

**PREPARING THE PATENT SPECIFICATION  
FOR FILING IN THE UNITED STATES****By: Richard P. Beem<sup>1</sup>****ABSTRACT**

Attorneys for applicants who plan to file U.S. patent applications (including those claiming priority based on first filing in another country or based on a PCT application) are advised to prepare a very detailed original specification in order to comply with U.S. requirements for (1) the written description of the invention, (2) enabling one of ordinary skill in the art to practice the invention, and (3) disclosing the best mode contemplated by the inventor.

Part I of this paper will provide an overview of the U.S. patent system. In Part II, the benefits of a detailed specification will be discussed, both during the prosecution of the application and later when the strength of the issued patent may be tested. Finally, in Part III, patent harmonization and the possible effects on U.S. requirements for the specification will be discussed.

**I. INTRODUCTION & OVERVIEW OF U.S. PATENT SYSTEM**

The preparation of the original specification is critical, both during prosecution in the U.S. Patent and Trademark Office (“USPTO”) and in the successful use of the issued patent. If the specification is prepared properly, the prosecution of the application and the ultimate allowance of desirable claims will be facilitated.

The claims define the invention, but here it will be assumed that claims originating in other countries may require or otherwise benefit by amendment, either at the time of filing in the USPTO, or during prosecution, or both. It will be assumed that to the extent possible, the significant features of the invention will be illustrated in detailed drawings filed with the original application. 35 U.S.C. §113.

Concededly, there are many reasons why an applicant may *not* desire to disclose the details of the invention, e.g., to retain the information as a trade secret. Also, a detailed disclosure is more time consuming and expensive to prepare. Moreover, some countries may not require such detailed disclosures, and the applicant may protest providing additional disclosure to comply with the requirements of the U.S. The author recognizes these considerations, but if the applicant wishes to apply for a U.S. patent, it is advisable to comply with U.S. laws, to which we shall now turn our attention.

The authority for the grant of U.S. patents originates with the U.S. Constitution, Art. 1, §8. The U.S. patent laws are exclusively federal, although state law may be relevant for issues such as ownership of patents and also concerning trade secrets and unfair competition. Federal statutes

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enacted by Congress are compiled in the United States Code (“U.S.C.”), with Title 35 being directed to patents. The statutes are supplemented by the Code of Federal Regulations (“C.F.R.”), with Title 37 being directed to patents. The USPTO has authority to issue rules of practice consistent with statutes and regulations, with such rules appearing in the very detailed Manual of Patent Examining Procedure (“M.P.E.P.”).

In order to obtain a filing date for a U.S. patent application, it is necessary to submit (1) the specification with at least one claim, and (2) any required drawing, filed in the USPTO in the name of the actual inventor or inventors. 37 C.F.R. §1.53(b); 35 U.S.C. §111. The declaration, power of attorney, and filing fee (as of October 2, 2008, the USPTO filing fee for a utility patent application is \$545 for a small entity or \$1090 for a large entity) may be filed later, along with a nominal surcharge.

An applicant may claim the benefit of the filing date of a prior foreign application, which claim may be made at the time of filing in the USPTO. In general, the filing of a utility patent application in a country other than the U.S. must be followed within one year by filing in the U.S. and the U.S. filing “shall have the same effect” as if the application had been filed in the U.S. on the foreign filing date. 35 U.S.C. §119. The benefit of the foreign filing date applies only if the original application complies with the disclosure requirements of 35 U.S.C. §112, *In re Gosteli*, 872 F.2d 1008, 1011 (Fed.Cir. 1989), and the priority date applies only to the original foreign disclosure. *Id.* at 1012. Filings under the Patent Cooperation Treaty may permit still further time before entering the national phase in the United States. 35 U.S.C. §§363, 365; *see* Patent Cooperation Treaty.

Upon filing an application in the USPTO, there is a duty on the part of the applicant and the attorney to disclose all known material non-cumulative prior art to the USPTO, with severe penalties for noncompliance. *See* 37 C.F.R. §1.56 (“Rule 56”) and related case law. In the European Patent Office (“EPO”), by contrast, there apparently is not a similar duty of disclosure. Thus, it is perceived that attorneys in some countries may not investigate prior art in related cases, previous patents, or publications. In the U.S., however, the degree of disclosure pursuant to Rule 56 is likely to be explored in detail if the patent later becomes involved in litigation.

Regarding the prosecution of U.S. patent applications, decisions are made in “office actions” issued by a single “examiner.” Following a prior art search by the examiner and the first office action, an applicant generally is entitled to file a response or amendment to be considered by the examiner. Subsequent office actions may be made final, after which further prosecution by the applicant may be limited. The applicant may elect to file a continuation application or a continuation-in-part (“CIP”) application. A CIP application is an application based in part on the original disclosure and based in part on new matter, with the original filing date applying to the former and the CIP filing date applying to the latter.

In the event of a final rejection, the applicant may elect to appeal the examiner’s decision to the Board of Patent Appeals and Interferences, generally consisting of three primary examiners. Further appeal may be taken to a U.S. district court and/or the U.S. Court of Appeals for the Federal Circuit (the “Federal Circuit”). Rarely, the U.S. Supreme Court decides appeals in patent cases.

After the issuance of a U.S. patent, a competitor may infringe one or more claims of the patent by making, using, or selling the patented invention in the United States. 35 U.S.C. §271.

Typically, the patent owner, usually with the advice of counsel, will send a written notice of infringement to the alleged infringer. Generally, the alleged infringer should obtain advice of counsel, and if an opinion of non-infringement and/or invalidity is obtained, such advice should be supported and confirmed in a competent written opinion of counsel, in order to minimize the possibility of a court finding “willful” infringement, with a possible award of increased damages and attorney fees. The parties may enter into negotiations and settlement of the dispute, which may involve a patent license.

In the patent owner or the alleged infringer wish to obtain the intervention of a court, a complaint (lawsuit) maybe filed in a U.S. district court, or in some instances, in the U.S. International Trade Commission. Most cases are settled after considerable discovery, which may include written interrogatories, production of relevant documents, and depositions of witnesses. If the case is not settled, a final judgment will be entered by the court, and an appeal may be taken to the Federal Circuit. Published opinions of the Federal Circuit are considered binding precedent for all U.S. district courts as well as the USPTO.

It is a premise of this paper that in order for a U.S. patent to have substantial value, it must be capable of withstanding the rigors of litigation in the U.S. courts. The original patent application should contain a detailed specification in order to obtain a strong patent with broad claims which will be upheld in court.

Of course, there are other requirements for patentability, such as novelty and non-obviousness (or inventive step); 35 U.S.C. §§102, 103. The disclosure requirements of Section 112 are separate, for the most part, from issues of prior art and priority, *see* U.S.C. §§102, 119.

## II. U.S. REQUIREMENTS FOR THE SPECIFICATION

The U.S. requirements for the specification are stated in 35 U.S.C. §112 (first paragraph): The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Section 112 (first paragraph) has been interpreted to include three distinct requirements for the specification:

1. There must be a detailed *written description* of the claimed invention;
2. The specification must disclose the *best mode* contemplated by the inventor for practicing the claimed invention at the time the application is filed; and
3. The disclosure must *enable* one of ordinary skill in the art to make and use the claimed invention.

When filed in the U.S., a foreign-originated application will not receive the benefit of the foreign filing date under 35 U.S.C. §119 *unless* the original foreign application meets the requirements of 35 U.S.C. §112, first paragraph. Moreover, the applicant bears the burden of

establishing entitlement of the filing date of the previously filed application. *In re Ziegler*, 992 F.2d 1197, 1200 (Fed.Cir. 1993);

In *Ziegler*, the applicant filed a U.S. application claiming priority based on an earlier-filed German application. The examiner concluded that because the German application did not meet the requirements of §112, applicant Ziegler could not claim the benefit of his German filing date under §119. As a result, a certain patent to Baxter et al. was prior art to Ziegler's U.S. application, and Ziegler's claims to the invention of polypropylene were rejected on that basis. The examiner's ruling was affirmed by the Board of Appeals and by the Federal Circuit. *Ziegler*, 992 F.2d at 1198-1203; *see also In re Gosteli*, 872 F.2d 1008, 1011 (Fed.Cir. 1989); *Fiers v. Revel*, 984 F.2d 1164, 1169-71 (Fed.Cir. 1993) (holding that a U.S. application of Revel was not entitled to the filing date of an earlier-filed Israeli application, because the Israeli application did not contain an adequate written description of the claimed DNA to comply with §112).

Even if the original application is sufficiently detailed to provide the benefit of the foreign filing date, the requirements of §112 can be very significant in other ways, both during the prosecution of the U.S. application and after the issuance of a U.S. patent. The importance of complying with the disclosure requirements of §112 will be discussed in further detail below.

**A. The Written Description Requirement:  
Rejection of Amended Claims For Lack Of Support  
In The Original Specification**

When filing a patent application in the USPTO, it is desirable to submit a detailed specification and drawings, well-crafted and definite claims, and a good translation if appropriate. One objective of the patent attorney is to place the application in such form that the first office action will be on the merits, i.e., based on the novelty and non-obviousness of the claimed invention in view of the prior art. Upon receiving such a first office action, the patent attorney may amend the claims and/or submit arguments, which may put the case in order for allowance.

In contrast, a less-polished application may result in a first office action including numerous rejections of vague claims and objection to inadequate disclosure, typically based on 35 U.S.C. §112, and perhaps not including a well-targeted decision on the merits. Extensive amendments to the claims may be necessary before the examiner can provide a well-reasoned decision in the second office action, which may be a final rejection. Because the examiner has the right to refuse to enter amendments submitted after final rejection, it is possible or even likely that a continuation application will be necessary. By this time, the one-year grace period allowed for filing the U.S. application while avoiding prior art under §102 may have elapsed, and it may not be possible to add additional disclosure without being barred by the inventor's own public use and other prior art.

In patent applications originating outside the U.S., it is very common to encounter Section 112 rejections in the first office action. Often, disclosures from outside the U.S. are sketchy, short, lacking in illustrations, and lacking in details to support the claims. Drawings may include many "black boxes," and may not provide adequate flow charts, computer programs, and the like. The claims often have not been cast properly to define the invention and to distinguish over the known prior art. Accordingly, it can be difficult to obtain allowance of desirable claims without considerable effort, delay, and expense.

In many cases, claims originally filed outside the U.S. must be rewritten into U.S. style. Typically, U.S. claims will describe the functions of the various elements. The USPTO usually will reject claims expressed as “characterized by ...”, etc., on the basis that such claims are vague and indefinite. Generally, there is no need to recite prior art structure followed by the distinguishing characteristics of the invention, a format referred to in the U.S. as a Jepson claim. The latter format may be prejudicial in the U.S., because it may be interpreted as an admission of prior art.

If the original application is sent to the U.S. for filing at the last minute, there is no time to rewrite the claims, and the first office action may be exclusively directed to claim informalities and other failures to comply with Section 112. In this situation, the merits of the claims may not be reached until it is too late to put the case in condition for allowance, perhaps leading to the filing of a continuation application.

There is a better way. Well before the one-year anniversary date (from the foreign filing), the originating patent attorney may send the application to a U.S. attorney (1) to redraft the claims and (2) to review for adequacy of the disclosure. It is possible to add descriptive material, even if the invention has been disclosed to the public, if within the one year grace period provided by the U.S. patent laws.

During prosecution of the patent application in the USPTO, the applicant frequently will seek to amend the claims, often adding limitations to distinguish over the prior art, §§102, 103, or to better define the invention, §112 (second paragraph). At this time, the examiner frequently searches the specification to determine whether the new limitations have “support.” If the language being added to the claims cannot be found in the specification, the claims may be rejected for lack of written description under Section 112 (first paragraph).

While the courts have held that the claimed invention need not be described *in haec verba* in the specification, *Ex parte Rodgers*, 27 U.S.P.Q.2d 1738, 1743 n. 11 (Bd. Pat. App. & Int’f 1992); *In re Wilder*, 736 F.2d 1516, 1520 (Fed.Cir. 1984); *In re Lukach*, 442 F.2d 967, 969 (C.C.P.A. 1971), in practice the examiners often apply a very technical standard for the written description under Section 112. Amendments to the claims usually are scrutinized carefully. If the examiner does not find language in the specification exactly corresponding to the amended claim, a rejection is possible or even likely, placing the burden on the applicant to show support in the disclosure. Although the original disclosure includes the specification, the drawings, and the original claims, it is usually the specification which provides the most detailed support.

Amendments to the claims and resulting rejections for lack of adequate description in the specification occur very frequently in USPTO applications, and especially in applications originating outside the United States. Sometimes a rejection under Section 112 can be overcome by arguments or by further amendments to the claims, but frequently the objectionable language must be removed from the claims. At the same time, the amended claims must distinguish over the prior art.

Accordingly, when preparing and filing patent applications forming the basis for U.S. applications, knowledgeable patent attorneys will incorporate very detailed descriptions of the invention in the original specification. For example, an acceptable range of dimensions or technical specifications may be provided for mechanical or electrical components, as well as still more specific preferred ranges. Similarly, in chemical cases, acceptable compositions will be listed, with

still more specific preferred compositions being stated. This includes both the identification of the various materials (preferably by chemical or generic name), and the concentration ranges.

It is preferable to provide detailed descriptions of the article, method and/or apparatus, which may include the interrelationship between components, the nature of chemical reactions, bonds, or processes, and the like, depending on the nature of the invention. In the context of patent prosecution in the USPTO, such details often become important when one wishes to distinguish over the prior art by amending the claims in response to an office action because such details provide “support” (or written description under Section 112) for the new limitations.

**B. Omissions in the Specification As Originally Filed May Be Difficult To Remedy, Because of the U.S. Prohibition Against Adding “New Matter” to the Application.**

One logical response to a rejection of amended claims for lack of support in the specification is to amend the specification to add further disclosure. This approach is very limited, however, because of the prohibition against adding “new matter” to the application. 35 U.S.C. §132, 37 C.F.R. §1.118, *Stearn v. Superior Distributing Co.*, 674 F.2d 539, 544 (6<sup>th</sup> Cir. 1982). Generally, amendments to the specification will be limited to correction of typographical errors, recitation of structure clearly disclosed in the drawings or in the original claims, and the like. *See* 37 C.F.R. 1.117, 1.118; M.P.E.P. §608.01.

In some instances, if the original U.S. application does not contain sufficient disclosure to support the desired amended claims, applicants in the U.S. may find it necessary or desirable to file a CIP application. Such a CIP application is entitled to the original priority date only as to the original disclosure, but as to the “new matter” the later CIP filing date applies. The later filing date may present difficulties if the additional disclosure is necessary to overcome a rejection on the basis of prior art already of record. Moreover, the claimed new matter in the CIP may be subject to rejection on the basis of additional prior art, which may include the applicant’s own publication, public use, or sale of the invention.

The problems presented by such additional prior art are compounded for non-U.S. applicants, because typically their priority documents will have been filed long before the Section 112 issues arise, and the priority application may already have been published more than a year before a CIP application is considered. The surest way to avoid the pitfalls outlined above is to provide a detailed description of the invention in the original specification at the time of the first filing.

**C. The Patent Must Enable One of Ordinary Skill in the Art To Practice The Invention**

In the U.S., the patent specification must enable one of ordinary skill in the art to make and use the claimed invention, 35 U.S.C. §112 (first paragraph). This “enablement” requirement is often a problem for applications originating outside the U.S., for the same reasons sated above in connection with the written description. Rejections for lack of enablement usually can be overcome, but it is costly and time-consuming to do so. Often, it becomes necessary to file a continuation or a CIP application, to schedule an interview with the examiner, to appeal, or the like.

Again, it may be more expedient and less costly for the originating attorney to send the application to a U.S. attorney to rewrite the claims and review the disclosure well before the anniversary date. In addition to expediting the prosecution of the application, this procedure may result in a stronger patent, because the issue of enablement is often challenged in litigation.

The disclosure must enable one of ordinary skill in the art to practice the invention without undue experimentation. *In re Vacek*, 947 F.2d 488, 495 (Fed.Cir. 1991). It is permissible, however, for the disclosure to leave it to the person of ordinary skill to engage in *some* experimentation, “for the patent document is not intended to be a production specification.” *Northern Telecom, Inc. v. Datapoint Corp.* 908 F.2d 931, 941 (Fed.Cir. 1990) (upholding a patent despite failure to disclose a computer program for carrying out the claimed invention, where “a programmer of reasonable skill could write a satisfactory program with ordinary effort”); *but see Amgen, Inc. v. Chugai Pharmaceutical Co., Ltd.*, 927 F.2d 1200, 1212 (Fed.Cir. 1991) (invalidating a patent for failure of the patentee to show that the claimed purified protein could be manufactured using the disclosed methods); *Morton Int’l, Inc. v. Cardinal Chem. Co.*, 5 F.3d 1464, 1469 (Fed.Cir. 1993) (claims to heat stabilizers for plastic pipe invalidated for lack of enabling disclosure; no evidence that the compounds could be produced according to the specification).

**D. The Applicant Must Disclose The Best Mode For Practicing The Invention, In Order To Obtain A Strong Patent Which Will Be Upheld In Litigation**

The U.S. explicitly requires disclosure of the best mode known to the inventor for practicing the invention at the time the application is filed. 35 U.S.C. §112 (first paragraph). Although this issue is occasionally raised during the prosecution of the application, it is more often challenged when the issued patent is asserted in litigation. As a practical matter, it is difficult for the USPTO to determine whether the applicant may have concealed the best mode. But the patent may be held invalid by a court if the accused infringer proves that the inventor failed to disclose the best mode contemplated by the inventor for practicing the invention at the time the application was filed.

The purpose of the best mode requirement is to assure the public that in return for a patent, the inventor must disclose the preferred embodiment of his invention, and not just the less desirable embodiments. *Dan Corp. v. IPC Limited Partnership*, 860 F.2d 415, 418 (Fed.Cir. 1988); *Wahl Instruments, Inc. v. Acvious*, 950 F.2d 1575, 1579 (Fed.Cir. 1991).

The best mode requirement is subjective rather than objective, *i.e.*, it is determined with reference to the inventor’s belief at the time the patent application is filed. *Amgen*, 927 F.2d at 1209 (Fed.Cir. 1991). Even if there are better ways of practicing the invention, they are not relevant to the “best mode contemplated” if the inventor did not know of such better ways, or did not believe them to be better, at the time he filed his application. *Benger Labs, Ltd. v. R.K. Laroes Co.*, 209 F.Supp. 639, 644 (E.D. Pa. 1962) *aff’d*, 317 F.2d 455 (3d Cir. 1963).

Moreover, the best mode is directed to the invention, which is measured by the claims, rather than being concerned with unclaimed peripheral devices. Unclaimed subject matter is not subject to the requirements of Section 112, otherwise, there would be no limit to the disclosure. *Engel Indust., Inc. v. Lockformer Co.*, 946 F.2d 1528, 1531 (Fed.Cir. 1991).

The best mode provision does not require the disclosure of production details, in the sense of precision manufacturing drawings and exact dimensions, so long as the means to obtain the inventive results are disclosed. *See Dow Chemical Co. v. American Cyanamid Co.*, 615 F.Supp. 471, 482-83 (E.D. La. 1985), *aff'd*, 816 F.2d 617 (Fed.Cir. 1987). In this sense, the applicant's disclosure is viewed from the perspective of the level of ordinary skill in the art, rather than from the layman's perspective. *Id.*

There has been some controversy in the U.S. regarding a perceived "unfair playing field" with respect to the detailed disclosure required in the U.S., particularly with respect to the best mode, in comparison to the disclosure required in other countries. It is commonly assumed by many U.S. nationals that the best mode requirement exists and is enforceable only in the U.S. In part, this is attributable to the availability of discovery in the U.S. It is difficult to obtain discovery of the best mode in other countries, and it may require piercing the corporate veil of a U.S. subsidiary.

It has been suggested that the statutes of the United Kingdom, the European Patent Convention (EPC), France, Germany, Italy, the Netherlands, Sweden, and Hungary do not explicitly require the inventor to disclose the "best mode" for practicing the invention. Forstner, "International Implications of the U.S. Best Mode Requirement," 21 AIPLA Q.J. 157 (1993). In general, however, it appears that the European statutes do require a clear and complete disclosure of the invention, perhaps equivalent to the U.S. requirement of an enabling disclosure. *Id.* It has been reported that the European Patent Office (EPO) Technical Board of Appeal has refused an application on the basis of deliberate withholding of process details "to prevent them being copied straight from the patent."<sup>2</sup> At least in Hungary, it has been suggested that by tradition and judicial precedent, the best mode must be disclosed.<sup>3</sup>

#### **E. The Interpretation of Claims in an issued Patent May Depend on the Specification**

The patented invention is defined by the claims for the purpose of determining literal infringement, *i.e.*, the words of the claim must "read on" the accused device. Thus, it is important to obtain reasonably broad claims, which define the invention and distinguish over the prior art.

There is a substantial body of U.S. law holding that limitations from the specification are not to be read into the claims. *Intel Corp. v. U.S. Int'l Trade Comm'n.*, 946 F.2d 821, 836 (Fed.Cir. 1991); *Sjolund v. Musland*, 847 F.2d 1573, 1581 (Fed.Cir. 1988); *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed.Cir. 1988). Nevertheless, there are significant ways for the specification to affect the scope of the claims.

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<sup>2</sup> *Application of Maurice Hakoune*, Decision of EPO Technical Board of Appeal, T 219/85, July 14, 1986, reported by Forstner, "International Implication of the U.S. Best Mode Requirement," 21 AIPLA Q.J. 157, 161, n. 8 (1993).

<sup>3</sup> Hungarian Supreme Court, Pkf. IV. 20600/1989, reported in Proceeding of AIPPI Hungarian Group, 119-121 (1990), discussed in Forstner, *id.* at 162.

First, the patentee is entitled to be his or her own lexicographer, *i.e.*, the specification may be used to define or to interpret the words of the claims. *Hormone Research Found., Inc. v. Genentech, Inc.*, 904 F.2d 1558, 1563 (Fed.Cir. 1990), *cert. dismissed*, 499 U.S. 955 (1991).

Secondly, infringement may be found by a U.S. court under the “doctrine of equivalents.” The purpose of the doctrine of equivalents is to prevent an unscrupulous competitor from practicing a fraud on the patent by copying the invention while narrowly avoiding the literal language of the claims. *Graver Tank & Mfg. Co. v. Linde Air Products Co.*, 339 U.S. 605, 607-09 (1950). This type of infringement is determined with reference both to the claims and to the specification, and it is to be distinguished from “literal” infringement which relies exclusively on the claim language. Infringement under the doctrine of equivalents may be found: (1) if the accused device performs substantially the same function, (2) in substantially the way, (3) to achieve substantially the same result, as the device as claimed and described in the patent. Under the “all elements” rule, every element of the claims, or its equivalent, must be present in the accused device. There are other factors relevant to the doctrine of equivalents, but here it suffices to say that a detailed disclosure of alternative structures, functions, operations, and results, may be useful in establishing infringement under the doctrine of equivalents.

Thirdly, the USPTO permits claims in “means plus function” format. It is recognized that such claims are not typical in many countries, but such claims may be suggested by the U.S. associate or by the USPTO. If a claim is written in means-plus-function format, the claim will be limited to the corresponding structure, material, or acts described in the specification and “equivalents thereof.” 35 U.S.C. §112 (sixth paragraph).

As an example of a means-plus-function claim, a truck restraint has been claimed as a series of elements, with one element requiring “means for releasably retaining” a hook. *Rite-Hite Corp. v. Kelley Co., Inc.*, 819 F.2d 1120 (Fed.Cir. 1987). The Rite-Hite specification disclosed a ratchet and pawl mechanism for raising and lowering the hook. In a patent infringement case, the accused Kelley truck restraint used a rack and pinion mechanism for raising and lowering the hook. Infringement was found based in part on the trial court’s finding that a rack and pinion is a clear equivalent of the ratchet and pawl disclosed in the specification.

In recent years, the U.S. courts have been more restrictive in their interpretation of equivalents. The breadth of such means-plus-function claims may depend on the number of alternatives disclosed in the patent specification. *Valmont Indus., Inc. v. Reinke Mfg. Co.*, 983 F.2d 1039, 1043-44 (Fed.Cir. 1993); *Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1536 (Fed.Cir. 1991).

### **III. POSSIBLE HARMONIZATION OF PATENT LAWS & EFFECTS ON U.S. REQUIREMENTS FOR THE SPECIFICATION**

It is beyond the scope of this paper to discuss all aspects of harmonization, but it would be remiss not to acknowledge some of the key harmonization issues, particularly concerning the requirements for disclosure. Here, reference is made to the World Intellectual Property Organization (WIPO) and the Diplomatic Conference on the Harmonization of Patent Laws.

There has been considerable debate over many articles of the WIPO basic proposal, including Article 3, disclosure and description; Article 9, right to a patent (first-to-file); Article 12, disclosures not affecting patentability (grace period); Article 15, publication of application; Article

16, time limits for search and substantive examination; Article 20, prior user rights; Article 21, extent of protection and interpretation of claims; Article 22, term of patents; and other articles and provisions. Here, no prediction is ventured with regard to the outcome of harmonization efforts, except to discuss the effects of possible changes in disclosure requirements.

Many U.S. nationals contend, with some support, that present U.S. laws and practices require a more complete specification than the laws and practices of other countries. They argue that U.S. applicants would be handicapped in a race to file, because they must spend more time in preparing their applications. Accordingly, there have been proposals by U.S. nationals that patent harmonization should result in a best mode requirement for all countries. Alternatively, it has been suggested that the U.S. should drop its best mode requirement, to eliminate the “unfair playing field.” A third option, as proposed by WIPO Rule 2(1)(vi), would permit a best mode requirement at the option of each country, although this would seem to perpetuate the unfair playing field.

The WIPO basic proposals regarding disclosure requirements are as follows:

### **Article 3 Disclosure and Description**

(1) [Disclosure] (a) The application shall disclose the invention in a manner sufficiently clear and complete for the invention to be carried out by a person skilled in the art.

(b) [concerning deposit of biologically reproducible materials]

(2) [Description] (a) The application shall contain a description.

(b) The description shall have the prescribed contents, and such contents shall be presented in the prescribed order.

(3) [Prohibition of Other Requirements] In respect of the disclosure or the description, no requirement additional to or different from those provided for in this article and in the relevant provisions of the Regulations may be imposed.

### **Rule 2 Contents and Order of Description**

#### **(Ad Article 3(2))**

(1) [Contents of Description] The description shall, after stating the title of the Invention,

(i) Specify the technical field or fields to which the invention relates;

(ii) Indicate the background art which, as far as known to the applicant, can be regarded as useful for the understanding, searching and examination of the invention, and, preferably, cite the documents reflecting such background art;

(iii) Describe the invention, as claimed, in such terms that the technical problem (even if not expressly stated as such) and its solution can be understood, and state the advantageous effects, if any, of the invention with reference to the background art;

(iv) [concerning biologically reproducible materials]

(v) Briefly describe the figures in the drawings, if any;

(vi) Set forth at least one mode for carrying out the invention claimed; this shall be done in terms of examples, where appropriate, and with reference to the drawings, if any; however, any Contracting Party may provide that the description set forth the best mode for carrying out the invention known to the inventor at the filing date or, where priority is claimed, priority date of the application;

(vii) Indicate explicitly, when it is not otherwise obvious from the description or nature of the invention, the way or ways in which the invention satisfies the requirement of being useful or industrially applicable.

[Observations of WIPO]

3.D Ad Rule 2(1)(vi). It seems advisable to maintain the last phrase so that Contracting Parties are free to require an indication of the “best mode” for carrying out the invention. Further, it is suggested not to include a note in the Records of the Diplomatic Conference on the question of priority; where the application whose priority is claimed does not disclose the best mode, the silence of the Treaty leaves a Contracting Party that requires disclosure of the best mode the freedom to decide whether to recognize the priority of such an application.

[End of quote from WIPO document PLT/DC/69, Jan. 29, 1993]

*See also* Article 21 of the basic proposal, which would provide for interpretation of the claims in light of the description and drawings, and would permit infringement by equivalents, similar to present U.S. practice. As set forth above in Section II(E), Interpretation of Claims, etc., a detailed specification can provide support for the patentee alleging infringement by equivalents. In particular, it is useful to disclose alternative embodiments and to discuss examples of equivalents in the specification.

Article 3 of the basic proposal requires (1) a written description and (2) an enabling disclosure, *i.e.*, “sufficiently clear and complete for the invention to be carried out by a person skilled in the art.” The latter two requirements appear to be consistent with U.S. law under Section 112, and with the U.S. practice of preparing a detailed specification. These requirements of Article 3 also are believed to be consistent with the laws of many other countries. Notwithstanding the statutory requirements, however, many U.S. nationals believe that *in practice*, specifications originating outside the U.S. tend to be less detailed than those prepared for first filing in the USPTO. Thus, it is not clear that harmonization of the *laws* will result in harmonization of the *practices* in different countries.

Under the WIPO proposal, the “best mode” requirement could be elected by any Contracting Party, and under WIPO observation 3.D, such a party would have the freedom to determine whether to recognize priority of applications failing to disclose the best mode. Presumably, the U.S. could elect to require the best mode and the other provisions of 35 U.S.C. §112. Other countries, by not making such an election, would not require the best mode.

Thus, it appears that if adopted in its present form, Article 3 of the WIPO proposal would not significantly change the existing disclosure laws of either the U.S. or of other countries. The

considerations set forth in the other parts of this paper would still apply, *i.e.*, prospective applicants for U.S. patents should prepare a detailed specification complying with Section 112 for their first filing.

An alternative result of harmonization (perhaps unlikely) is that both the U.S. *and* other countries might elect to require disclosure of the best mode. The relative unavailability of discovery in other countries may prevent thorough investigation of the applicant's compliance with a best mode requirement.

Another alternative is that the U.S. may elect to eliminate its explicit requirement for disclosure of the best mode, consistent with harmonization. Arguably, the elimination of the best mode requirement in the U.S. would create a more "level playing field," so that U.S. nationals would not be required to disclose more information in the USPTO, as compared to the disclosures required in other countries. Another argument for elimination of the present subjective best mode requirement is the difficulty of proving (1) that the inventor believed that another mode was better than the one disclosed, and (2) that the inventor concealed that best mode. It is rare that an inventor would admit to subjective beliefs inconsistent with his or her own interests. Thus, the best mode requirement is a breeding ground for litigation and discovery, including depositions and document inspections in an attempt to draw inferences from the circumstances to prove the inventor's state of mind. These activities may involve considerable expense and delay, and the outcome is uncertain.

On the other hand, any efforts to eliminate the best mode requirement in the U.S. will be subject to controversy. In particular, it has been argued that disclosure of the best mode is necessary for the *quid pro quo*. In other words, if the applicant is to obtain a "limited monopoly" at the expense of the public, the applicant should be required to disclose the preferred mode, not just inferior modes of practicing the invention. The concept of deliberate concealment of the best mode is contrary to the objective of encouraging full and complete disclosure of the invention.

Even if the explicit "best mode" requirement is deleted from the text of the U.S. statute, it seems unlikely that the U.S. courts will permit patent applicants to conceal the preferred embodiments, or best modes, for practicing their inventions (assuming that such concealment can be proved).

Arguably, the text of WIPO Article 3(1) requiring a "complete" disclosure of the claimed invention could be relied upon by a court to invalidate a patent on the basis of deliberate concealment of the best mode contemplated for practicing the claimed invention, at least in egregious situations. In such situations, the distinctions between best mode, enabling disclosure, and complete disclosure may be only theoretical. The result of patent invalidity is the same whether based on withholding of material information or on concealment of the best mode.

Moreover, intentional efforts to conceal the best mode may jeopardize the value of a patent application in other ways. First, at the time of filing, the applicant cannot be certain about the scope and content of the prior art. If broad claims are rejected on the basis of prior art, and the best mode has not been disclosed, the USPTO may reject amended claims specific to the best mode embodiment for lack of written description under Section 112 (first paragraph). Secondly, given the trend of the U.S. courts to narrowly construe "equivalents" in means-plus-function claims and for purposes of the doctrine of equivalents, the applicant incurs the risk of having the claims interpreted so as to cover the disclosed mode but not the undisclosed best mode! In the U.S., infringement determinations are typically made in the first instance by a jury or a judge without

technical training, and in the trial the experts often disagree. Accordingly, it may be counterproductive to conceal the best mode (often the embodiment actually made and sold), if it thereby becomes more difficult to prove infringement.

It is difficult to predict whether the U.S. will change its requirements for the specification from the existing requirements under Section 112. The resolution of the first-to-file issue may not be determinative, because the issues discussed herein with respect to detailed written description of the invention, disclosure of the best mode, enabling others to practice the invention, and the like, are not primarily issues of priority, but relate to the *quid pro quo*, *i.e.*, the applicant's disclosure of useful knowledge to the public in exchange for the grant of a patent for a limited time.

In any event, it appears that even if the best mode requirement is eliminated, the U.S. laws will continue to require, and the USPTO will continue to insist on, a detailed written description and an enabling disclosure of the claimed invention. At least for the time being, the best mode requirement remains in force in the U.S. and must be observed. Moreover, the applicant may obtain significant benefits during prosecution and possible litigation, as a result of disclosing the best mode.

## CONCLUSION

Applicants and attorneys planning to file in the U.S. should include in the first-filed specification a detailed written description of the invention, enabling one of ordinary skill in the art to practice the invention, and disclosing the best mode contemplated by the inventor for practicing the invention. Possible changes to U.S. laws pursuant to harmonization are unlikely to eliminate the requirements for a detailed disclosure. If the case is important, well before the one-year anniversary of the foreign filing date, the originating attorney may wish to send the application to a U.S. attorney re redraft the claims and to review the adequacy of the disclosure before filing in the USPTO. Descriptive material can be added if less than a year has passed since prior art has been made available, *e.g.*, through public disclosure of the invention. Observation of these recommendations will facilitate the prosecution of the application and the allowance the broadest claims permitted by the prior art, as well as ensuring that the issued patent will be a strong weapon against infringement by others.