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The Value of Patents in the United States and Abroad: Guidelines for the General Practitioner

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Although infrequently called upon to address the more technical aspects of patent practice, the general practitioner may have many occasions to give advice concerning the strength and value of a domestic or foreign patent belonging to a client, a client's competitor, or a prospective licensor.¹ Typically an international patent problem, which

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1. Not long ago, patent-related matters were considered the exclusive domain of the specialist—so much so that even today the ABA Canons of Professional Ethics permit the designation of "patent lawyer" to appear on a letterhead. See CANNON 27. The growing need, however, for a bench and bar with at least a basic understanding of patent law has often been recognized. See, e.g., Koenig, *Clarifying Patent Terminology And Patent Concepts: An Introduction To Some Basic Concepts And Doctrine*, 115 CATH. U.L. REV. 1 (1965). The growth of multinational corporations and increasing foreign trade activities of domestic companies has created the need for a better understanding of foreign as well as domestic patent practice.

combines elements of two legal specialties with often complex technology, is welcomed with about as much gusto as an income tax audit. Given an understanding of certain basic elements, however, any lawyer is competent to render at least a preliminary opinion as to the comparative value of a patent in a multinational setting.

Patents granted under different national legal systems may differ, both in the manner in which they are obtained and in their value. Key differences in national patent systems affect the strength and value of patents granted by respective countries.² After explaining some fundamentals, this article will examine those differences.

I

THE NATURE OF PATENTS

A. THE SCOPE OF PATENT RIGHTS

In return for disclosing his invention to the public, an inventor is granted a patent which, if valid, gives him a limited monopoly to exploit the invention. The "monopoly" is neither perpetual nor all-inclusive. It is limited in time to a specific number of years, and it is limited geographically to the country granting the patent.³ In practice,

2. There are, of course, many procedural differences among the patent systems of the various countries which have little direct bearing on the strength and value of a country's patents. For example, the United States has a "one-shot" fee system while most foreign countries have periodic taxes or annuities, often on a graduated scale which increases over the years, and patent rights may lapse for failure to make timely payment of these fees. *See* W. WHITE & B. RAVENSCROFT, *PATENTS THROUGHOUT THE WORLD* 24-27 (Table IV) (1973) [hereinafter cited as WHITE & RAVENSCROFT]. *See also* *MANUAL FOR THE HANDLING OF PATENTS, DESIGNS AND TRADE MARKS THROUGHOUT THE WORLD* (1973 Supp.). (The latter work is far more detailed than the former but is not likely to be as convenient and accessible a tool for the general practitioner.) Another characteristic of foreign patent systems are "working requirements"—*i.e.*, requirements that an invention actually be used in the particular country. *See* WHITE & RAVENSCROFT, at 28-31 (Table V).

3. For example, 35 U.S.C. § 154 (1970)-reads:

Every patent shall . . . grant to the patentee . . . for the term of seventeen years . . . the right to exclude others from making, using, or selling the invention throughout the United States. . . .

In the United States, the patent term commences on the date the patent is granted. Other countries grant utility patents for terms ranging from fifteen to twenty years, but beginning either from the date on which a patent application was filed or the date on which it was first disclosed to the public. *See generally* WHITE & RAVENSCROFT, *supra* note 2.

The foreign systems thus recognize that some benefits inure to the applicant for a patent prior to the actual patent grant. In the United States pre-grant benefits are limited to the notice "Patent Pending" which may be legally affixed to articles for which an application is on file in the United States Patent Office. *See* 35 U.S.C. § 292(a) (1970). Although conferring no legal rights on the applicant against infringers, such notice serves to discourage competitors from entering the field during the pendency of the patent application. In West Germany, an applicant for a patent actually obtains provisional

it is also limited by the manner in which the patentee may exploit his rights.⁴ Finally, and importantly, the actual right conferred by a patent is a "negative" one—that is, the right to *exclude others* from making, using or selling the invention in the country granting the patent.⁵ In other words, the grant of a patent for an invention does not automatically confer on the patentee the right to make, use or sell his own invention. The right of a patentee to profit from a newly-invented machine, for example, may be subordinated to an earlier unexpired patent on a component part, and the patentee will have to seek a license from and pay royalties to the earlier patentee for the right to embody the component part in the new apparatus. Thus, one factor in determining the value of a patent is whether practice of the invention "infringes"⁶ another valid, unexpired patent.

B. THE PARTS OF A PATENT

Generally, a patent consists of a description of the invention⁷ and a set of one or more "claims."⁸ In some countries a patent is tested for

rights against infringers with the publication of the application for opposition as an *Auslegeschrift*, although full patent rights are conferred only after the opposition period by the grant of a *Patentschrift*. See text, Part III (C) *infra*. However, the eighteen year patent term in West Germany commences on the day following the filing of the patent application.

With respect to the geographical limitation, it is important to recognize that an inventor must file a separate patent application in each country in which he desires protection. Compliance with this requirement is made easier by the Patent Cooperation Treaty (PCT) completed on June 19, 1970 in Washington, D.C. 9 INT'L LEGAL MAT'LS 978 (1970) [hereinafter cited as Patent Cooperation Treaty]. The Treaty provides an international procedural framework for processing and examining patent applications. See 876 O.G. PAT. OFF. 347 (1970). It appears that ratification of the Treaty by the United States Senate is close at hand. See BNA [May - Oct.] PAT., TRADE, & COPY. J. No. 177, at A-21 (May 1974). Although implementation of the PCT requires signatory countries to conform certain substantive features of their patent laws to the Treaty, the effect will be to facilitate filing patent applications in those countries and will not create transnational patent rights. On the other hand, the European Economic Community (EEC) has been independently moving towards establishment of a "Community Patent" which would confer substantive rights in all member countries. See Muller, *The Protection and the Exploitation of Inventions in Germany and Europe*, 5 PAT. L. REV. 379, 382-85 (1973).

4. An inherent tension exists between the existence of even a limited "monopoly" and the public policy of competitive free trade protected by the antitrust laws. For a good summary of the limits imposed on patent exploitation by the United States antitrust laws, see White & Staubitz, *The Antitrust Attack on Patent Licensing—From Light Bulbs to Lear Jets*, 25 BUS. LAW. 1725 (1970).

5. See note 3 *supra*. In the recent case of *Deepsouth Packing Co., Inc. v. The Laitram Corp.*, 406 U.S. 518 (1972), the Supreme Court defined the outer perimeter of this right by holding that the manufacture of packages of component parts of a United States-patented apparatus for sale abroad did not constitute direct or contributory infringement of the United States patent. See 35 U.S.C. §§ 271(a), (c) (1970).

6. See text, part IV(A) *infra*.

7. The inventor's description of the invention is known as the "specification," and this generally constitutes the main body of the patent. The specification is often subdivided

validity, and the scope of the patent is determined by reference to the entire disclosure.⁹ More commonly, however, the value of a patent depends on the strength and scope of the claims.¹⁰

C. INVENTORSHIP REQUIREMENTS

An important distinction must be drawn between "first-to-invent" and "first-to-file" patent systems.¹¹ The first-to-file system places a

into several parts: a description of the background of the invention which sets forth the problem or problems which the invention is intended to solve; a summary of the invention; a description of the preferred embodiment or best mode of practicing the invention, often by reference to one or more accompanying drawings; and several examples illustrating the practice of the invention. *See, e.g.*, 35 U.S.C. § 112 (1970), *amending* 35 U.S.C. § 112 (1952). In addition, anticipating the Patent Cooperation Treaty (*see note 3 supra*), the United States Patent Office since 1966 has required that a brief "abstract" of the invention precede the rest of the specification to expedite "searching" of previously issued patents. *See* U.S. PAT. OFF. R. OF PRAC. 72(b) (1973). *See also* text, part III(A) *infra*.

8. "Claims" are carefully drafted to cover each and every aspect of an invention. For example, a claim from one well-known patent reads as follows:

A board game apparatus including, in combination, a board having marked spaces or areas, constituting a path or course extending about the said board, said spaces or areas having, respectively, designations in real estate locations, railroads, utilities, chance, community chest and penalties; dice or the like to determine the extent of the players' movements along said path or course; a set of miniature buildings adapted when acquired by players to be placed on said real estate locations; a set of title cards having data thereon expressing values applicable to said real estate locations respectively; a set of cards having, respectively, data thereon concerning said railroads and utilities; a set of chance cards to be drawn from by players arriving at said chance areas, said cards having data of imposed penalties; a set of community chest cards having data of financial benefits; and a set of tokens or symbols shaped in representation of diversified objects, and constituting the playing pieces.

U.S. Pat. No. 2,026,082 ("Monopoly"), claim 4. If there is more than one claim, the claims generally appear in order of decreasing scope, often by making each successive claim dependent upon a preceding claim but including a further limitation, such that the last claim in a series of related claims will generally be the most narrow and specific. A claim is usually considered severable even though dependent upon another claim so that if a broad claim is declared invalid in litigation, a narrower and more specific claim in the same patent may well be upheld. *See, e.g.*, 35 U.S.C. §§ 253, 288 (1970). Enactment of these statutes overruled the holding of the Supreme Court in *Ensten v. Simon, Ascher & Co., Inc.*, 282 U.S. 445 (1931), that unless a patentee promptly disclaimed an invalid claim, it would vitiate his entire patent.

9. The "disclosure" has been defined as follows:

What any patentee has invented is theoretically what he discloses, and the disclosure is the specification. A claim is a definition of that which has been described in the specification. A disclosure tells how to do that of which the claim attempts definition.

Westinghouse Electric & Mfg. Co. v. Metropolitan Electric Mfg. Co., 290 F. 661, 664 (2d Cir. 1923).

In countries where a patent is tested for validity based on the entire disclosure, the specification may conclude with a "resume" instead of claims per se. *See* A. LIGNAC, FOREIGN PATENT APPLICATIONS 60-61 (1969) [hereinafter cited as LIGNAC].

10. *See* DELLER'S WALKER ON PATENTS § 509 (2d ed. 1972, Supp. 1973).

11. Only three countries—the United States, Canada, and the Philippines—have

premium on the race to the patent office by awarding a patent to the first person to file an application, regardless of whether a later applicant is in fact the earlier inventor.¹² Where prior invention by another is not in itself a bar to patentability, a valid patent may be granted to a later but independent inventor¹³ who was the first to file a patent application. In a few first-to-file countries, however, the novelty requirements, which must be met for any patent,¹⁴ are so strict that an anomalous situation is created in which the first-to-file cannot legally obtain a patent because he is not the first-to-invent, and the first-to-invent cannot legally obtain a patent because he is not the first-to-file.¹⁵

adopted the first-to-invent concept that an inventor should be entitled to priority for his invention as of the date he conceived it, providing he can prove it. *See* LIGNAC, *supra* note 9, at 21. An additional distinction may be observed among the different countries with respect to who may file an application. In the United States, normally only the inventor may so file, while most foreign countries permit filing by an assignee. *Compare* 35 U.S.C. § 118 (1970), *with* WHITE & RAVENSCROFT, *supra* note 2 at 14-17 (Table I).

12. Whereas the first-to-file system penalizes the more careful inventor who may delay filing a patent application until he has perfected his invention, the first-to-invent system is also subject to criticism insofar as it has generated a formidable body of administrative law known as "interference proceedings" for determining priority of invention. *See* 35 U.S.C. § 135 (1970), *amending* 35 U.S.C. § 135 (1952). For one solution to this problem, see Micklethwait, *The First-To-File-Evidence-of-Conception System*, 54 J. PAT. OFF. SOC'Y 272 (1972).

In determining priority of invention under the United States system, acts performed abroad generally may not be used to establish a date of invention, except for the filing of a patent application during the preceding twelve months in a country which is a member of the Paris Union, *i.e.*, a signatory of the Paris Convention for the Protection of Industrial Property of March 20, 1883. *See* 35 U.S.C. § 104 (1970). For the last revised text of the Convention completed in Stockholm on July 14, 1967, *see* [1970] 2 U.S.T. 1583, T.I.A.S. No. 6923 [hereinafter cited as the Paris Convention]; WHITE & RAVENSCROFT, *supra* note 2, at 408p. In this case, there must be a claim for "priority" in accordance with 35 U.S.C. § 119 (1974 Supp.), *amending* 35 U.S.C. § 119 (1970). *See also* Marmorek, *Same Problems in the U.S. Patent Practice Concerning The International Priority*, 53 J. PAT. OFF. SOC'Y 670 (1973).

13. First-to-file countries generally provide a remedy for the true inventor in cases of "derivation"—*i.e.*, where the first person to file for an invention obtained all or an important part of the idea from another. In some countries, for example West Germany, the rightful applicant can oppose the granting of a patent to the wrong applicant while submitting his own application and claiming the original priority for himself. Elsewhere, it may be necessary for the rightful applicant to go to a civil court for a remedy.

14. *See* text, part II(B)(3) *infra*. By way of comparison, the field of copyright law observes a standard of "originality" rather than "novelty," whereby any person who independently creates a copyrightable work may obtain a valid statutory copyright, notwithstanding a prior registration on the same or similar work by another. *See, e.g.*, 17 U.S.C. § 9 (1970), *amending* 17 U.S.C. § 9 (1952). *See* Runge v. Lee, 441 F.2d 579 (9th Cir. 1971).

15. The same situation can arise in the United States. 35 U.S.C. § 102(g) (1970) prohibits the grant of a patent to other than the first inventor in this country, while § 102(b) prohibits the grant of any patent for an invention which has already been patented for more than one year in any country. Thus, the true first inventor in the United States can be deprived of his right to a patent if he is not alert to the grant of a patent for his invention to another. *See* Johnston, *One Man In The World*, 56 J. PAT. OFF. SOC'Y 84 (1974).

In this event, there can be no valid patent for the invention. Most countries adopting the first-to-file system, however, have sought a "middle ground" in which the first-to-file obtains the patent, but certain rights of a "prior user"¹⁶ are also protected.¹⁷ Considering, therefore, the frequency with which first-to-file systems recognize at least some rights in the first-to-invent, one should remember that an important factor in the value of a patent may be the possible existence of an earlier, independent inventor who may invalidate a patent or qualify as a "prior user."

II

THE STANDARDS FOR PATENTABILITY

A. TYPES OF PATENTABLE SUBJECT MATTER

In general, there are three categories of patents: utility patents,¹⁸ design patents¹⁹ and plant patents.²⁰ The most important and by far the numerically largest category is the utility patent.²¹ The *types* of subject matter which may be patented under the *category* of utility patents ordinarily are further limited either by specific enumeration²²

16. In general, "prior user" status is accorded only to one who independently conceived the invention and reduced it to practice, *i.e.*, "used" it. See generally DIGEST OF COMMERCIAL LAWS OF THE WORLD—PATENTS AND TRADEMARKS (1973). Some countries, however, require only sufficiently complete knowledge so as to enable the start of utilization. See, *e.g.*, the policy of Belgium. *Id.*

17. The rights accorded a prior user amount to a personal "easement" on the invention. The right to continue using the invention without paying royalties to the patentee cannot be licensed and is transferable only in connection with the sale of a complete business. *Id.*

18. See, *e.g.*, 35 U.S.C. § 101 (1970), *infra* note 22.

19. See, *e.g.*, 35 U.S.C. § 171 (1970).

20. See, *e.g.*, 35 U.S.C. § 161 (1970).

21. Close to 4 million utility patents have now been granted in the United States alone, and the number is growing at the rate of about 100,000 annually. By way of contrast, just over 200,000 design patents and fewer than 5,000 plant patents have been granted in the United States.

22. 35 U.S.C. § 101 (1970) reads:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Although these four classes of utility patents may seem all-encompassing, in practice they have been construed to exclude laws of nature, scientific principles, abstract ideas, methods of doing business and mental steps from the scope of patentable subject matter. For example, in *Gottschalk v. Benson*, 409 U.S. 63 (1972), the Supreme Court affirmed the position of the United States Patent Office that a digital computer program is not subject matter embraced by Section 101 because it is merely a sequence of "mental steps."

or specific exclusion.²³ Therefore, a type of invention which is patentable in one country may not qualify for such protection in another.²⁴

B. REQUIREMENTS FOR UTILITY PATENTS

The fundamental requirements for obtaining a utility patent are that an invention be new,²⁵ useful²⁶ and unobvious.²⁷

1. Usefulness Standard for Utility Patents

Because patent offices typically do not have laboratory facilities, in all but the most doubtful cases the inventor's description of the use of his invention is accepted as *prima facie* evidence of utility. This usefulness requirement, however, is frequently invoked as a bar to patents for inventions which *on their face* are considered to be inoperable, such as a perpetual motion machine;²⁸ immoral, such as a slot machine;²⁹ or for which there is no currently-known and provable independent utility.³⁰

23. As a rule it can be said that countries other than the United States are much more restrictive with respect to what can be patented. For example, in Austria, Japan, Portugal, Spain, Switzerland, and the U.S.S.R., it is generally not possible to patent compositions of matter. See WHITE & RAVENSCROFT *supra* note 2. While Italy generally permits patents for compositions of matter, it is not possible to patent pharmaceuticals of any kind nor the processes for preparing them. *Id.* For some classes of inventions deemed particularly important to the national welfare, the United States has provided for mandatory licensing. See, e.g., the 1970 Clean Air Amendments, 42 U.S.C. § 1857 h-6 (1970).

24. A vivid illustration of the kinds of problems created because of such differences in patent systems is the case of *Parke, Davis & Co. v. Probel*, 14 Recueil de la Jurisprudence de la Cour 81 (Cour de Justice des Communautés Européennes, 1968) discussed in Grace, *International Law—Competition Law of the EEC*, 5 TEX. INT'L LAW F. 184 (1969). Essentially the EEC Court of Justice had to decide whether Common Market antitrust law sanctioned the exclusion from the Netherlands of a Dutch-patented pharmaceutical product produced by an unlicensed manufacturer in Italy where patent protection was unavailable to the patentee because of Italian law.

25. See, e.g., 35 U.S.C. § 101 (1970), *supra* note 22. The specific grounds for lack of novelty in the United States are set forth in 35 U.S.C. § 102(a), (b), (e) and (g) (1970).

26. See, e.g., 35 U.S.C. § 101 (1970), *supra* note 22.

27. See, e.g., 35 U.S.C. § 103 (1970).

28. See *Ex parte Payne*, 1904 C.D. 42, 108 O.G. PAT. OFF. 1049 (1903).

29. In *Lowell v. Lewis*, 15 F. Cas. 1018, 1019 (No. 8568) (C.C.D. Mass. 1817), Mr. Justice (then Judge) Story observed:

All that the law requires is, that the invention should not be frivolous or injurious to the well-being, good policy, or sound morals of society. The word "useful," therefore, is incorporated into the act in contradistinction to mischievous or immoral. For instance, a new invention to poison people, or to promote debauchery, or to facilitate private assassination, is not a patentable invention. . . .

It might well be asked whether a patent office is the proper forum for such moral judgments.

30. See *Brenner v. Manson*, 383 U.S. 519 (1966). This means that a new "wonder" drug, the only known use for which is thought to be, for example, in cancer therapy,

2. Unobviousness Requirement for Utility Patents

The requirement that a patent not be granted for an invention which, although novel in the strictest sense,³¹ would be "obvious" to a person skilled in the art,³² is based on an essentially subjective standard. The result is wide variation among the criteria applied by the various countries whose systems embody some form of unobviousness requirement.³³ Even in the United States, where the requirement of unobviousness has flourished to a greater extent than in other countries,³⁴ controversy rages among the Patent Office, the Court of Customs and Patent Appeals, and the other federal courts over the proper standards to be applied.³⁵

3. Novelty Requirements for Utility Patents

The essential requirement for any patent is that the invention be "novel."³⁶ Although the specific grounds for establishing lack of novelty

cannot be patented either as a process or a new composition of matter until the inventor presents clear and convincing evidence that the drug in fact helps to cure cancer. See 849 O.G. PAT. OFF. 567-68 (1968). Again, it is well to consider whether a patent office is the best forum for such inquiries.

31. If another person has previously made exactly the same invention down to the last nut and bolt, the invention lacks novelty. If, however, a nut and bolt are interchanged, the invention may still be "obvious" but it is, strictly-speaking, "novel." See *Illinois Tool Works, Inc. v. Sweetheart Plastics, Inc.*, 436 F.2d 1180, 1182-83 (7th Cir. 1971), cert. dismissed, 403 U.S. 942 (1971).

32. See, e.g., 35 U.S.C. § 103 (1970).

33. Great Britain, for example, recognizes only "clear" obviousness, a standard which approaches novelty. See *LIGNAC*, supra note 9, at 49-50.

34. "Obviousness" was introduced to the United States patent system by the famous "doorknob" case, *Hotchkiss v. Greenwood*, 52 U.S. (11 Howard) 248 (1850). In this case the Supreme Court held that although it was "novel" to attach ceramic doorknobs to steel shanks, the method for doing so was obvious in view of earlier designs for wood and metal knobs. In *Cuno Engineering Corp. v. Automatic Devices Corp.*, 314 U.S. 84 (1941), Mr. Justice Douglas translated "unobviousness" into the "flash of genius" test, a standard which glorified the basement inventor at the same time it denied patentability to inventions discovered only after long hours of methodical laboratory research. When the "unobviousness" doctrine was first codified in the 1952 Patent Act, the second sentence of 35 U.S.C. § 103 (1970) was added for the express purpose of reversing the holding in *Cuno*.

35. The principal guidelines for interpreting section 103 are the Supreme Court dicta in *Graham v. John Deere Co.* 383 U.S. 1, 13-17 (1965). Despite the major conflicts which have subsequently arisen, the Supreme Court has consistently refused to review and clarify these dicta. In one recent major patent case, after granting certiorari the Court specifically requested counsel to brief an issue neither side had raised, then proceeded to decide the case on that issue and again skirted the question of obviousness. *Blonder-Tongue Laboratories, Inc. v. University of Illinois Foundation*, 402 U.S. 313 (1971).

36. This is true even for plants, which must be "distinct and new" (35 U.S.C. § 161 (1970)), and for designs, which must be "new [and] original" (35 U.S.C. § 171 (1970)), to qualify for patents.

vary among the different countries,³⁷ two general grounds are: a) public knowledge of the invention is derived from third persons; and b) public knowledge of the invention derived from the inventor himself.³⁸ It is also important to distinguish "absolute novelty" systems³⁹ from "grace period" systems.⁴⁰ Under the "grace period" system, public knowledge of a type that would ordinarily preclude patentability will not prevent the grant of a patent or invalidate an already-granted patent if: first, the date of such public knowledge, although prior to the application filing date, is within some relatively short "grace period;" and second, the inventor can prove conception of his invention before the date of such public knowledge.⁴¹

Generally, public knowledge of an invention may be of two types: a) the invention is described in a printed publication;⁴² or b) the invention

37. The principal countries may be divided into three groups. Barring application of the provisions of the Paris Convention, *supra* note 12, no invention is held to be new if:

- a) it has been described in print, or made known in any other way, in any country, prior to the date of application (Group I);
- b) it has been described in print in any country or publicly used, in that country, prior to the date of application (Group II); and
- c) it has been described in print or publicly used, in that country, prior to the date of application (Group III).

For a list of representative countries in each of the three groups, see LIGNAC, *supra* note 9, at 85-86. Group III, of which Great Britain is representative, is known as "insular novelty" because patentability is affected only by acts which occur within the country.

38. Because the *quid pro quo* for the inventor's "monopoly" is his disclosure of something new and useful, he should not be able to foreclose the public from that which is already in the public domain due to the efforts of others. The second aspect of novelty is designed to encourage inventors to apply promptly for patents rather than attempt to exploit their inventions in privacy, for example by trade secret agreements. For a recent decision, however, upholding the inventor's right to use trade secrets as an alternative to patents, see *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470 (1974).

39. Among the countries which adhere to an "absolute novelty" system are France, Italy, The Netherlands, Spain, Sweden and the U.S.S.R. Great Britain has a limited type of absolute novelty system known as "insular novelty" under which patentability is impaired only by domestic prior publications, knowledge or use. See note 37 *supra*. See generally WHITE & RAVENSCROFT, *supra* note 2, at 18-21 (Table II).

40. The major countries having "grace period" systems are the United States, Canada and West Germany. See generally WHITE & RAVENSCROFT *supra* note 2, at 18-21 (Table II).

41. Compare 35 U.S.C. § 102(a) with 35 U.S.C. § 102(b) (1970). Section 102(a) is known as a "relative bar" because lack of novelty on the grounds set forth in that section can be rebutted by the applicant's showing that he invented the invention before the date of the public knowledge. See Rule 131, U.S. PAT. OFF. R. OF PRAC. (1973). Section 102(b), on the other hand, is known as an "absolute bar" because public knowledge, of the type specified in that section, prior to one year before the filing date of the patent application, amounts to lack of novelty which cannot be rebutted by showing prior invention by the applicant.

42. Although "patents" usually may be treated merely as "printed publications," the United States, in particular, accords a special status to patents. Under 35 U.S.C. § 102(e) (1970), the effective date of a United States patent for novelty purposes is the date the patent application is filed, although the application might remain secret until the patent is actually granted. See 35 U.S.C. § 122 (1970). Questions have arisen under 35 U.S.C. §§

is known to the public in some other way, such as by public use or sale of the invention.⁴³ In practice, printed publications, especially patents⁴⁴ which have a date prior to the filing date of a patent application,⁴⁵ are the more common source of challenges to patentability on novelty grounds. Consequently, the single most important factor in the strength and value of a patent is the possible existence of "prior art," that is, printed publications describing the invention and having a date earlier than the filing date of the patent application.

III

HOW DIFFERENT TYPES OF SYSTEMS AFFECT PATENT VALUE

The principal difference among the various national patent systems lies in how "prior art," if any, is located before a patent is granted. Because a court almost always may invalidate a patent on novelty grounds, notwithstanding the grant from the patent office,⁴⁶ the

102(a) and (b) (1970) with respect to what constitutes a "patent" under foreign patent laws. See Federico, *Foreign Patent Material*, 54 J. PAT. OFF. SOC'Y 102-25, 147-74 (1972). Similar inquiries appear in cases where foreign patents have been granted, but held in secrecy. Compare *In re Ward & Switzer*, 236 F.2d 428 (C.C.P.A. 1956) with *In re Ekenstam*, 256 F.2d 321 (C.C.P.A. 1958).

43. See, e.g., 35 U.S.C. § 102(b) (1970). See generally WHITE & RAVENSCROFT *supra* note 2, at 18-21 (Table II).

44. See note 42 *supra*.

45. In general, a mere abstract idea is not enough for a patent, and the inventor must actually make the invention or "reduce it to practice" before he can obtain a patent. Because of the importance, however, of filing a patent application as soon as possible even in countries having a first-to-invent system, see note 41 *supra*, the filing of a patent application is considered a "constructive reduction to practice." As a result, most countries fix the application filing date, rather than the date of actual reduction to practice, as the crucial reference date for purposes of novelty. Thus, the inventor need not actually construct his new machine or perform his new process if he can describe it in sufficient detail to enable one skilled in the art to practice the invention. See, e.g., 35 U.S.C. § 112 (1970).

46. The likelihood of a court holding a granted patent invalid for lack of novelty depends on the strength of the "presumption of validity" accorded patents in that country. For example, 35 U.S.C. § 282 (1970) provides: "A patent shall be presumed valid." However, the presumption is a weak one. See generally Koenig, *Clarifying Patent Terminology And Patent Concepts: An Introduction To Some Basic Concepts And Doctrine*, 15 CATH. U.L. REV. 1, 11-15 (1966). It may be rebutted by expert testimony and skillful arguments, or it may be completely vitiated by the production of relevant prior art which was not considered by the Patent Office in granting the patent. See, e.g., *American Infra-Red Radiant Co. v. Lambert Industries, Inc.*, 360 F.2d 977 (8th Cir. 1966), *cert. denied*, 385 U.S. 920 (1966); *Heyl & Patterson, Inc. v. McDowell Co.*, 317 F.2d 719 (4th Cir. 1963); *Scripto, Inc. v. Ferber Corp.*, 267 F.2d 308 (3d Cir. 1959); and *Cornell v. Adams Engineering Co.*, 258 F.2d 874 (5th Cir. 1958). Moreover, since the landmark decision in *Blonder-Tongue Laboratories, Inc. v. University of Illinois Foundation*, 402 U.S. 313 (1970), a holding of invalidity by one federal court will ordinarily constitute collateral estoppel against the patentee in any subsequent litigation involving the same patent.

strength and value of a patent in a particular country is directly related to the probability that all of the relevant prior art was located and considered by the patent office before the patent was granted. Three general approaches have developed to the problem of locating prior art in considering the grant of a patent.

A. EXAMINATION SYSTEMS

The examination system⁴⁷ is the theoretical model for all patent systems. Ideally under an examination system, a patent examiner in charge of a particular patent application conducts a comprehensive "search" of all of the relevant prior art. As a rule, this should include prior patents in his and foreign countries in the same and related fields of subject matter, all of the scientific and technical periodicals in the particular field, and all of the textbooks and treatises dealing with the particular subject matter of the patent application. On the basis of the prior art search, the patent examiner renders a decision as to the novelty of the invention.⁴⁸ At least in theory,⁴⁹ the examination system produces the very strongest patents inasmuch as any prior art which could negate novelty, and thus deny or invalidate a patent, presumably is located and assessed by the patent examiner before the patent is granted.

B. REGISTRATION SYSTEMS

The registration system is the most elementary form of patent system; it is characterized by no efforts whatsoever to locate and assess

47. See generally LIGNAC, *supra* note 9, at 19-57. A table of examining countries appears at 87-88.

48. Also, the examiner will render a decision on "obviousness," if applicable. See text, part II(B)(2) *supra*.

49. In practice, the pure examination system has broken down under the weight of a geometrically-expanding volume of technical literature. In the United States, for example, latest statistics reveal that better than 50 percent, in some circuits more than 90 percent, of all patents litigated are ultimately declared invalid, often on the basis of prior art of which the Patent Office was unaware. See BNA [1973-74] PAT., TRADE, & COPY. J. No. 165, at D-1 to D-7 (Feb. 1974). In response, on a national level, examining countries have begun to implement mechanized information retrieval systems, see BNA [May-Oct.] PAT., TRADE, & COPY. J. No. 179 (Current Binder) at A-6 to A-7 (May 1974), and to place heavier burdens on patent applicants to cite relevant prior art of which they are aware. See note 73 *infra*. The United States, presently a pure examination country, is considering introducing some form of opposition or public intervention proceeding. See note 57 *infra*. Internationally, the signing of the Patent Cooperation Treaty, see note 3 *supra*, marks a major step toward reducing wasteful duplication of searching efforts among examining countries. See BNA [May-Oct.] PAT., TRADE, & COPY. J. No. 179, (Current Binder) at A-7 (May 1974).

possible prior art.⁵⁰ Under a pure registration system,⁵¹ the applicant has merely to submit the proper documents and the necessary fees to insure the grant of his patent.⁵² Because there is no examination for novelty, the grant of a patent, in itself, gives little assurance of its validity. The strength, and the value, of such a patent is tested only if and when it becomes involved in a court proceeding such as an infringement suit.

C. SYSTEMS INVOLVING OPPOSITIONS

The most popular form of patent system is a hybrid known as the "opposition system."⁵³ This broad term encompasses a variety of different systems, common to each of which is some means whereby the public may challenge a patent or patent application through adversary proceedings before the patent office. After an initial review of the patent application for compliance with formal requirements,⁵⁴ the patent office publishes the application for public inspection.⁵⁵ During a period known as the "opposition term,"⁵⁶ any member of the public has the opportunity to challenge the patentability of the application by submitting to the patent office relevant prior art and, usually, by

50. The obvious advantages of such a system are that it is quick and inexpensive to both the applicant and the particular country. Consequently, registration systems are often found in less-developed countries with newly-emerging industries which demand some form of industrial property protection, although the country has not had the time and perhaps is unable to afford to implement the more elaborate systems which require extensive technical research facilities and trained engineering personnel. *See text, part IV(C) infra.*

51. Pure registration systems are found today, for example, in Spain, Italy, Greece, Switzerland (with some exceptions), and some Latin American countries. *See generally WHITE & RAVENSCROFT supra note 2.*

52. Although there is no examination for novelty, these countries are often quite rigorous in examining the formal correctness of a patent application.

53. *See WHITE & RAVENSCROFT supra note 2, at 22-23 (Table III).*

54. "Formal requirements" typically include a signed application; drawings, if any, meeting specific standards; a declaration or oath by the applicant as to inventorship; a power of attorney; an assignment, if any; and, importantly, the appropriate fee. *See generally WHITE & RAVENSCROFT supra note 2, at 32-35 (Table VI).*

55. *See generally LIGNAC, supra note 9, at 46.* For additional details with respect to the major countries, see Federico, *supra note 42, at 102, 147-74.*

56. The opposition term is usually two or three months. *See WHITE & RAVENSCROFT, supra note 2, at 22-23 (Table III).* In general, an opposition term is provided only prior to the granting of a patent. The experience in Great Britain, a country which provides for opposition proceedings both before and after the granting of a patent, has demonstrated the utility of "belated opposition" proceedings. The reason the British have adopted this system seems to be that otherwise an inventor may amend his application to overcome a pre-grant opposition, but loses this flexibility once the patent is granted.

presenting accompanying arguments.⁵⁷ Opposition proceedings, therefore, are a means for a patent office to obtain prior art.⁵⁸

These systems typically incorporate some form of novelty examination to supplement the opposition proceedings in locating all of the relevant prior art.⁵⁹ In some countries, a cursory novelty examination is conducted even before the application is published for opposition.⁶⁰ The trend, however, is toward a system in which applications for opposition are published after inspection only as to formalities, but with the stipulation that the applicant must request a complete novelty examination within a certain period of time before a patent can be granted.⁶¹ This latter system is called a "deferred examination" system

57. One variation of the opposition system, a form of which is used in France, provides only for a right of public intervention. See WHITE & RAVENSCROFT, *supra* note 2, at 148-49. In a public intervention system, a period of time is provided between the publication of the patent specification and the time the patent grant is finalized, during which interested parties may submit prior art references or other documents affecting the question of novelty. As in other opposition systems, the patent office retains jurisdiction of the application until the grant of a patent is completed. However, citations of prior art affecting novelty under intervention systems are treated essentially *ex parte* by the patent office. Some countries have provisions for both public intervention, which is relatively inexpensive, as well as full opposition proceedings. It appears likely that some form of opposition or intervention proceeding will become a part of the patent reform package now pending in the Congress. Compare H.R. 11868, 93d Cong., 1st Sess. § 191 (1973) [text appears in BNA [1973-74] PAT., TRADE. & COPY. J. No. 158, at D-1 to D-2 (Dec. 1973)] with S. 2504, 93d Cong., 1st Sess. § 135 (1973) [text appears in BNA [May-Oct.] PAT., TRADE. & COPY. J. No. 178 (Current Binder), at D-1 to D-14 (May 1974)]. For an analysis of the Senate bill, see Harris, *Reflections on Some Pending Patent Legislation*, 56 J. PAT. OFF. SOC'Y 316 (1974). In anticipation of reform legislation, the U.S. Patent Office has initiated a "Trial Voluntary Protest Program" which permits a "protester" to keep his identity secret and merely submit copies of prior art with an explanation of their relevance (intervention) or, alternatively, to become fully involved in the future prosecution of the application (full opposition). See BNA [May-Oct.] PAT., TRADE. & COPY. J. No. 178, at A-14 (June 1974). See also McKie, *Proposals For An American Patent Opposition Systems In Light Of The History Of Foreign Systems*, 56 J. PAT. OFF. SOC'Y 94 (1974).

58. The implicit assumption here is that competitors in the technological field to which the invention pertains are in the best position to know the state of the prior art, and also have the greatest incentive to defeat a patent application.

59. Although some countries, for example Portugal, have pure opposition systems, see WHITE & RAVENSCROFT, *supra* note 2, at 293-94, at least some form of novelty examination is considered a minimum safeguard against the possibilities that no one is interested in opposing a particular application, or that an off-the-record settlement has been reached between the applicant and the opposer.

60. Great Britain, for example, conducts a limited novelty examination prior to publication of an application for opposition. See WHITE & RAVENSCROFT, *supra* note 2, at 163-64.

61. In most countries, the failure to request a novelty examination within the specified period results in the lapse of the application and all interim rights. Under the unusual French system in which the patent office issues "novelty reports" that cannot reject an application on prior art, the failure to request a novelty examination within two years results automatically in an application for a patent being converted into an application

because the applicant for a patent may defer a novelty examination, and the concomitant costs, until he has had the opportunity to evaluate the objections to his application which may be raised by the opposition proceedings.⁶²

The strength and value of a patent granted under an opposition system will, accordingly, vary depending upon the adequacy of the novelty examination, if any; whether an opposition to the application was, in fact, ever lodged; and, if so, whether the opposition was resolved by a judgment on the merits or an off-the-record settlement.⁶³

IV

EVALUATION OF A PATENT

It is well to repeat at this point that each of the patent systems described above requires novelty as the essence of validity. As noted, however, the point at which a novelty test is applied to a patent application varies considerably among the different systems and, in the case of the pure registration system, may never be applied at all unless the patent becomes involved in litigation. In the end, the value of a patent depends on the patentee's ability to take legal action against an alleged infringer. What are the legal courses available to a patentee, and what are the factors which affect his ability to succeed in such actions?

A. THE CONCEPT OF INFRINGEMENT

A patentee's right, as previously discussed, is the "negative" right to exclude others from making, using or selling his invention,⁶⁴ and one

for a "certificate of utility" which requires no examination. Such "petty patents," which confer only narrowly circumscribed rights, are known in other countries by varying names, for example, the German *gebrauchsmuster* and Russian "certificate of authorship." Ordinarily the standards for obtaining these "petty patents" are much less rigorous than those applied to regular patents. See generally LIGNAC, *supra* note 9 at 77-81.

62. The Senate patent reform bill S. 2504, 93d Cong., 1st Sess. (1973) (see note 57 *supra*) was recently amended by the Judiciary Subcommittee on Patents, Trademarks and Copyrights to include a provision for deferred examination. *Id.* at § 193. See also McKie, *Is Deferred Examination of Patent Applications Desirable In The United States?*, 55 J. PAT. OFF. Soc'y 691 (1973).

63. Under most opposition systems, there are no requirements that the terms of a settlement or the basis for the original opposition be called to the patent office's attention. Compare, in this regard, the statutory requirements in the United States for settling an interference proceeding, 35 U.S.C. § 135(c) (1970), amending 35 U.S.C. § 135 (1952).

64. See note 3 *supra*.

who does so "infringes" his patent. In a country which measures the scope of patent protection essentially by reference to the claims,⁶⁵ infringement is a matter of answering the question of whether the alleged infringer's activities are covered by or "read on" the claims of the patent. For example, the use of a hexagonal nut in a particular apparatus "reads on" a claim which recites "a nut" generally, but not on a claim which calls specifically for a "square nut."⁶⁶

B. REMEDIES AGAINST AN ALLEGED INFRINGER

The typical remedies available against an alleged patent infringer include an injunction against future infringement of the patent, an accounting and damages based upon past infringement of the patent, and, perhaps, the right to exclude importation of articles which infringe the patent or were produced by a process which infringes the patent.⁶⁷ Alternatively, it may be possible to require the infringer to take a "license"⁶⁸ under the patent and pay royalties for that privilege. If it is necessary to go to court to enforce these remedies, however, the patentee generally will be met with certain defenses. The most common defense is that the patent is invalid for lack of novelty⁶⁹ and therefore unenforceable.

Patent invalidity is generally available as a defense to any infringement or breach of license proceeding.⁷⁰ Here, a key point to recall is

65. See notes 8, 9 and 10 *supra*, and accompanying text.

66. This statement is not quite accurate because of a principle in patent law known as the "doctrine of equivalents." In essence, this means that a claim specifically limited to a particular element of a combination may, in some cases, be held to cover a combination using a different element if that element performs substantially the same function in substantially the same way. See generally Jessup, *The Doctrine of Equivalents*, 54 J. PAT. OFF. SOC'Y 248 (1972). Thus, in the given example, the claim specifying a "square nut" might be held to cover an apparatus with a hexagonal nut unless it could be shown that for some reason the shape of the nut was important.

67. Exclusion of imports which infringe a domestic patent, or were produced by a process or apparatus which infringes a domestic patent, is provided for in the tariff laws of most major industrial countries. See, e.g., 19 U.S.C. §§ 1337, 1337a (1970).

68. The distinction between a "license" and an "assignment" of a patent has never been a clear one notwithstanding the often cited dicta in *Waterman v. Mackenzie*, 138 U.S. 252, 255 (1891). However, it is convenient to look at a license as simply a covenant by the patentee not to sue the licensee for infringement.

69. In the United States, the defense most frequently encountered is that the invention is "obvious" in view of the prior art. See text II(B) (2) *supra*. Other common defenses are that the patent is unenforceable on the grounds of patent misuse, see Nelson, *Mercoid-Type Misuse Is Alive*, 56 J. PAT. OFF. SOC'Y 134 (1974); fraud on the Patent Office in procuring the patent, see Ram, *Patent Fraud: A New Defense?*, 54 J. PAT. OFF. SOC'Y 363 (1972); and equitable estoppel against the patentee, see *Minnesota Mining and Manufacturing Co. v. Berwick Industries, Inc.*, 373 F. Supp. 851 (M.D. Pa. 1974).

70. See, e.g., 35 U.S.C. § 282 (1970). Some countries adhere to a judicial doctrine

that a court may hold a patent invalid for lack of novelty over the prior art even though the patent was previously granted by a patent office after a complete examination and/or opposition proceeding.⁷¹ Thus, the validity of a patent, and therefore its value, depends on the strength of the patent system of the country granting the patent, which in turn depends upon the extent to which that patent office has reliably answered the litigable issues affecting validity, especially the question of novelty.

C. FACTORS AFFECTING VALUE ON NOVELTY GROUNDS

Because the defense of invalidity based on lack of novelty is often the major hurdle for a patentee seeking to enforce his patent rights,⁷² the primary factors affecting value are those which affect the capacity of the patent to withstand a novelty attack.

In a pure registration system, there is neither an examination for novelty nor an opportunity for the public to challenge the application by opposition proceedings. Clearly, the mere grant of a patent by the patent office has no value whatsoever in a subsequent litigation. If the patentee has not privately conducted a "preliminary search" before filing his patent application, he may expect to be confronted in court with relevant prior art produced by the opposing party. The patent specification and the claims will not be "tailored" to meet the objections raised by the prior art, and the patentee will face a difficult battle in defending the validity of his patent. Even if the patentee was previously aware of the most pertinent prior art, and tailored his specification and claims to avoid possible conflict with that art; the question of how well he has performed this task will be considered *de novo* by a judge, who may well lack technical competence to pass upon such a question.

In assessing the value of a patent granted under an examination system, the factors to be evaluated are: whether the patentee conducted his own preliminary search prior to filing his patent application; the thoroughness of the patent office search; the requirements, if any, for the applicant's citation of prior art of which he may be aware;⁷³ and,

known as "licensee estoppel," which prohibits a patent licensee from contesting the validity of the licensed patent in a breach of license action by the patentee. This doctrine was specifically overruled in the United States by the Supreme Court decision in *Lear, Inc. v. Adkins*, 395 U.S. 653 (1969).

71. See note 46 *supra*.

72. But see note 69 *supra*.

73. Although not currently mandated by statute, judicial decisions have placed a heavy burden on applicants for patents in the United States to call to the attention of the Patent

importantly, the existence and strength of any "presumption of validity."⁷⁴ Of these factors, undoubtedly the single most important point is the thoroughness and dependability of the patent office search. This, in turn, depends upon such subsidiary factors as the effectiveness of the patent office classification system,⁷⁵ the scope of the prior-art search conducted by the patent office,⁷⁶ the completeness and quality of the technical library facilities available to the patent examiner, and the degree to which the patent office demands quality as opposed to quantity from its examining corps.

Systems involving oppositions, even if they include supplemental provisions for a novelty examination, do not uniformly produce patents superior—from a validity standpoint—to those of other systems. A variety of factors are responsible for this result. Among them are the availability of off-the-record settlements between patent applicants and opposers,⁷⁷ which may prevent relevant prior art from ever coming to the attention of the patent office, and the inability of small or potential competitors to afford the cost of an opposition proceeding. A patent which has survived both a fully-litigated opposition proceeding *and* a thorough novelty examination, however, can certainly be considered a strong and valuable patent.⁷⁸

Office any relevant prior art of which they might be aware. Whatever value there remains in the "presumption of validity," *see* note 46 *supra*, is destroyed by an opponent's production of any relevant prior art which was not considered by the Patent Office in granting the patent. Furthermore, the failure of an applicant to cite relevant prior art of which he had knowledge may constitute a "fraud" on the Patent Office which not only invalidates the patent but renders the patentee liable under antitrust laws. *See* Smith, *Fraud Upon The Patent Office As A Violation Of The Antitrust Law*, 14 *IDEA* 507 (1971). Finally, patent reform bills now pending in the House and the Senate, *see* note 57 *supra*, would codify this requirement.

74. *See* note 46 *supra*.

75. The classification system is the means by which patents are collected and cataloged in a patent office. For example, the United States Patent Office employs over 400 classes of subject matter, each of which is subdivided into as many as 500 or more subclasses. The success of a patent examiner's search depends, in large measure, on how effective the country's classification system is in channeling patents dealing with related subject matter into recognizable categories to facilitate retrieval.

76. The scope of the prior art search, of course, need not be broader than the scope of prior art which can invalidate the patent under the laws of a particular country. *See* note 37 *supra*. Thus, in Great Britain, for example, there is no reason for searching foreign patents and other publications because only domestic prior art can invalidate a British patent.

77. *See* note 63 *supra*.

78. Similarly, although a court holding of patent validity cannot be applied as collateral estoppel against a different defendant, such a finding at the conclusion of a full trial will certainly be accorded great weight in a subsequent litigation. On the other hand, despite the lack of mutuality, a finding of invalidity will be collateral estoppel against the patentee, at least in the United States, if he had a full and fair opportunity to litigate. *See*

CONCLUSION

The strength and value of a patent ultimately depends on its enforceability in a court of law, which in turn depends on its validity, particularly on grounds of novelty. How far the actual grant of a patent is indicative of its validity is primarily a function of how reliably the patent office has answered the novelty question. That will largely depend on the type of system under which the patent was granted—*i.e.*, an examination, registration or opposition system—and the effectiveness of that system in practice. Until there is not only uniformity in novelty examinations,⁷⁹ but a set of internationally-accepted guidelines for applying the prior art produced by such examinations, national procedures and standards will continue to play the crucial role in evaluating the strength and value of a patent.⁸⁰

Blonder-Tongue Laboratories, Inc. v. University of Illinois Foundation, 402 U.S. 313 (1971).

79. This will be greatly facilitated by implementation of the Patent Cooperation Treaty. See note 3 *supra*.

80. The background and present status of the major international patent accords is discussed in Shipman, *The Practical Effects of the Patent Cooperation Treaty and the European Patent Convention*, appearing in 1974 PATENT LAW ANNUAL at 17. Only the 92-year-old Paris Convention, *supra* note 12, relating to the establishment of invention priority rights is now in force. The Patent Cooperation Treaty, *supra* note 3, will probably enter into force in the near future; however, this treaty provides principally for the coordination of examination procedures and has little substantive effect on national laws. The European Patent Convention would establish a single patent office for member European countries and would apply a single set of standards for determining patentability. National patents would still be issued, however, and the exploitation of patent rights including questions of infringement would still vary according to national laws. The EEC Patent Convention, operating in conjunction with the European Economic Community Convention, but open only to the nine members of the EEC, would take the first step in establishing a single, multinational patent. Even so, conflicts between national law and the EEC policies are apt to arise, as they have so often under the Treaty of Rome.