. Cir. 2003) (affirming holding of inequitable conduct based on patent-in-suit's description of hypothetical experimental results in the past tense). Also, confirm that the specification includes sufficient disclosure so that the patentee will not be accused of failing to disclose essential information relevant to the utility and workings of the invention.

CONSTRUCT A FINAL COMPREHENSIVE CLAIM SET

Identify Your Potential Infringers and Use the Various Statutory Classes of Claims

In constructing a comprehensive claim set, identify the appropriate statutory classes of claims, i.e., process, composition, apparatus, article of manufacture that should be drafted. Where possible, claim the invention using multiple statutory classes. There are at least three benefits of doing so. First, using multiple statutory classes provides a hedge against a possible invalidity attack. For example, if your client has developed a new apparatus, it may be possible to draft claims directed to the apparatus, methods of using the apparatus, and methods of making the apparatus. In the event that prior art is later discovered which discloses the apparatus, the methods of using or making it may nevertheless be novel and non-obvious.

Second, using multiple statutory classes may avoid the need for claim amendments that give rise to prosecution history estoppel. For example, if the examiner asserts prior art that discloses your client's apparatus but not its method of using the apparatus, the method claims may be allowed without amendment. In that event, the range of equivalents available for the allowed method claims will not be limited by prosecution history estoppel. The greater the variety of statutory classes that are used, the more likely it is that some of the claims will be allowed without amendment.

Third, using the various statutory classes enables you to more easily target the different classes of infringers, e.g., manufacturers and end users. End users will be the direct infringers of method of use claims. Manufacturers will be the direct infringers of claims directed to methods of making the apparatus. Both the end users and manufacturers will be direct infringers of apparatus claims. While a manufacturer may be held liable for contributorily infringing or actively inducing the infringement of a method of use claim, it is preferable to have claims that will enable you to proceed against the manufacturer as a direct infringer. This avoids having to establish the additional elements of proof needed to establish contributory infringement or inducement beyond those required to establish direct infringement.

It is important to be mindful of the "all-elements" rule of patent infringement, i.e., for a person to infringe a patent he or she must practice each element—either literally or by equivalents—recited in the claims. If possible, specify the claim elements such that only one potential infringer's actions will be required to perform all of the recited elements. Ideally, any one claim should not require the actions of more than one individual or entity to perform all of its elements. Otherwise, you may not be able to prove that any one individual or entity directly infringes the patent.

Add Claims of Varying Scope, Including a "Picture Claim"

For purposes of prosecution, it is desirable to include a number of claim groupings, each having a broad independent claim and a number of dependent claims. Ideally, the independent claims in each group should be of differing breadth. It is also desirable to ensure that none of the independent claims in one grouping are effectively duplicated by the dependent claims in another grouping. For example, a patent application may include three independent claims, each with its own set of dependent claims. Although it need not be, Claim 1 is typically the broadest independent claim, with the remaining independent claims having decreasing breadth.

Your broadest claim should recite the "core" elements of the client's invention. Your broadest claim should also describe the invention in the barest form possible to be novel and non-obvious over the prior art. Consult the key prior art references that you identified previously to ensure that the broad claim does not read on any of them. This claim, if allowed, should provide your client with the greatest scope of patent protection. The claims depending from it will recite other elements or features, or further describe the elements recited in the independent claim. These claims can then be relied upon if needed during prosecution to overcome a prior art rejection. The claims in the other groupings are related in the same way, but their respective independent claims are narrower in scope.

In view of Festo Corp. v. Shoketsu Kozoku Kogyo Kanushiki Co., 535 U.S. 722, 122 S.Ct. 1831 (2002), it is also desirable include a "picture claim," i.e., an independent claim that is narrowly tailored to cover a preferred embodiment of the invention. Such a claim may include a number of elements or features that are each novel or nonobvious. Thus, it necessarily will have a high probability of being patentable over known prior art and allowable by the Patent Office. Since, under Festo, an amendment made for a reason substantially related to patentability is one triggering prosecution history estoppel and a total surrender of the territory between the original and amended claim, a claim that is cleanly allowed without being amended may ultimately capture a greater landscape of products (through its scope of equivalents) than a claim that is literally broader, but which has been rejected and amended during prosecution.

There is no problem with reciting many independent claims. Although many practitioners in the past had concerns about the cost of numerous independent claims, in light of recent Federal Circuit opinions, for the appropriate invention, particularly where there are several novel elements, it generally makes sense to have an independent claim focused upon each novel element.

TEST THE CLAIMS

It is important to make sure that the claims cover all disclosed and contemplated embodiments to avoid surrendering unclaimed but disclosed embodiments. In Johnson & Johnson Associates, Inc. v. R.E. Service Co., Inc., 285 F.3d 1046 (Fed. Cir. 2002) the Federal Circuit held that embodiments that are disclosed and unclaimed cannot be recaptured with the doctrine of equivalents. Thus, it is important to ensure that the literal scope of the claims covers all disclosed embodiments.

One strategy for ensuring that all disclosed embodiments are claimed is to use "means-plus-function" claiming. Under 35 U.S.C. § 112, ¶ 6, elements described with means-plus-function terminology will be construed to encompass all structures in the specification—and their structural equivalents—which perform the claimed function. Thus, means-plus-function claiming can be used to define certain claim elements with the specification, reducing the possibility of unintentionally surrendering disclosed embodiments.

Also, make sure that the claims cover the client's commercial product. Evidence of commercial success of the product may be necessary to establish non-obviousness, either during prosecution or litigation. Unless the claims cover the product, you will likely not be able to use evidence of its sales to establish non-obviousness.

RE-EVALUATE THE SPECIFICATION

After drafting the final set of claims, re-evaluate the specification. There are two important goals in performing this review: first, ensuring that the claims are adequately supported in the specification, and second, ensuring that the specification does not unduly limit the scope of the claims.

A good way of ensuring that the claims are supported by the specification is to take the broadest (typically the first) claim grouping and use it to form the Summary of Preferred Embodiments section of the specification. This practice ensures that the invention is described in the specification with a breadth that is consistent with that which is described in the claims.

In addition, make sure that the language used to describe the invention in the specification is consistent with the language used in the claims. Would-be infringers will look carefully at the specification to identify the terms that correspond to the claim terms. If the specification terms have a more restrictive meaning than the claim terms, there is a greater likelihood that the would-be infringer will successfully argue that the claim term should be limited to the more restrictive meaning. One way to address this issue is to make sure that key claim terms are recited verbatim in the specification. If more restrictive terms are better suited to describing the invention than the claim terms, the specification terms can be described as "preferred." For example, if the claims recite "a first panel connected to a second panel," and the specification describes the first panel as "bolted to" the second panel, revise the specification to state that "the first panel is connected to the second panel, preferably by a bolt." This more clearly indicates that a bolt is only a preferred connector and that the claim scope should not be restricted to bolted connection. Running this kind of consistency check on the specification and the abstract can help ensure broader claim coverage in litigation.

KEEP A CONTINUATION APPLICATION PENDING

Continuation applications provide an excellent way to exploit an invention's evolving commercial potential. At the time of drafting a patent application, you and the client will likely have a view as to what is commercially important about the invention. That view should direct and focus your claiming strategy. However, as the invention is commercialized, you may find that the commercial value of the invention lies in features that were not the focus of the original claims. Assuming that such features were disclosed in the original application, a continuation application will allow you to draft new claims directed to them and also to cover competitor's products, while still claiming priority from your original application. But, do not keep the continuation application pending too long. Otherwise, the patent issuing from it may be vulnerable to a claim of Lemelson prosecution history laches.

CONCLUSION

The preparation of a patent application that will yield a strong, commercially valuable patent is a challenging and iterative process. We believe that the suggestions in this article will help focus your efforts appropriately to meet that challenge and enhance the value of patent portfolios.