PREPARING AND PROSECUTING A PATENT
THAT HOLDS UP IN LITIGATION

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INTRODUCTION .................................................................................. 3

PRE-FILING CONSIDERATIONS .......................................................... 5

Prior Art Searches ............................................................................. 5
Claim Drafting .................................................................................... 6
Carefully Consider Claim Terms ....................................................... 6
Review Claims for Obvious Errors ..................................................... 7
Avoid Disclosure-Dedication .............................................................. 9
Ensure Claims are Drafted with an Eye towards Infringement .......... 11
Drafting Claims that cannot be Avoided by Practicing a Single Step Abroad 13

Drafting the Specification .................................................................. 15
Statutory and Regulatory Requirements for Specification .............. 15
Draft the Claims and Drawings First ............................................... 16
Draft the Written Description Second .............................................. 16
Do Not Characterize "The Invention" .................................................. 17
Describe Multiple Embodiments Where Possible ......................... 18
Carefully Consider the Need for a "Summary of the Invention" and a "Background of the Invention" 19
Summary of the Invention ................................................................. 19
Background of the Invention ............................................................. 21
Draft the Abstract and Title Last ....................................................... 22

ASCERTAINING INVENTORSHIP .................................................... 22

PROSECUTION CONSIDERATIONS .................................................. 24

Duty of Disclosure ........................................................................... 24
Interviews ........................................................................................ 28
Narrowing Amendments .................................................................. 29
Allowance ......................................................................................... 33

POST-ISSUANCE CONSIDERATIONS .............................................. 34

Certificate of Correction .................................................................. 35
Reissue Application .......................................................................... 35
Reexamination ................................................................................. 37

CONCLUSION ..................................................................................... 38
PREPARING AND PROSECUTING A PATENT THAT HOLDS UP IN LITIGATION\textsuperscript{1}

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Introduction

As any seasoned patent litigator will tell you, there is no such thing as a “bullet-proof” patent. Rather, every patent has some defects that can be exploited during litigation in an effort to avoid a finding of infringement or support a finding of invalidity or unenforceability of the patent. Often, these “warts” are attributed to the attorney that prepared and/or prosecuted the patent-at-issue. Indeed, it seems that during every patent litigation, there comes a point where the litigator(s) representing the patent owner will declare with great frustration: “Why did the attorney prosecuting this patent decide to [insert action here]?”, where the action taken somehow impairs the validity or enforceability of the patent. These actions may include, for example, drafting claims that are too broad or too narrow, failing to disclose material prior art, making unnecessary amendments or arguments during prosecution, or a host of other discretionary acts.

However, there are a number of factors that should be considered before placing the blame for a defective patent squarely at the feet of the prosecuting attorney. For example, most patent applications are drafted in a vacuum, in the sense that the attorney drafting the case does not have perfect knowledge of the prior art\textsuperscript{3} or the technology against which the patent will ultimately be asserted—a technology that typically is developed \textit{after} the patent application has been filed. Given this, it seems unrealistic to expect that the attorney could draft a patent claim narrow enough to distinguish all prior art for the purposes of patentability yet broad enough to read on the later-developed technology.

A perhaps even more significant factor that hamstring\sloppy{}s the prosecuting attorney from obtaining a “bullet-proof” patent is the amount of money most applicants are willing to pay for obtaining a patent. For example, based on the AIPLA Report of the Economic Survey 2005, the average expected charge in 2004 for preparing and filing a utility patent application was $11,218 for
a relatively complex electrical or computer application and $12,373 for a relatively complex biotechnology/chemical application. In comparison, the average estimated costs associated with litigating a patent in 2005 as reported by the same survey were: $769,562 for a patent infringement suit in which less than $1 million was at risk; $2,637,179 for a suit in which between $1 and $25 million was at risk; and $5,175,753 for a suit in which more than $25 million was at risk.

For an accused infringer, a significant portion of these litigation costs is incurred in trying to find and exploit weaknesses in the patent-at-issue. For example, defendants in patent infringement suits will often spend large sums of money retaining industry experts to locate hard-to-find prior art that arguably renders the claims of the patent-at-issue invalid. When one compares the somewhat meager amount of money spent in procuring most patents to the comparatively vast amount of money spent in attacking them during litigation, it seems a wonder that any patent could be found valid, enforceable and infringed.

Despite these factors, there are nevertheless certain measures an attorney can take when preparing and prosecuting a patent to improve the odds that the patent will hold up in litigation. This paper will identify some of these measures. The list of recommendations provided herein is by no means exhaustive. Indeed, in light of the many statutory rules and judicial doctrines governing the scope, validity and enforceability of a patent, there are any number of ways that a patent can be strengthened both prior to and after issuance. In view of this, this paper will attempt to focus on those actions that will provide the best return on investment in terms of patent strengthening as compared to the time and money spent in performing them.

The various topics discussed in this paper are presented in an order that corresponds to the normal timeline associated with preparing and prosecuting a patent application. Accordingly, the paper is divided into issues to consider prior to filing a patent application (“pre-filing considerations”), when prosecuting the patent application before the U.S. Patent and Trademark Office (“USPTO”) (“prosecution considerations”), and after a patent has issued (“post-issuance considerations”).
Pre-Filing Considerations

Prior Art Searches

Many applicants struggle with the issue of whether or not to conduct a prior art search prior to filing a patent application. There are certainly some drawbacks associated with doing so. First and foremost for many applicants is that conducting a prior art search increases the time and expense associated with filing a patent application. Additionally, conducting a prior art search can raise duty of disclosure issues and may even put the applicant "on notice" with respect to a competitor's patent uncovered during the search such that the applicant becomes susceptible to a charge of willful infringement of the patent. In light of these drawbacks, and the fact that the USPTO does not require applicants to conduct a prior art search, it may be tempting to simply rely on the search conducted by the USPTO as part of the standard examination process.

On balance, however, if one is truly striving to obtain a patent that holds up in litigation, one should conduct a prior art search (or have one conducted by a competent searcher) prior to filing a patent application. There are two very good reasons for this. First, by knowing what the prior art is, the attorney preparing the patent application can avoid drafting overly-broad claims that must then be narrowed by amendment to overcome prior art that surfaces during examination. After the Supreme Court's decision in Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., making narrowing amendments for the purposes of patentability results in a presumption that claim scope has been surrendered under the doctrine of equivalents. Even if the applicant can successfully overcome an Examiner's rejection over close prior art by way of written arguments, such arguments may still be used to advance a narrow claim construction or an assertion of prosecution history estoppel during litigation.

Second, by identifying prior art and disclosing it to the USPTO, the applicant will make it difficult for a party to use that art as the basis for an invalidity defense in litigation. In accordance with 35 U.S.C. § 282, a patent is presumed valid—consequently, invalidity based on prior art (or any other grounds) must be shown by "clear and convincing" evidence. However, this presumption may
be easier to meet if a party can show that arguably invalidating prior art was not made of record during prosecution. Thus, it behooves the applicant to find the best publicly-available prior art and put it into the hands of the Examiner during prosecution. Doing so can help to neutralize what would otherwise be powerful weapons in an accused infringer's arsenal of defenses.

Claim Drafting

Most patent prosecutors will tell you that far and away the most difficult part of the job is claim drafting. A significant amount of time and mental effort are expended to arrive at the set of claims from which the remainder of the application flows. There is good reason for this. The claims form the foundation of any patent and are the means by which all patents are measured. Whether the test is invalidity or infringement, "the name of the game is the claim." For this reason, the time spent in claim drafting is usually time well spent.

With this in mind, we now turn to a list of issues to be considered when drafting claims.

Carefully Consider Claim Terms

Each term in a patent claim is presumed to have meaning. In *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, the Supreme Court stated that "[e]ach element contained in a patent claim is deemed material to defining the scope of the patented invention." The obvious corollary to the "all elements rule" is that claims should be stripped of limitations and terms not strictly necessary to define the invention as they may unjustifiably provide an accused infringer with a convenient non-infringement argument.

This is especially true given the increasing reliance by the Court of Appeals for the Federal Circuit ("the Federal Circuit") on the doctrine of claim vitiation. In accordance with this doctrine, the court may forego any real analysis under the doctrine of equivalents and simply conclude that a finding of equivalence would "vitiate" the limitation in contravention of the all-elements rule. An example of this is provided below.
In *Abbot Laboratories v. Novopharm Limited*,\(^{13}\) the claims required a "co-micronized mixture of particles of fenofibrate and a solid surfactant."\(^ {14}\) The accused process used a dissolved surfactant during the mixing step. It was undisputed that there was no literal infringement. An analysis under the doctrine of equivalents would have entailed analyzing the differences between the accused surfactant and the claimed surfactant and how they impacted the co-micronization process using the well known function-way-result test.

The Federal Circuit, however, forwent any doctrine of equivalents analysis and instead relied on the doctrine of claim vitiation, stating that "[d]issolved [surfactant] is clearly not a 'solid surfactant.'"\(^ {15}\) The court thus concluded that Novopharm's process could not, as a matter of law, infringe. "To hold otherwise would vitiate that limitation altogether, in contravention of the all-elements rule."\(^ {16}\)

Several commentators have noted an increased use in the doctrine of claim vitiation\(^ {17}\) and view it as a renewed attack on the doctrine of equivalents.\(^ {18}\) Practically speaking, the doctrine appears to be particularly useful where a patent term is binary in nature—e.g., terms such as "solid," "mounted on,"—in the sense that its presence or absence is readily ascertained. Use of such terms should be carefully considered and eliminated if they are not crucial aspects of the invention.

**Review Claims for Obvious Errors**

A "second-eye" review of claims prior to filing and again prior to commencing litigation is a cost-effective way to avoid potentially disastrous litigation outcomes. The following two Federal Circuit cases well illustrate this point.

In *Chef America, Inc. v. Lamb-Weston, Inc.*,\(^ {19}\) the sole issue was the meaning of the following language in a patent claim: "heating the resulting batter-coated dough to a temperature in the range of about 400 degrees F. to 850 degrees F."\(^ {20}\) It was undisputed that if the temperature of the dough were to actually reach the recited temperature range, then the resulting dough product would be "burned to a crisp." The patentee urged the Federal Circuit to interpret the claim as if it
read "heating the . . . dough at a temperature in the range of. . . ." In support, the patentee argued that "to" should be construed to mean "at" because otherwise the patented process could not perform as intended. The patentee also argued that one of ordinary skill in the art would have understood that the dough was to be placed in an oven that had been set to a temperature in the recited range.

The Federal Circuit rejected both these arguments stating that "this court . . . repeatedly and consistently has recognized that courts may not redraft claims, whether to make them operable or to sustain their validity." The Federal Circuit also noted that "[t]he patentees made no attempt to have such an error corrected, either by obtaining a certificate of correction from the [PTO] pursuant to 35 U.S.C. § 255, or by action of the district court." Accordingly, the Federal Circuit upheld summary judgment of non-infringement—all because the claim drafter mistakenly used the preposition "to" instead of "at."

In Novo Industries v. Micro Molds Corp., the disputed claim language was directed to a vertical blind assembly and read, in part, "(g) stop means formed on a rotatable with said support finger. . . ." The parties agreed that the claim included an error and the district court attempted to correct it. The patentee argued that the obvious typographical error could be corrected in one of two ways—either by deleting the three superfluous words "a rotatable with," or by deleting the two words "with said." The defendant argued that the "stop means" had to be located on a separate "rotatable" and because the "rotatable" was not identified in the specification, the claim was invalid for indefiniteness. The district court rejected both parties' arguments and corrected the claim by simply construing "a" as "and." The jury subsequently found the patent to be valid and infringed.

The Federal Circuit, however, reversed the decision on infringement stating that the district court lacked the authority to "correct" the error. Going further, the court held the claim to be invalid for indefiniteness under 35 U.S.C. § 112, ¶ 2. Relying on the 1926 Supreme Court case I.T.S. Rubber Co. v. Essex Rubber Co., the Federal Circuit held that a district court may correct a patent "only if (1) the correction is not subject to reasonable debate based on consideration of the claim language and the specification and (2) the prosecution history does not suggest a different
interpretation of the claims." The court determined that these criteria were not met for this case, especially considering the various methods suggested by the parties to correct the error.

_Chef America_ and _Novo Industries_ teach us that the responsibility for clear claim drafting lies primarily with the patent drafter and not with the courts. In short, the Federal Circuit mandates that courts should construe a claim "as written, not as the patentees wish they had written it." Furthermore, in a time of overburdened dockets, courts are unlikely to correct what may seem to be obvious errors, especially when those errors provide a simple way to dispose of a case at the summary judgment stage.

With this in mind, a simple and cost effective way to avoid such errors is to subject all claims, no matter how seemingly straightforward and simple, to a "second-eye" review by an experienced patent prosecutor. This should preferably be completed before the claims are filed. A second review should also be made by a patentee before deciding to embark on litigation. Certain errors can be corrected with a simple certificate of correction, while other more substantive errors can be corrected by filing a reissue application. As the above cases illustrate, an ounce of prevention is worth a pound of cure. For further discussion of correcting issued patents, see the Section entitled “Post-Issuance Considerations” below.

**Avoid Disclosure-Dedication**

Often, an element in a claimed invention can be implemented in practice in a variety of different ways. Accordingly, once claims have been drafted, they should be reviewed to ensure that each claim element has been recited using a generic term that captures every possible variant, provided the generic term finds full support in the specification. If a generic term cannot be used, then separate claims reciting each variant should be drafted. If an alternate implementation is disclosed in the specification but not claimed, such an implementation may be deemed dedicated to the public and, consequently, non-infringing as a matter of law.
In *Johnson & Johnston Assocs. v. R.E. Serv. Co.*, the patent applicant claimed a "component for use in manufacturing articles such as printed circuit boards" that included a laminate having sheets of copper foil adhered to both sides of an aluminum sheet. The accused infringer made laminates for the manufacture of printed circuit boards that joined copper foil to a sheet of steel instead of a sheet of aluminum. The specification of the patent-at-issue clearly contemplated the use of steel instead of aluminum, stating that "[w]hile aluminum is currently the preferred material for the substrate, other metals such as stainless steel or nickel alloys may be used." The Federal Circuit held that by disclosing but failing to claim the embodiment of the invention that used steel instead of aluminum, the patentee had dedicated it to the public. As a result, the patentee could not invoke the doctrine of equivalents to extend the aluminum limitation to encompass steel.

In *PSC Computer Products, Inc. v. Foxconn International, Inc.*, the Federal Circuit applied the "disclosure-dedication rule" from *Johnson & Johnston* to find dedication of an alternate implementation of the invention based on a description of prior art included in the patent specification. In *PSC Computer*, the patentee claimed a cam-type retainer clip for securing a heat sink to a microchip that included "an elongated, resilient metal strap" and a cam-type latch mounted in the center of the strap. The accused infringer sold a cam-type retainer clip that was made of plastic instead of metal. The court held that the plastic clip could not infringe as a matter of law because the patentee had dedicated a plastic implementation of the invention to the public. The relevant disclosure consisted of a statement in the "Background and Prior Art" section of the patent-at-issue that "other prior art devices use molded plastic and/or metal parts that must be cast or forged which again are more expensive metal forming operations." The court held that such language dedicated the alternative use of plastic parts to the public because "[a] reader of ordinary skill in the art could reasonably conclude from this language in the written description that plastic clip parts could be substituted for metal clip parts."

In each of these cases, the dedication to the public could have been avoided if the patentee had used more generic claim language or had drafted claims directed to alternate implementations described in the specification. For example, with respect to *Johnson & Johnston*, the patentee would
have fared better if he had generically claimed "a metal substrate" rather than an aluminum substrate, or if he had specifically claimed "a steel substrate". If, after a patent has issued, it is determined that a claim has been recited so narrowly as to fail to cover an important variant described in the specification, the patentee can always introduce claims that cover the variant into a continuation application (if one exists) or try to obtain such claims through the filing of a reissue application.

**Ensure Claims are Drafted with an Eye towards Infringement**

When drafting claims, it is not sufficient to focus only on crafting the broadest possible claims that overcome the prior art. Rather, strategic considerations regarding which parties and what products will infringe the claim should also be brought into play. Otherwise, the applicant may end up with a patent that cannot be directly infringed because it reads on the joint actions of multiple parties or that, even if infringed, only reads on a small number of products.

For example, consider a patent application dealing with a novel protocol for the high-speed delivery of video content from a server to a client over the Internet. Assume that the execution of the protocol includes: (1) maintaining the video content on the server; (2) communicating a request for the video content from client software executing on a user's personal computer (PC) to the server over the Internet; (3) in response to receiving the request, streaming the video content from the server to the user's PC over the Internet; and (4) receiving the streamed video content at the user's PC and playing back the content using the client software. Assume also that the novel and non-obvious features of the invention lie in how the video content is streamed from the server and how it is played back on the PC using the client software.

Now, consider this method claim directed to the protocol:

A method for the high-speed delivery of video content, comprising:

(a) generating a request for the video content by client software executing on a personal computer (PC);

(b) transporting the request from the PC to a server;
Because this claim includes limitations directed to how the video content is streamed from the server and how the streamed video content is played back on the PC using the client software, it captures the patentable features of the invention. However, in order for this claim to be directly infringed, the actions of multiple parties must be taken together to jointly perform the recited claim steps: namely, a PC user must cause steps (a) and (d) to be performed, a service provider must cause step (c) to be performed, and one or more parties providing network infrastructure must cause step (b) to be performed.

Given the current state of the law, there would likely be no direct infringement of the above hypothetical claim unless it could be shown that one of these parties directed or controlled the other parties' performance of the claimed steps. Furthermore, absent direct infringement, there can be no indirect infringement (i.e., inducement or contributory infringement) by any of the parties. Thus, assuming that the service provider, infrastructure provider(s) and PC user do not direct or control each other's actions (a likely scenario), the foregoing claim is of no value whatsoever.

In light of this, filing claims that require multiple actors to infringe should be avoided whenever possible. Such claims often arise in the context of software and business method patents that describe computer process steps that can be performed by multiple different devices and actors in a networked environment.

To avoid this issue, consider if a patentable claim could be crafted that could be infringed by only a single party. For example, with continued reference to the example protocol discussed above, consider the following alternative method claim:

A method for the high-speed delivery of video content, comprising:

(a) receiving at a server a request for the video content sent from a personal computer (PC); and
(b) responsive to receiving the request, streaming the video content from the server to the PC for playback on the PC.

As discussed above, part of the novelty of the inventive protocol lies in how the server streams the video content. Thus, it may be that this alternative method claim is patentable over the prior art. Perhaps equally important, however, is the fact that this claim could be infringed by a single party—namely, the service provider.

Another important consideration for the claim drafter is which products or components are likely to infringe the claim. For example, the alternative method claim recited above reads on a server maintained by a service provider. However, as noted above, part of the novelty of the invention also lies in how the streamed video content is played back by the client software on the PC. It may very well be that the number of units of client software far exceeds the number of servers in a system that implements the invention. Since damages for infringement may be measured as a percentage of the profits associated with each infringing product, it may make be more valuable to prosecute a claim that reads on the consumer's PC running the client software rather than (or at least in addition to) a claim that reads on the server.

**Drafting Claims that cannot be Avoided by Practicing a Single Step Abroad**

If one step of a method claim in a U.S. Patent is practiced outside the United States, then the claim is likely unenforceable. This conclusion stems from a subsidiary holding by the Federal Circuit in *NTP, Inc. v. Research in Motion, Ltd.*, where the court found Research in Motion, the makers of Blackberry wireless devices, to have willfully infringed certain system claims in NTP's patents, but not the method claims. While the mainstream media thereafter focused on the $54,000,000 damage award and the looming injunction that would have shuttered RIM's Blackberry operations, the patent bar found itself dealing with a surprising result that has potentially far reaching consequences for patent prosecutors and litigators alike.

NTP's patents were directed to a system and method for RF distribution of electronic mail to mobile processors. One of the method steps recited "transmitting the originated information
received from the gateway switch from the interface switch to a RF information transmission network." The concomitant system feature was "at least one interface switch . . . connecting at least one of the at least one gateway switch to the RF information transmission network." RIM, a Canadian company, located the "interface switch" and performed the "transmitting" step in Canada. All other operations were located and performed in the United States.

In finding the system claim infringed, the Federal Circuit stated that "the 'use' of a claimed system under section 271(a) is the place at which the system as a whole is put into service, i.e., the place where control of the system is exercised and beneficial use of the system obtained." However, in distinguishing the method claims, the court stated "[w]e . . . hold that a process cannot be used 'within' the United States as required by section 271(a) unless each of the steps is performed within this country." This result has direct implications for patent prosecutors.

Consider the above exemplary method claim for high-speed delivery of video content. In either version of the claim, locating the server in Bermuda would avoid infringement in the United States. As should be readily apparent, if any of the steps of a method claim are susceptible to being performed outside the country, the patent prosecutor needs to consider a concomitant system claim. One expeditious way to include a system claim is to transform the method claim into system claim under the auspices of 35 U.S.C. § 112, sixth paragraph, which permits system features to be claimed in functional language. Such a claim would look like this:

A system for the high-speed delivery of video content, comprising:

(a) means for receiving a request for the video content sent from a personal computer (PC); and

(b) means for streaming the video content from the receiving means to the PC for playback on the PC, the streaming occurring responsive to receiving the request.

Courts would then look to the specification to identify the structure—e.g., the server—used to performed the claimed function. If control of the server and its beneficial use were deemed to be in the United States, then the system claim would be infringed, whereas the method claim would not.
This is a simple example, and the boundaries of the court's "control [and] beneficial use" test for systems have not yet been fully developed. Nonetheless, the prudent patent prosecutor will include both system and method claims wherever a claimed process is susceptible to having one of the steps performed abroad. This appears especially pertinent to business method claims wherein one step is performed on potentially remotely located computer.

**Drafting the Specification**

In a recent *en banc* decision, the Federal Circuit unanimously reaffirmed the primacy of the specification in claim construction. Because proper claim construction lies at the heart of a successful patent litigation, applicants should treat the specification with appropriate care. While a well-crafted specification may not ensure litigation success, a poorly or carelessly drafted specification can sabotage even the most carefully drafted claims. In this section, we provide some tips on drafting a solid specification, and alert the patent prosecutor to common pitfalls.

**Statutory and Regulatory Requirements for Specification**

The statutory requirements for the specification are explicitly delineated in the first paragraph of 35 U.S.C. § 112. As a brief review, the first paragraph requires that the specification "contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains . . . to make and use the same." The requirements for the specification are set forth in greater detail in Title 37 of the Code of Federal Regulations, and in section 608 of Manual of Patent Examining Procedure ("MPEP").

The specific parts of the specification are delineated in 37 C.F.R. §§ 1.71-75. Therein, the USPTO lays out the requirements and suggestions for the different parts of the specification including the "claims," "written description," "title and abstract," and "summary of the invention." Further guidance may be found in the MPEP. Taken together, it should be noted that the claims, written description, title and abstract are required portions of the specification, while both the summary and background of the invention are optional. For efficiency in drafting and to ensure
compliance with the rules, the following order of operations should be used when drafting a patent specification: (1) claims; (2) figures; (3) written description; (4) abstract and title; (5) background (optional); and (6) summary of the invention (optional). Drafting the application in this order ensures at least the shell of a specification that is well on its way to providing a complete and enabling disclosure.

**Draft the Claims and Drawings First**

Draft the claims first. As noted above, the claims form the foundation of any patent application. While it may be tempting to begin elsewhere, the hard work of claim drafting must be accomplished first; for without the claims, one cannot even begin to draft an enabling specification. Where possible, claim drafting should be done collaboratively with the inventor as it forces the applicant to describe the metes and bounds of her invention in words.

Draft the drawings next. Once a working draft of the claims is agreed upon, a set of figures should be drafted. If the application has a system claim, then draft a system level diagram that includes at least each element of the broadest independent claim. Similarly, if the application has a method claim, draft a flow chart illustrating each step of the broadest independent claim. Flow charts are especially useful for clearly describing conditional claim elements. Another helpful figure may be an illustration of an exemplary environment in which the invention is to operate. Specific guidelines for patent drawings are found in 37 C.F.R. §§ 1.81-85.

With a draft set of claims and drawings, an important milestone is reached. At this point, the patent prosecutor should obtain inventor review and have a seasoned prosecutor provide a "second-eye." Only when this milestone is passed should the prosecutor begin the remainder of the application.

**Draft the Written Description Second**

The written description is the guts of the application. As noted above, an *en banc* Federal Circuit recently reaffirmed in the *Phillips* decision the importance of the written description in claim
construction. Therein, the court stated that "the specification is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term." The written description is thus the patent prosecutor's best tool for ensuring her claims are properly construed and not unnecessarily narrowed during litigation related claim construction.

If the drawings were drafted with an eye towards the claims, as recommended above, then the drawings become an outline for the written description. Each feature of the drawings should be described using language that is consistent with the claims. When this is accomplished, the drafter will have an adequate shell for the written description. All that remains is filling in the details such that the claims are (1) adequately supported and (2) given the best chance of desired construction during litigation. To that end, the following suggestions are provided for drafting a solid written description that will hold up in litigation.

**Do Not Characterize "The Invention"**

Avoid characterizing "the invention." In *Honeywell International, Inc. v. ITT Industries, Inc.*, the Federal Circuit construed the term "fuel injection system component" to be limited to a "fuel filter." In upholding the district court's narrow claim construction, the Federal Circuit found that "[o]n at least four occasions, the written description refers to the fuel filter as 'this invention' or 'the present invention.'" The court therefore concluded that "[t]he public is entitled to take the patentee at his word and the word was that the invention is a fuel filter." The court was not persuaded by the prosecution history where the patentee stated that the intended scope of the claims was to include "all fuel components manufactured of the moldable material disclosed and claimed in the specification."

Because the accused device was a "quick connect" nut-like structure used to join various components of a fuel injection system together, the Federal Circuit upheld the district court's grant of summary judgment of non-infringement. Had the applicant not explicitly and consistently characterized "the invention" in the written description as being a fuel filter, the claim may have
been construed differently. Rather than speaking of "the invention," refer instead to specific embodiments of the invention.

**Describe Multiple Embodiments Where Possible**

There is no requirement to describe multiple embodiments of an invention and the Federal Circuit has made it clear that a single described embodiment may adequately support a broad claim. *Ethicon Endo-Surgery, Inc. v. United States Surgical Corp.* However, there are also numerous cases where claims have been limited to a sole or narrowly described embodiment. For example, in *Gentry Gallery, Inc. v. The Berkline Corp.*, the Federal Circuit limited the location of a "pair of control means" to a console on a recliner sofa, even though the claims recited no such explicit limitation. In support, the court stated that "the original disclosure clearly identifies the console as the only possible location for the controls. It provides for only the most minor variation in the location of the controls, noting that the control 'may be mounted on top or side surfaces of the console rather than on the front wall . . . without departing from this invention.'" Because "[n]o similar variation beyond the console [was] even suggested," the Federal Circuit concluded that "locating the controls anywhere but on the console is outside the stated purpose of the invention." In summarizing its position, the Federal Circuit stated that an applicant may not "broaden his claims to the extent that they are effectively bounded only by the prior art. Rather, [our case law makes] clear that claims may be no broader than the supporting disclosure, and therefore a narrow disclosure will limit claim breadth." The *Honeywell* case also illustrates the importance of describing multiple embodiments because, as noted above, the fuel filter was the only described embodiment of the invention.

When *Gentry-Gallery* and *Honeywell* are taken together with *Phillips*, it should be clear to practitioners that careful attention should be given to the specification. Refrain from explicitly characterizing "the invention" and make every effort to describe multiple embodiments and variations on claim features. As the Federal Circuit has recently reiterated, "[a]lthough claims need not be limited to the preferred embodiment when the invention is more broadly described, neither do the claims enlarge what is patented beyond what the inventor has described as his invention."
Carefully Consider the Need for a "Summary of the Invention" and a "Background of the Invention"

Make a conscious decision on whether to include a summary and background of the invention. As noted above, these sections are not required by rule or statute and can be used against the patentee.

Summary of the Invention

According to 37 C.F.R. § 1.73, "[a] brief summary of the invention indicating its nature and substance . . . should precede the detailed description." Further, the rule states that "[s]uch summary should, when set forth, be commensurate with the invention as claimed and any object recited should be that of the invention as claimed." Nothing in the statutes requires a summary of the invention, and from the highlighted language in the rules, it should be clear that the summary of the invention is optional.

The stated purpose of the summary is, according to the Manual of Patent Examining Procedure (MPEP) "to apprise the public, and more especially those interested in the particular art to which the invention relates, of the nature of the invention." With respect to content, the MPEP states that the summary "may point out the advantages of the invention" and "[i]f possible, the nature and gist of the invention or the inventive concept should be set forth." According to the MPEP, "[t]he brief summary, if properly written to set out the exact nature, operation, and purpose of the invention, will be of material assistance in aiding ready understanding of the patent in future searches."

In short, the summary of the invention is an optional part of the specification whose stated purpose is to aid patent searches and appraise the public of the nature of the invention. These goals are not necessarily in line with litigation related claim construction and may, in fact, conflict with the patent holder's goals during litigation. Because of the summary's suggested content, courts often look first to the summary of the invention when construing claims. While a broad description of the
invention is not likely to be dispositive, a narrow description of the invention may well be fatally limiting.

A recent Federal Circuit case illustrates this point. In *Inpro II Licensing, S.A.R.L. v. T-Mobile USA, Inc.*, the claim term at issue was a "host interface" that provided communications between a personal digital assistant (PDA) and a host computer. The district court narrowly construed the term as being limited to "a direct parallel bus interface." Because the accused devices did not use a direct parallel bus interface, the court granted summary judgment of non-infringement.

The Federal Circuit affirmed the district court's narrow claim construction. The broadest independent claim merely recited a "host interface" that provided "communications," while a first dependent claim specifically recited a "parallel bus interface" and a second dependent claim further limited the "parallel bus interface" to one that provided "direct access" to CPU memory. The Federal Circuit was not persuaded by any claim differentiation arguments and relied heavily on both the background and summary of the invention in affirming the district court's narrow construction. The applicant chose to describe the "host interface" in the summary of the invention, stating that "the host interface means is configured to directly connect the microcontroller to a compatible bus structure of a host computer." The court's only citation to the written description, however, was to a "preferred embodiment" where the inventor "emphasized the 'direct' path between the PDA and host." In this case, the summary of the invention described a feature of the invention more narrowly than the broadest independent claim. This provided additional evidence for the courts to narrowly construe the claim.

Because the summary of the invention is optional and its stated purpose may be a odds with crafting a patent that will stand up in litigation, it should be omitted. If an applicant or patent prosecutor feels compelled to include a summary of the invention, one benign way to do it is to simply take the broadest independent claim and transform it into readable English by reciting each
feature in relation to the others in a separate sentence. Keep the summary simple, and under no circumstances describe the invention more narrowly that what is recited in the broadest claim.

**Background of the Invention**

The C.F.R. makes only a brief reference to the background of the invention when it lists the contents of the specification. Unlike the summary of the invention, the rules give no specific guidance on the contents of the background of the invention. This guidance may be found only in the MPEP, which states that the background of the invention should have two parts: "Field of the Invention" and "Description of the Related Art including information disclosed in [an IDS]." Therein, the applicant is encouraged to describe "to the extent practical the state of the prior art or other information disclosed known to the applicant." Additionally, the applicant is encouraged "where applicable, [to describe] the problems involved in the prior art or other information disclosed which are solved by the applicant's invention."

The background of the invention, if properly drafted, can be helpful in certain circumstances. For instance, it allows the inventor to tell the "story" of her invention, why it is useful, and why it merits a Letters Patent—a story that could be compelling in litigation. Alternatively, the background gives the applicant the chance to characterize the state of the art, which could be useful in a crowded art field where an inventor is seeking a modest improvement. Whatever the motivation, certain missteps should be avoided.

First, the tone of the background should be fairly neutral. An applicant should not disparage the state of the art as such statements may be equivalent to a disavowal of that subject matter. Second, an applicant should take care in describing the state of the art as such statements are an admission of what is prior art. When making a statement about the prior art, be absolutely sure it is, in fact, prior art. Finally, an applicant should completely avoid mention of or characterization of the invention. It is not required or desired in the background.
Despite the potential usefulness of a background section, the *Inpro II Licensing* case, described above, illustrates how a carelessly drafted one can also seriously limit claims in litigation. The court in *Inpro II Licensing* relied heavily on the background of the invention to limit the claim term "host interface" to "a direct parallel bus interface."\(^84\) Therein, the applicant disparaged serial interfaces as "time-consuming, error-prone, and hardware extensive (expensive.)"\(^85\) Furthermore, he stated in the background that "[a] very important feature of the [micro]PDA in an aspect of the invention is a direct parallel bus interface."\(^86\) Such statements have no place in the background of the invention. Indeed, they have no place in the written description either—especially where the applicant intended to claim the "host interface" more broadly and have these specific features included only in dependent claims.

**Draft the Abstract and Title Last**

Draft the abstract and title last. The abstract and title are required by 37 C.F.R. § 1.72. The rule only states that the title be "as short and specific as possible." While the authors are not aware of a case where the title was used to limit a claim during litigation, following the PTO's advice with respect to brevity is recommended.

The purpose of the abstract, as stated by Rule 72, "is to enable the [PTO] and the public generally to determine quickly from a cursory inspection the nature and gist of the technical disclosure." Note that the abstract is related to the technical disclosure, and NOT to the claimed invention. Nonetheless, the Federal Circuit has stated that "[w]e have frequently looked to the abstract to determine the scope of the invention, and we are aware of no legal principle that would require us to disregard that potentially helpful source of intrinsic evidence as to the meaning of claims."\(^87\) For this reason, applicants should avoid characterization of the invention in the abstract and describe as simply as possible the nature of the technical disclosure.

**Ascertaining Inventorship**

Prior to filing, the attorney preparing the application should determine who invented the claimed subject matter. This is a critical inquiry, as naming the wrong inventor(s) can provide a
basis for a cause of action under 35 U.S.C. § 256, an invalidity defense under 35 U.S.C. § 282(2), or, if it can be shown that the error occurred with deceptive intent, a defense that a patent is unenforceable under 35 U.S.C. § 282(1).

Where an inventor has been included or omitted due to an innocent mistake, inventorship can be corrected by the applicant during prosecution as well as after a patent issues. However, by resolving the inventorship issue prior to filing the application, the applicant can avoid the costs associated with correcting inventorship and foreclose the possibility that the issue will arise during litigation. Proper inventorship should also be determined as early as possible because ownership of a patent initially vests in the named inventors, each of whom has an equal, undivided interest in the entire patent.

An inventor is anyone who has contributed to the conception of a claim of a patent. Thus, where there is a possibility of joint inventorship, the inventorship determination is best made after the claims of an application have been drafted. Often, a client will provide an attorney with a list of inventors when first authorizing preparation of a patent application. When this occurs, it is incumbent on the patent attorney to revisit the issue of who the proper inventors are after the claims of the application have been finalized.

In many cases, it is not safe to assume that a client has properly identified the inventor(s). An individual may be identified as an inventor for reasons having nothing to do with contribution to the conception of the invention. For example, inventorship may be attributed to a supervisor or manager within an organization for purely political reasons. Alternatively, inventorship may be attributed to a lab assistant because she has spent a significant amount of time reducing an invention to practice, even though she had nothing to do with its conception. People within an organization may seek to be named as an inventor solely for reasons relating to personal pride or because of financial incentives offered by a company to employees who become named inventors on patent applications.
Given this, a patent attorney should make every effort to educate his client about what constitutes an inventive contribution. Additionally, for each application the attorney prepares, he should consult with the inventors (both during the initial invention disclosure meeting as well as immediately prior to filing) to ensure that the proper inventors have been named. When in doubt, be over-inclusive. In practice, it is much easier to remove an inventor from an application or patent than to add one. Also, it is less likely that deceptive intent can be shown where too many inventors have been named as opposed to too few.

Special care should be taken where the client has worked with individuals from other organizations in developing the technology surrounding the invention. For example, a company's use of independent contractors or participation in a joint development effort with another organization can lead to situations where an individual outside the company can claim that she is a co-inventor (and thus co-owner) of the patented technology. In these situations, the attorney preparing the case should make sure that either the appropriate individuals outside the company are also named as inventors (with the issue of ownership being negotiated up front) or that the claims are drafted in a manner that clearly excludes the contributions of the outsiders.

**Prosecution Considerations**

**Duty of Disclosure**

Under 37 C.F.R. § 1.56, the inventors, the attorney that prepares and prosecutes the patent application, and "every other person who is substantively involved in the preparation and prosecution of the patent application" has an affirmative duty to disclose to the USPTO all information "material to the patentability" of the claims of the application. Information is material to patentability when it is not cumulative to information already submitted to the USPTO and (1) it establishes by itself or in combination with other information a prima facie case of unpatentability of a claim; or (2) it refutes, or is inconsistent with a position the applicant takes in opposing an argument of unpatentability presented by the USPTO or in asserting an argument of unpatentability.
As most patent practitioners know, a failure to satisfy the duty of disclosure can provide a basis for an inequitable conduct defense in a patent suit. If successful, such a defense can have the devastating effect of rendering a patent unenforceable. Other consequences of a successful assertion of inequitable conduct may include liability for attorney's fees and antitrust damages, and suspension or exclusion of an attorney or agent from practice before the USPTO. Historically, the inequitable conduct defense has been extremely popular with defendants in patent litigation—as once noted by the Federal Circuit, although this defense is rarely successful, a charge of inequitable conduct may be expected to appear in almost every major patent case.

What then can a patent applicant do to ensure that the duty of disclosure has been satisfied and to minimize exposure to a charge of inequitable conduct? Much has already been written on this subject. The authors have accumulated and set forth below a summary of some of the "best practices" for satisfying the duty of disclosure and avoiding inequitable conduct.

*Provide the USPTO with complete copies of any references mentioned in the invention disclosure and in the patent application itself (e.g., in the background section).* This advice hardly needs an explanation—if the inventor thinks a reference is material enough to mention in an invention disclosure or in the patent application itself, the USPTO should be provided with a complete copy of it.

*Interview the inventor regarding information to submit to the USPTO.* The inventor is closest to the technology being patented and will likely have an understanding of what other solutions are available in the relevant art. Therefore, the inventor's own files and personal library are the best place to start when fulfilling the duty of disclosure. Encourage the inventor to be over-inclusive when providing information. Pay particular attention to an inventor's own patents, publications and presentations relating to the subject matter of the invention, as these documents will surely be examined by an accused infringer during litigation for art that should have been cited to the USPTO.
When appropriate, provide information about previous product generations or prototypes. Sometimes the closest prior art is a prior generation of a product sold by the inventor's company or a prototype produced in the inventor's lab. Because inventors tend to think of prior art as being limited to the work of others, this type of prior art may be overlooked. Thus, be sure and inquire specifically about it.

Talk to sales and marketing personnel at the inventor's company. Commercial activity often precedes product development. Interest in a product may be solicited long before an inventor designs it or reduces it to practice. In fact, in many instances, an invention is a direct response to a customer demand for a particular product feature. Whenever commercial activity has occurred in relation to an invention (or to a product that includes the invention), the "public disclosure" and "on sale" bars of 35 U.S.C. § 102(b) may be implicated. In this case, all information relating to the sales or marketing activity that precedes the filing date of the application by one year should be turned over to the USPTO. Often, the inventor has no idea that this commercial activity has occurred, so it is important to make independent inquiries to the sales and marketing personnel at the inventor's company.

Submit prior art cited in related applications and counterpart international applications. If similar inventions are being claimed by the applicant in a related U.S. application or abroad, prior art cited in those other applications should be submitted to the USPTO. During litigation, it will be easy for an accused infringer to identify such applications and determine whether the art cited therein was disclosed in the patent-at-issue. If the prior art is not in English, a complete translation should be submitted.

Submit copies of applications claiming similar subject matter. If the applicant has cases on file claiming similar subject matter (e.g., a closely related case or a continuation), a copy of the application should be provided to the USPTO so that a double patenting determination (both statutory and non-statutory) can be made by the examiner.
If aware of potentially material information, investigate. Although the applicant is under no obligation to conduct a prior art search, if an applicant (or her attorney) knows of information and may readily determine its materiality, she cannot intentionally avoid learning of its materiality. Thus, strong prior art "leads" should be investigated and if material information is identified as a result, such information should be turned over to the USTPO. Also, if a client provides unclear information concerning, for example, commercial activity or public use of the invention, further probing should be performed.

When in doubt, disclose. If it is unclear whether information is prior art, whether it is "material", or whether it is cumulative to information already submitted to the USPTO, the information should be disclosed so that the examiner can make the determination. A unilateral decision by the applicant not to file such information can prove extremely damaging during litigation if it appears that the applicant was trying to hide information material to patentability.

Submit up to the date of issuance. The duty of disclosure is an ongoing obligation and does not end until a patent issues. Thus, a review of related applications and other sources of prior art should be made at various points during prosecution of an application—a good rule of thumb is (1) upon or within three months of the initial filing; (2) every time a response to an office action is filed; (3) upon receipt of a Notice of Allowance; and (4) immediately prior to issuance (e.g., upon receipt of an Issue Notification). If material prior art is found after mailing of a Notice of Allowance but prior to payment of the issue fee, consider filing a Request for Continued Examination (RCE) to have the art considered by the USPTO. If material prior art is found after the issue fee has been paid but before the patent has issued, consider filing a request to withdraw the application from issuance so that the art can be provided along with an RCE.

The foregoing list of recommendations is by no means exhaustive. In order to ensure full compliance with the duty of disclosure and avoid inequitable conduct charges, the applicant must in every instance be as candid and forthcoming with the USPTO as possible. A patent attorney preparing and prosecuting patent applications is encouraged to closely follow the case law regarding
inequitable conduct to ensure that no missteps are made during prosecution that could result in a patent being rendered unenforceable.

**Interviews**

One of the hallmarks of a "bullet-proof" patent is a silent prosecution history. This is because arguments in favor of patentability made on the record during prosecution can come back to haunt the patentee during litigation. For example, when such arguments characterize the claims, they may later be used during litigation to advance a narrow claim construction or even to support an assertion of prosecution history estoppel. Also, when such arguments characterize the prior art, they may be attacked as misleading and thus used to support a claim of inequitable conduct.

To minimize the prosecution history, it is advisable to use the examiner interview process whenever possible and appropriate. An interview can provide an invaluable opportunity to educate the examiner about the invention and to thoroughly explain the differences between the invention and the prior art in a manner that is not reflected in the public record. Also, the interview allows the applicant to freely negotiate an allowable claim with the Examiner in a non-adversarial manner that can be more effective than any argument on the papers.

Even if agreement is not reached during the interview, interviews almost always help move prosecution forward because they allow the applicant and the examiner to obtain a better understanding of each other's positions. Thus, there appears to be very little downside to interviewing a case—except, of course, for the additional cost associated with doing so. However, failing to budget for examiner interviews may prove penny-wise, pound-foolish, given the potential long-term benefit that can be realized from doing so: namely, a significantly stronger patent.

With respect to the interview process, a couple of cautionary notes should be sounded. Often a junior examiner will suggest a narrowing amendment to the claims that in her view will overcome the prior art. However, when the applicant files the narrowing amendment, the examiner nevertheless rejects the claim over the same or new prior art. To minimize the chance of this
happening, when scheduling an interview, ensure that the examiner you are meeting with has signatory authority (i.e., the authority to allow the case) and seek assurances during the interview that, in exchange for making the amendment, the case will be allowed. If the examiner does not have signatory authority, ask the examiner to bring their supervisor to the interview.

Also, it is not 100% accurate to say that the substance of the examiner interview will not be reflected in the public record. Rather, a written statement regarding the substance of the interview must be made of record in the application. Regardless of whether the applicant or the examiner is ultimately responsible for providing this statement, in every case the examiner must complete an Interview Summary Form (PTOL-413) that identifies the claim(s), rejection(s), and prior art discussed, as well as a brief description of the "general nature" of what was discussed during the interview.

It is imperative that, prior to concluding the interview, the applicant review the text the examiner intends to include in the Interview Summary Form and provide suggested changes when it appears that the text is inaccurate or simply unnecessary. This is particularly true when such text characterizes the invention, the prior art, or any alleged similarities or differences between the invention and the prior art. Failure to do so can result in the entry of a statement into the public record that will adversely affect the scope of the issued patent. For this reason, face-to-face interviews at the USPTO are much preferred over telephone or video conference interviews, since in a face-to-face interview the applicant can visually inspect the proposed interview summary text prior to its entry into the record.

**Narrowing Amendments**

Despite the best efforts of the applicant and the attorney preparing/prosecuting the application to craft and prosecute claims that are patently distinct over the prior art, it may nevertheless become necessary during prosecution to make a narrowing amendment to the claims. This typically occurs when close prior art is found by the examiner during prosecution that the applicant was unaware of when the application was first filed. If the newly-discovered prior art
teaches or suggests each and every element of the applicant's broadest claims, then the claims will have to be narrowed in order to negotiate allowance of the application.

As most patent attorneys are now well aware, after the Supreme Court's decision in *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, making a narrowing amendment to a claim for the purposes of patentability gives rise to a rebuttable presumption that the applicant has disclaimed all of the subject matter in the territory that exists between the original claim and the amended claim. If the presumption is not rebutted during litigation, then the patentee is estopped from arguing that an element of an accused product or method is an equivalent if that element lies in the disclaimed territory.

This raises a good question: namely, is there anything that an applicant can do when forced to make a narrowing amendment that will facilitate overcoming the *Festo* presumption when a party later seeks to enforce the patent? In its *Festo* decision, the Supreme court identified three ways in which a patentee can rebut the *Festo* presumption: (1) by showing that the equivalent was unforeseeable at the time of the application; (2) by proving that the rationale underlying the amendment bore no more than a "tangential relation" to the equivalent in question; or (3) by demonstrating some other reasons suggesting that the patentee could not reasonably be expected to have described the insubstantial substitute in question.

The first manner of rebutting the presumption—showing that the equivalent was unforeseeable at the time of the application—is by its very nature something that cannot be addressed by the applicant during prosecution. If an equivalent is truly *unforeseeable*, then there is nothing the applicant can do during prosecution to ensure that the claims of the application cover it. The third manner of rebutting the presumption—demonstrating some other reasons suggesting that the patentee could not reasonably be expected to have described the insubstantial substitute in question—has not yet been sufficiently developed by the courts so as to provide any meaningful guidance with respect to it.
However, there is something the applicant can do during prosecution to help a patent owner avail themselves of the second manner of rebutting the presumption—i.e., proving that the rationale underlying the amendment bore no more than a "tangential relation" to the equivalent in question. In short, when forced to make a narrowing amendment, the applicant should clearly explain on the record the precise reason that the narrowing amendment has been made. For example, when the narrowing amendment is being made to overcome a prior art rejection, the applicant should explicitly identify what aspect or element of the prior art the narrowing amendment is intended to exclude or distinguish over.

This advice seems to fly in the face of the widely-accepted philosophy that a patent is strengthened by a silent prosecution history. Yet, absent following this advice, a court deciding if the Festo presumption has been rebutted will have no basis for determining whether or not the narrowing amendment bears more than a "tangential relation" to the equivalent in question. In such a situation, the presumption cannot be rebutted using the "tangential" criterion. As stated by the Federal Circuit:

[M]uch like the inquiry into whether a patentee can rebut the Warner-Jenkinson presumption that a narrowing amendment was made for a reason of patentability, the inquiry into whether a patentee can rebut the Festo presumption under the "tangential" criterion focuses on the patentee's objectively apparent reason for the narrowing amendment. As we have held in the Warner-Jenkinson context, that reason should be discernible from the prosecution history record, if the public notice function of a patent and its prosecution history is to have significance. [Citations omitted]. Moreover, whether an amendment was merely tangential to an alleged equivalent necessarily requires focus on the context in which the amendment was made; hence the resort to the prosecution history. Thus, whether the patentee has established a merely tangential reason for a narrowing amendment is for the court to determine from the prosecution history record without the introduction of additional evidence, except, when necessary, testimony from those skilled in the art as to the interpretation of that record.105

This point was emphasized in Insituform Technologies Inc. v. Cat Contracting, Inc.106 In this case, the asserted claims were directed to a process used in repairing damaged underground pipes without removing the pipes from the ground.107 In particular, the claimed process involved applying
a vacuum cup to a series of windows formed along the length of a flexible tube liner to draw resin into the liner prior to insertion of the liner into a damaged pipe. In a prior proceeding, the Federal Circuit had resolved that the claims were not literally infringed because they were limited to the use of a single vacuum cup, while the accused process used multiple vacuum cups. Thus, the issue on appeal was whether the accused process infringed under the doctrine of equivalents.

The accused infringer argued that because the claims were narrowly amended during prosecution to add the limitation of using a cup (as opposed to some other technique) to apply a vacuum to the flexible tube liner, the accused process, which used multiple cups to apply a vacuum, fell squarely within the territory surrendered by the narrowing amendment. Thus, it could not be deemed an equivalent. In contrast, the patentee argued that the narrowing amendment was made solely to distinguish a prior art process that used a single vacuum source at the end of the tube liner distant from the resin source, and thus was at most only tangentially related to the use of multiple cups by the accused process.

The Federal Circuit held that the patent owner successfully rebutted the Festo presumption with respect to the narrowing amendment, because "the prosecution history establishes that 'the rationale underlying' the amendment narrowing the scope of the literal claim coverage . . . bears 'no more than a tangential relation to the equivalent in question' . . ." In particular, the court based its holding that the Festo presumption was rebutted on the fact that during prosecution, the patentee "made it clear that the difference between its process and [the prior art] was that its process did not have the disadvantage of [the prior art] process of a large compressor at the end of the liner." In contrast, the court found that there was no indication in the prosecution history of any relationship between the narrowing amendment and the use of multiple cups by the accused process.

The Insituform case thus demonstrates that when forced to make a narrowing amendment to overcome the prior art, the applicant should put something into the record that explicitly states what aspect or feature of the prior art the narrowing amendment is intended to overcome. Absent doing
this, the patent owner may be unable to avail themselves of the "tangential" criterion to later overcome the Festo presumption during litigation.

Allowance

Typically, once an application has been allowed by the examiner, the only steps an applicant must take to ensure issuance of the patent are to pay the issue fee within the prescribed time frame and resolve any formalities noted by the examiner in the Notice of Allowability or elsewhere as necessary for issuance (e.g., the submission of formal drawings). The applicant may thus feel that, once the application has been allowed, prosecution is essentially over and that all that remains to be done is sit back and let the application proceed to issuance.

However, nothing could be further from the truth. Upon receiving a Notice of Allowance, the applicant should instead meticulously analyze the application and its prosecution history to ensure that it is truly in the best possible condition for allowance. This is the last chance the applicant will have to do so, unless the error happens to be of the type correctable by one of the various post-issuance measures for correcting a patent. A checklist approach is preferable to ensure that a rigorous review is performed in every case.

Among the most critical tasks to be performed is closely reviewing the claims to ensure that they are error-free, making sure to take into account any examiner's amendments. The specification and drawings should be reviewed as well. If errors are found, an amendment under 37 C.F.R. § 1.312 should be submitted as soon as possible to maximize the chance that the amendment will be entered and to minimize reductions in any patent term extension to which the applicant would otherwise be entitled. Another critical task is determining whether all material prior art of which the applicant is aware has been brought to the attention of the examiner. If not, a Request for Continued Examination should be filed so that such art may be duly considered. This prior art inquiry should also be performed at least once more immediately prior to issuance of the patent (for example, when the Notice of Issuance is received).
If the Notice of Allowability includes a statement of the examiner's reasons for allowance, the statement should be reviewed to ensure that it accurately reflects the prosecution history and does not place unwarranted interpretations—especially narrow ones—upon the claims. A statement characterizing the invention in a narrow way can be used during litigation to limit claim scope. If the statement does improperly interpret the claims, the Applicant should immediately file a response that rebuts the examiner's statement.

Other items which should be considered (in no particular order and without limitation) include: (1) has priority been properly claimed? (2) if priority has been claimed to a foreign-filed application under 35 U.S.C. § 119, have all necessary priority documents been filed and acknowledged by the USPTO?; (3) has all prior art submitted to the examiner been acknowledged by the examiner such that it will appear on the face of the patent?; (4) have all claims withdrawn as a result of a Restriction Requirement been cancelled?; (5) have all amendments to the claims, specification and drawings (both by the Applicant and the Examiner) been entered?; (6) have the drawings been accepted? (7) has a supplemental declaration been submitted if required by the examiner or pursuant to 37 C.F.R. § 1.67(b)?; (8) does a sequence list need to be filed?; (9) is a biological deposit necessary?; (10) is the patent term adjustment period correct?; and (11) if the applicant filed the application as a small entity, is small entity status still in effect?

Prior to issuance, the applicant will need to decide whether or not to file a continuation or divisional application. For an important application, it is advisable to have a continuation pending at all times. A continuation provides a convenient vehicle for correcting certain defects in the issued patent claims that may come to light only after the original patent has issued. A continuation also enables the applicant to prosecute a claim custom-tailored to read on a competitor's product that may come to the applicant's attention only after the original patent has issued.

Post-Issuance Considerations

Even after a patent issues, there are measures that can be taken by the patentee to ensure that the patent is in the best possible shape for litigation. These measures include obtaining a Certificate
of Correction, filing a reissue application, and pursuing reexamination of the patent.\textsuperscript{119} Each of these will be discussed in more detail below.

**Certificate of Correction**

After the patent issues, it should be immediately reviewed for errors. Errors in the claims are of particular concern as they provide easy fodder for an assertion of non-infringement or invalidity for failure to meet the definiteness requirement of 35 U.S.C. § 112, paragraph 2. Errors in the patent specification and drawings may support an assertion of invalidity for failure to meet the enablement, written description or best mode requirements of 35 U.S.C. § 112, paragraph 1.

If an error appears in the patent that is attributable to the USPTO, the applicant may request a certificate of correction be issued pursuant to 35 U.S.C. § 254. If an error appears in the patent that is attributable to the applicant, the applicant may request a certificate of correction be issued pursuant to 35 U.S.C. § 255. However, where the error is attributable to the applicant, the error must be "of a clerical or typographical nature, or of minor character" and have occurred in good faith, and the correction sought must "not involve such changes in the patent as would constitute new matter or would require reexamination."\textsuperscript{120} If these criteria are not satisfied, then a certificate of correction for an applicant's mistake will not be issued, and reissue must be employed as the vehicle to correct the patent.\textsuperscript{121} Typically, a mistake that effects the scope of a claim must be remedied through reissue.\textsuperscript{122}

A certificate of correction should be obtained as soon as possible after the patent issues and at the very latest before the patent is asserted in litigation. This is because a certificate of correction is only effective for causes of action arising after the certificate has issued.\textsuperscript{123} For causes of action that arise before the certificate of correction issues, the patent must be considered without the benefit of the certificate.\textsuperscript{124}

**Reissue Application**

When errors are found in an issued patent that are of a more substantial nature than minor typographical or clerical errors, the patentee should consider filing a reissue application to rectify
them. Reissue of a patent is permitted under 35 U.S.C. § 251 when the patent is "through error and without any deceptive intention, deemed wholly or partly inoperative or invalid, by reason of a defective specification or drawing, or by reason of the patentee claiming more or less than he had a right to claim in the patent. . . ." The most common bases for filing a reissue application are: (A) the claims are too narrow or too broad; (B) the disclosure contains inaccuracies; (C) applicant failed to or incorrectly claimed foreign priority; and (D) applicant failed to make reference to or incorrectly made reference to prior copending applications.

Because a patentee may correct the error of claiming too narrowly, the resulting reissue claim may be broader in scope than the original patent claim. The ability to broaden the claims post-issuance provides a significant strategic advantage to the patentee. However, 35 U.S.C. § 251 imposes a two year limit on the filing of broadening reissue applications. Thus, the determination of whether or not to file a reissue application should be made within two years of the issue date of the patent. Note also that the modification of claims is subject to a judicially-created rule that prevents the "recapture" of claimed subject matter that was surrendered in the application to obtain the original patent.

Provided the patentee can demonstrate an error of the type required to file a reissue application, the reissue process can also be used to provide prior art to the USPTO that is discovered by the patentee after issuance. Unlike reexamination, which will be discussed below, the prior art that may be submitted during the reissue process is not limited to patents and publications but can also include evidence of a prior public use or sale.

A reissue patent is fully effective as of its issue date. Surrender of the original patent does not affect any pending action or abate any cause of action to the extent that the claims of the original and reissue patents are identical. However, a person may acquire certain intervening rights against the reissued patent on account of prior non-infringing activity.
Reexamination

If after the patent issues, the patentee discovers prior art patents or printed publications that are (or might arguably be) more similar to the claimed invention than the prior art that was considered by the USPTO during prosecution of the application, the patentee should consider filing a reexamination of the patent. Through reexamination, the patentee can have the pertinent patents or publications considered by the examiner and narrow the claims to overcome them if necessary. The reexamination process can thus be used by the patentee to neutralize to some extent the threat such art would present if used during litigation to support an argument of invalidity of the patent.

A Request for Reexamination will be granted if the USPTO determines that the newly-submitted prior art raises "a substantial new question of patentability affecting any claim of the patent". Even if the Request is denied, the effect is beneficial from the patentee's perspective since it indicates that the USPTO believes the submitted patents and/or publications do not raise such a question.

However, there are risks associated with filing a Request for Reexamination that should be considered. The primary one is that once the Request for Reexamination is granted, all claims in the patent are subject to reexamination and may be rejected by the examiner. Furthermore, during reexamination, the claims are not accorded the presumption of validity that they would be accorded during litigation and are also given their "broadest reasonable interpretation" by the USPTO (thus making them more susceptible to prior art rejections than in litigation). Furthermore, arguments and amendments made by the patentee during reexamination can lead to prosecution history estoppels that negatively impact the ultimate scope of the patent. Also, it should be noted that claims which are new or substantially amended during reexamination may only have prospective effect due to the doctrine of intervening rights, which applies to claims issuing from reexamination in the same way it applies to reissued claims.
Conclusion

Patent prosecutors have a tough job. In a vacuum and on a very tight budget, they are expected to craft a patent that will cover technology developed after the patent is filed and that will withstand a barrage of legal attacks mounted at great cost during litigation. Hopefully, this paper has provided some useful tools by which a prosecuting attorney can produce such a patent without requiring an unrealistic investment of time and money.

1 The views expressed in this article are those of the authors and not necessarily those of the authors' firm, others in that firm, or its clients. Nothing in this article should be construed as legal advice or a legal opinion on any particular matter. Each individual case presents its own unique facts which must be carefully analyzed in view of current, applicable law before specific legal advice can be rendered.

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3 Even if the attorney drafting a patent application conducts a prior art search, and even if the prior art search were “perfect” in the sense that it uncovered the best publicly-available prior art, there is still “secret” prior art that remains unavailable to the attorney in the form of unpublished patent applications at the U.S. Patent and Trademark Office (which qualify as prior art under 35 U.S.C. § 102(e)). Indeed, since this unpublished prior art often describes the most recent advances in a technical field, it may truly represent the best prior art against the claims of an application.

4 AIPLA REPORT OF THE ECONOMIC SURVEY 2005, pp. I-94, I-95. If one divides these charges by the average attorney billing rate for IP work as reported by the same survey ($274/hour), one ends up with roughly 41 hours of attorney time for the electrical/computer application and 45 hours of attorney time for the biotechnology/chemical application. See id. at p. F-19.

5 Id., pages I-108 to I-110.

6 According to AIPLA REPORT OF THE ECONOMIC SURVEY 2005, the average expected charge in 2004 for a utility patent novelty search, analysis and opinion was $2,999. AIPLA REPORT OF THE ECONOMIC SURVEY 2005, p. I-100. For applicants having very limited capital, such as some individual inventors and start-up companies, this may constitute a significant additional expense associated with the patent application process. Even for a large company filing hundreds of patent applications a year, the cost associated with conducting prior art searches can be quite significant when totaled across all filings.

7 An additional benefit of conducting a prior art search is that the art may be used to support the filing of a Petition to Make Special, which, when granted, can result in accelerated examination of the application at the USPTO. See 37 C.F.R. § 1.102 (2005); Manual of Patent Examining Procedure (MPEP) § 708.02 (8th. Ed., Rev. 3, Aug. 2005). Given the growing backlog of pending cases at the USPTO, the filing of such Petitions may become more prevalent.
10 Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1050 (Fed. Cir. 1988) ("However, reliance upon such art when that art is more pertinent than the art considered by the PTO may facilitate meeting the burden of proving invalidity.").
11 Giles Sutherland Rich, Extent of Protection and Interpretation of Claims--American Perspectives, 21 INT' L REV. INDUS. PROP. & COPYRIGHT L. 497, 499 (1990) ("The U.S. is strictly an examination country and the main purpose of the examination, to which every application is subjected, is to try to make sure that what each claim defines is patentable. To coin a phrase, the name of the game is the claim.").
13 323 F.3d 1324 (Fed. Cir. 2003)
14 Id. at 1327.
15 Id. at 1331.
16 Id.
17 David J.F. Gross & Shawn T. Gordon, Claim Construction, Patent Infringement, and the Growing Importance of the Claim Vitiation Defense, PATENT DEFENSE AND ENFORCEMENT, p.II-52, n. 10 (Virginia CLE 2005) ("Since 2000, a review of 21 cases which raised claim vitiation revealed that in 19 of them, the court found that the limitation at issue would have been vitiated by the accused device.")
19 358 F.3d 1371 (Fed. Cir. 2004).
20 Id. at 1371.
21 Id. at 1373.
22 Id.
23 Id. at 1374.
24 Id.
25 350 F.3d 1348 (Fed. Cir. 2003)
26 Id. at 1352
27 Id.
28 Id. at 1353.
29 Id. at 1356-57.
30 Id. at 1358.
31 272 U.S. 429 (1926).
32 Id. at 1357.
33 Chef America, 358 F.3d at 1374.
34 285 F.3d 1046 (Fed. Cir. 2002) (en banc).
35 Id. at 1050.
36 Id.
37 Id. at 1055.
The court in Johnson & Johnston noted that the patentee filed two continuation applications of the patent-at-issue, one claiming "a metal substrate sheet" and one claiming "a sheet of stainless steel". See 285 F.3d at 1055 and n.2.

For more on reissue applications, see the corresponding section under "Post-Issuance Considerations", below.

When multiple entities practice different portions of a claimed process, courts have generally found liability for direct infringement only when one entity directs or controls the performance of the claimed process steps by the other entity/entities. See, e.g., Mobil Oil Corp. v. Filtrol Corp., 501 F.2d 282, 291-92 (9th Cir. 1974) ("We question whether a method claim can be infringed when two separate entities perform different operations and neither has control of the other's activities."); Marley Mouldings, Ltd. v. Mikron Indus., Inc., No. 02 C 2855, 2003 U.S. Dist. LEXIS 7211, *10 (N.D. Ill. April 30, 2003)(denying summary judgment on issue of infringement in light of disputed material fact as to whether the accused infringer controlled the activities of another entity in performing the first two steps of the process claim at issue); Free Standing Stuffer, Inc. v. Holly Dev. Co., No. 72 C 1070, 1974 U.S. Dist. LEXIS 11420, *36-37 (N.D. Ill. Dec. 24, 1974) (finding defendant liable for infringement where defendant directed another party to perform steps of the method claim at issue).

The issue of whether or not there can be "joint direct infringement" of a claim absent a showing that one defendant controlled the actions of another is at the heart of Freedom Wireless, Inc. v. Boston Communications Group, Inc. (Fed. Cir. Nos. 06-1020 et al.), which is currently on appeal before the Federal Circuit.

Joy Techs., Inc. v. Flakt, Inc., 6 F.3d 770, 774 (Fed. Cir. 1993) ("Liability for either active inducement of infringement or for contributory infringement is dependent upon the existence of direct infringement.").

418 F.3d 1282 (2005).

Id. at 1294.

Id. at 1295.

Id. at 1317.

Id.

Id. at 1318.

Phillips v. AWH Corp., 415 F.3d 1303 (Fed. Cir. 2005).

The first paragraph also requires that the specification "set forth the best mode contemplated by the inventor of carrying out his invention." While required by statute, the "best mode" requirement
is rarely at issue in patent litigation and a lack thereof is difficult to prove in the absence of clear
evidence that the inventor was hiding something. We will not dwell further on this requirement
herein.

58 Phillips, 415 F.3d at 1315 (internal citations omitted).
59 No. 05-1407, Slip op. at 10 (Fed. Cir. June 22, 2006).
60 Id. at 10-11.
61 Id. at 11.
62 Id. at 11-12.
63 Id. at 16.
64 93 F.3d 1572, 1582 n.7 (Fed. Cir. 1993).
65 134 F.3d 1473 (Fed. Cir. 1998).
66 Id. at 1479.
67 Id.
68 Id. at 1480.
71 Id. at § 608.01(a).
72 Id.
73 No. 05-1233, Slip op. at 7 (Fed. Cir. May 11, 2006).
74 Id. at 4.
75 Id. at 2.
76 Id. at 4.
77 Id. at 8.
78 Id.
79 37 C.F.R. § 1.77(b)(6) ("The specification should include the following sections in order . . . (6)
Background of the invention.")
80 MPEP § 608.01(a) and (c) (8th. Ed., Rev. 3, Aug. 2005).
81 Id.
82 Id.
83 Honeywell, Slip op. at 14.
84 Inpro II, Slip op. at 6.
85 Id.
86 Id.
89 See Beech Aircraft Corp. v. EDO Corp., 990 F.2d 1237, 1248 (Fed. Cir. 1993).
91 135 F.3d at 1460.
92 37 C.F.R. § 1.56 (2005).
93 Id.
Inequitable conduct refers to intentional acts and omissions of a patent applicant or representative of a patent applicant during the course of obtaining a patent from the Patent Office. *Kingsdown Med. Consultants, Ltd. v. Hollister Inc.*, 863 F.2d 867, 872 (Fed. Cir. 1988). Inequitable conduct consists of an “affirmative misrepresentation of a material fact, failure to disclose material information, or submission of false material information, coupled with an intent to deceive.” *Molins PLC v. Textron, Inc.*, 48 F.3d 1172, 1178 (Fed. Cir. 1995).

*Burlington Industries, Inc. v. Dayco Corp.*, 849 F.2d 1418, 1422 (Fed. Cir. 1988) (observing that "the habit of charging inequitable conduct in almost every major patent case has become an absolute plague" and noting that lawyers making the charge "get anywhere with the accusation in but a small percentage of cases"). Since making this observation, the Federal Circuit has attempted to curb inequitable conduct charges via its holding in *Kingsdown Med. Consultants, Ltd. v. Hollister, Inc.*, 863 F.2d 867 (Fed. Cir. 1988) (en banc), in which the court held that negligence alone could not support a finding of inequitable conduct, requiring instead both a material misrepresentation and intent to deceive. However, at least one member of the Federal Circuit believes that the court has recently rejected "the efforts of Kingsdown to bring objectivity to charges of inequitable conduct, instead reviving the culture of attack on inventor rights and attorney reputations based on inference and innuendo." *See Ferring B.V. v. Barr Labs., Inc.*, 437 F.3d 1181, 1195 (Fed. Cir. 2006) (Newman, J., dissenting).

*FMC Corp. v. Hennessy Indus., Inc.*, 836 F.2d 521, 526 at n. 6 (Fed. Cir. 1987) ("[O]ne should not be able to cultivate ignorance, or disregard numerous warnings that material information or prior art may exist, merely to avoid actual knowledge of that information or prior art."). Any interpretation of a claim that is either provided or disavowed during the prosecution of a patent application shapes the scope of the properly construed claim. *See, e.g., Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861, 867 (Fed. Cir. 1985) (holding that although claim term was not limited by the specification, it was "expressly defined" in a narrow manner in the prosecution history), overruled on other grounds by, *Nobelpharma AB v. Implant Innovations*, 141 F.3d 1059 (Fed. Cir. 1998).

Arguments made during prosecution will also give rise to prosecution history estoppel, if those arguments evidence a surrender of some subject matter. *See, e.g., KCJ Corp. v. Kinetic Concepts, Inc.*, 223 F.3d 1351, 1359-60 (Fed. Cir. 2000) (concluding that "KCJ's statements [during prosecution] reflect a clear and unmistakable surrender" of subject matter that cannot be reclaimed through the doctrine of equivalents).


*See 37 C.F.R. § 1.133(b), MPEP § 713.04.

MPEP § 713.04.


*Id. at 740.

*Id. at 740-741; see also Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd.*, 344 F.3d 1359, 1369-70 (Fed. Cir. 2003) (explaining the three criteria for rebutting the presumption set forth by the Supreme Court).
344 F.3d at 1369-70.
385 F.3d 1360 (Fed. Cir. 2004).
Id. at 1362.
Id. at 1362-63.
Id. at 1365 (citing to Insituform Techs., Inc v. Cat Contracting, Inc., 99 F.3d 1098, 1106-07 (Fed. Cir. 1996)).
Id. at 1368.
Id.
Id.
Id.
Id. at 1370 (emphasis added).
Id.
See the Section entitled "Post-Issuance Considerations", below, for a description of these measures.
37 C.F.R. § 1.104(e) provides, in part, that "[i]f the examiner believes that the record of the prosecution as a whole does not make clear his or her reasons for allowing a claim or claims, the examiner may set forth such reasoning." See also MPEP § 1302.14 (8th. Ed., Rev. 3, Aug. 2005) (discussing the purpose of the statement of the examiner's reasons for allowance, when such a statement should be provided, and what constitutes a suitable statement).
37 C.F.R. § 1.104(e) further provides that "[t]he applicant or patent owner may file a statement commenting on the reasons for allowance within such time as may be specified by the examiner."
A fourth measure that will not be discussed herein is statutory disclaimer. Statutory disclaimer refers to the ability of the owner of patent to disclaim a complete claim or claims of her patent pursuant to 35 U.S.C. § 253 and 37 C.F.R. § 1.321(a).
See MPEP § 1481.
Id.
Id. at 1297.
See Pannu v. Storz Instruments, Inc., 258 F.3d 1366, 1370-71 (Fed. Cir. 2001) ("The recapture rule 'prevents a patentee from regaining through reissue the subject matter that he surrendered in an effort to obtain allowance of the original claims'".).(citations omitted).
Id.
Id. The first sentence of 35 U.S.C. § 252 provides an accused infringer an “absolute” intervening rights defense to use, sell, or offer to sell a product that was made, purchased, offered for sale, used within the United States, or imported into the United States before the issuance of a reissue patent, provided that the activity does not infringe a claim of the reissued patent that was in the original patent. See Bic Leisure Products, Inc. v. Windsurfing Intl, Inc. 1 F.3d 1214, (Fed. Cir. 1993). The
second sentence of 35 U.S.C. § 252 provides an “equitable” intervening rights defense. By its terms, the second sentence allows a court to grant much broader rights than does the first sentence, as it permits the continued manufacture, use, sale, or offer for sale of additional products covered by the reissue patent, provided that substantial preparations to make, use, or sell identical products were made before the issuance of the reissue patent. However, such equitable rights are not absolute, and the court provides such rights as dictated by equities to protect investments made before issuance of a reissue patent. *Id.*

131 This section discusses *ex parte* reexamination as opposed to *inter partes* reexamination.
132 Reexamination cannot be used to enlarge claim scope. *See* 35 U.S.C. § 305.
134 *In re Etter*, 756 F.2d 852 (Fed. Cir. 1985).