Order Code RL31438

Report for Congress
Received through the CRS Web

Patent Administration: Current Issues and Possibilities for Reform

June 6, 2002

John R. Thomas
Visiting Scholar in Entrepreneurship and Economic Growth
Resources, Science, and Industry Division

Patent Administration: Current Issues and Possibilities for Reform

Summary

The United States Patent and Trademark Office ("USPTO") examines patent applications to determine whether the subject matter claimed within those applications is sufficiently inventive to merit the award of a patent. The environment in which patent examination occurs has become increasingly challenging. The USPTO is facing an escalating rate of patent application filings as well as applications of increasing technical complexity. Other potential concerns include budgetary constraints and the retention of personnel with appropriate technical and legal qualifications to perform patent examination tasks.

Out of recognition of these challenges, the administrative procedures through which the USPTO conducts patent examination have been subject to renewed public dialogue and congressional interest. Legislation pending before the 107th Congress would introduce reforms to patent administration. Should Congress further consider this issue, USPTO practices may be reviewed with an eye towards their capability for maintaining acceptable levels of patent quality within current resource constraints.

Congress may conclude that current USPTO practices provide an appropriate level of scrutiny of patent applications. In the event that reform is contemplated, however, widely circulated proposals and the practices of other leading patent-granting agencies, notably the European Patent Office ("EPO") and the Japanese Patent Office ("JPO"), suggest the latest thinking on patent administration reform. One set of reform proposals involves augmenting the responsibilities of patent applicants. Although inventors who seek patent protection are responsible for preparing an application, they are currently not required to perform a search of public domain information to determine if their technology is sufficiently inventive to merit a patent. Some proposals would mandate that applicants perform such a search, or at least state whether they have done so. Others would require applicants to distinguish more carefully their inventions from the state of the art.

A second group of reform proposals involves an assessment of the contributions members of the general public might make within an optimal patent examination regime. Interested third parties might be invited to comment upon pending patent applications. Alternatively, they could invoke administrative patent revocation proceedings at the USPTO known as "oppositions."

Finally, Congress may wish to consider more general workload reduction proposals. Currently the USPTO automatically subjects each submitted application to a detailed substantive examination. Other possibilities include deferral of examination or the automatic registration of every submitted application. The USPTO might also rely upon the results of foreign patent offices in reaching its own patentability decisions.

Contents

Patent Administration Fundamentals 2

Contemporary Patent Administration Challenges 4

The Impact of Patent Quality Upon Innovation 5

The Appropriateness of Patent Administration Reform 7

Possibilities for Patent Administration Reform 8
- Increased Applicant Responsibilities 9
  - Compelled Prior Art Searches 9
  - Use of Jepson Claims 10
  - USPTO Rule 105 11
- Encourage Third Party Involvement 13
  - Opposition Proceedings 13
  - Publication of Pending Applications 14
- Workload Reduction 16
  - Deferred Examination 16

Concluding Observations 20

For further information, contact Wendy H. Schacht, Specialist in Science and Technology, Resources, Science and Industry Division of the Congressional Research Service.

Patent Administration: Current Issues and Possibilities for Reform

The administrative practices of the United States Patent and Trademark Office ("USPTO") have been the subject of renewed interest. Congressional hearings,[1] academic inquiry,[2] and public dialogue[3] alike have considered the rigor of review performed by USPTO examiners when approving patent applications. Legislation introduced before the 107th Congress would also address this issue.[4]

Growing interest in sound patent administration has tracked the increase in public attention to the patent system as a whole.[5] More particularly, discussion concerning patent administration has also been inspired by accounts suggesting that the USPTO has become more lenient in awarding patents. Some commentators believe that an increasing number of patents issue that lay claim to knowledge that had already been in public use.[6] This issue of "patent quality" potentially impacts industries as diverse as biotechnology, business methods, pharmaceuticals and software.[7] It appears particularly important to those innovative individuals and enterprises with which the patent system has traditionally been associated, and that some believe play an important role in driving the U.S. economy.[8]

Concern over patent administration is not confined to the United States. The two other leading patent-issuing agencies, the European Patent Office ("EPO") and

---

[1]Oversight Hearing on The United States Patent and Trademark Office, Judiciary Subcommittee on Courts, the Internet, and Intellectual Property, House of Representatives (June 7, 2001).

[2]Robert P. Merges, "As Many As Six Impossible Patents Before Breakfast: Property Rights for Business Concepts and Patent System Reform," 14 *Berkeley Technology Law Journal* (1999), 577.

[3]Simson Garfinkel, "Patently Absurd," *Wired* (July 1994), 104; James Gleick, "Patently Absurd," *N.Y. Times Magazine* (12 Mar. 2000), 44; Robert M. Hunt, "You can patent that?," *Business Review* (1 Jan. 2001), 515; "Patently absurd?: Intellectual property," *The Economist* (23 June 2001).

[4]H.R. 1333, 107th Cong., 1st Sess. (3 Apr. 2001) ("Patent Improvement Act of 2001").

[5]*See* Arti Rai, "Addressing the Patent Gold Rush: The Role of Deference to PTO Patent Denials," 2 *Washington University Journal of Law and Public Policy* (2000), 199.

[6]*See* John R. Thomas, "Collusion and Collective Action in the Patent System: A Proposal for Patent Bounties," *University of Illinois Law Review* (2001), 305.

[7]Congressional Research Service, *Patent Quality and Public Policy: Issues for Innovative Firms in Domestic Markets*, by John R. Thomas, CRS Report RL31281, 28 Jan. 2002.

[8]J. Douglas Hawkins, "Importance and Access of International Patent Protection for the Independent Inventor," 3 *University of Baltimore Intellectual Property Journal* (1995), 145.

the Japanese Patent Office ("JPO"),[9] face many of the same issues as the USPTO. Given the extensive participation of U.S. industry in both of these foreign intellectual property regimes,[10] developments at the EPO and JPO are of interest domestically.

This report discusses current issues in patent administration and considers possibilities for reform. It begins with an overview of fundamental aspects of patent administration. It then considers contemporary challenges faced by the USPTO as well as the potential effect of these challenges upon innovation. The report then introduces and analyzes recent reforms undertaken or proposed by the USPTO, EPO or JPO. This report concludes with brief observations on patent administration reform.

Patent Administration Fundamentals

Patent rights do not come into being automatically. Inventors must prepare and submit applications to a federal government agency known as the "U.S. Patent and Trademark Office," or USPTO, if they wish to obtain patent protection.[11] USPTO officials known as examiners then assess whether the application merits the award of a patent.[12] The patent acquisition process is commonly known as "prosecution."[13]

In deciding whether to approve a patent application, a USPTO examiner will consider whether the submitted application fully discloses and distinctly claims the invention.[14] In addition, the application must disclose the "best mode," or preferred way, that the applicant knows to practice the invention.[15] The examiner will also determine whether the invention itself fulfills certain substantive standards set by the patent statute. To be patentable, an invention must be useful, novel and nonobvious. The requirement of usefulness, or utility, is satisfied if the invention is operable and provides a tangible benefit.[16] To be judged novel, the invention must not be fully anticipated by a prior patent, publication or other knowledge within the public

---

[9]J. Douglas Hawkins, "Importance and Access of International Patent Protection for the Independent Inventor," 3 *University of Baltimore Intellectual Property Law Journal* (Spring 1995), 145.

[10]For example, in 1999, U.S. entities filed 25,333 applications at the European Patent Office (EPO). This number represented 28.35% of the total applications at the EPO and made the United States the largest single source of EPO applications. European Patent Office, *1999 Annual Report*. *See also* Congressional Research Service, *Multinational Patent Acquisition and Enforcement: Public Policy Challenges and Opportunities for Innovative Firms*, by John R. Thomas, CRS Report RL31132, 31 August 2001.

[11]35 U.S.C. § 111.

[12]35 U.S.C. § 131.

[13]John R. Thomas, "On Preparatory Texts and Proprietary Technologies: The Place of Prosecution Histories in Patent Claim Interpretation," 47 *UCLA Law Review* (1999), 183.

[14]35 U.S.C. § 112.

[15]*Ibid.*

[16]35 U.S.C. § 101.

domain.[17] A nonobvious invention must not have been readily within the ordinary skills of a competent artisan at the time the invention was made.[18]

If the USPTO allows the patent to issue, the patent proprietor obtains the right to exclude others from making, using, selling, offering to sell or importing into the United States the patented invention.[19] Patent title therefore provides inventors with limited periods of exclusivity in which they may practice their inventions, or license others to do so. The grant of a patent permits the inventor to receive a return on the expenditure of resources leading to the discovery, often by charging a higher price than would prevail in a competitive market.

The USPTO does not identify or prosecute patent infringers. Instead, each patentee bears responsibility for monitoring its competitors to determine whether they are using the patented invention or not. Patent proprietors who wish to compel others to observe their intellectual property rights must usually commence litigation in the federal courts.

An accused infringer may contend that the asserted patent is invalid.[20] Such an argument asserts that the USPTO improvidently granted the patent. However, by virtue of having been approved by the USPTO, each issue patent enjoys a presumption of validity. Accused infringers bear the burden of proving that a patent is invalid by clear and convincing evidence.[21]

Interested parties possess another mechanism for challenging the validity of an issued patent. They may request that the USPTO commence an administrative revocation proceeding termed a "reexamination." In order to provoke a reexamination, an individual must present the USPTO with one or more pertinent patents and printed publications. If the USPTO agrees that these references raise a substantial new question of patentability,[22] the agency will subject the patent to a renewed prosecution in light of this additional information.

The maximum term of patent protection is ordinarily set at 20 years from the date the application is filed.[23] The patent applicant gains no enforceable rights until such time as the application is approved for issuance as a granted patent, however.

---

[17] 35 U.S.C. § 102.

[18] 35 U.S.C. § 103.

[19] 35 U.S.C. § 271(a).

[20] 35 U.S.C. § 282.

[21] *Ibid.*

[22] 35 U.S.C. § 303(a).

[23] 35 U.S.C. § 154(a)(2). Although patent term is based upon the filing date, the patentee gains no enforceable legal rights until the USPTO allows the application to issue as a granted patent. A number of Patent Act provisions may modify the basic 20-year term, including examination delays at the USPTO and delays in obtaining marketing approval for the patented invention from other federal agencies.

Once the patent expires, others may employ the patented invention without compensation to the patentee.

Contemporary Patent Administration Challenges

The USPTO currently faces many challenges. Notably, the number of filed patent applications has increased significantly in recent years. In 1991, the USPTO received 178,000 applications. By 2000, this number had increased by 75% to nearly 315,000 applications.[24] One USPTO study estimates that over 500,000 patent applications could be filed during the 2006 calendar year.[25]

The increase in patent filings may be due in part to the growth in the range of subject matter eligible for patenting. Until recently, the patent system was generally regarded as concerning the technological inventions of traditional industry.[26] Modern developments have expanded the range of innovations eligible to be patented.[27] In particular, computer software and business methods may now be subjected to patent protection.[28] Some commentators believe that the USPTO may face more difficulties while examining applications covering inventions from disciplines with which it was historically unfamiliar.[29]

As technology grows more sophisticated, patent examination tasks may also become more difficult. Recent growth in filing rates has been more pronounced in complex, high-technology fields such as biotechnology, computers and telecommunications.[30] Such inventions may require more time and more technically sophisticated personnel than was required with predecessor technologies. For example, one biotechnology application alone arrived at the USPTO with 12 CD's of accompanying data, the equivalent of six million pages of information.[31]

The USPTO has also faced staffing issues. The task of patent examination sometimes involves subtle legal and technical issues. Hiring and training individuals to perform these tasks has been a recurring issue for the agency. The USPTO employed 3000 examiners at the close of 2001, but explains that it needs to hire 700

---

[24]Department of Commerce, United States Patent and Trademark Office, *U.S. Patent Statistics: Calendar Years 1963-2000* (2001) (available at www.uspto.gov).

[25]Department of Commerce, United States Patent and Trademark Office, *Fiscal Year 2002 Corporate Plan* (April 2001), 5 (available at www.uspto.gov).

[26]John R. Thomas, "The Patenting of the Liberal Professions," 40 *Boston College Law Review* (1999), 1139.

[27]*Ibid.*

[28]Congressional Research Service, *Patents on Methods of Doing Business*, by John R. Thomas, CRS Report RL30572, 1 June 2000.

[29]Thomas, *supra* note 6.

[30]Sabra Chartrand, "New Patent Office Has Old Goal," *The New York Times* (31 Dec. 2001).

[31]*Ibid.*

more during 2002.[32] In addition, retaining skilled individuals has been difficult given the availability of lucrative intellectual property jobs in the private sector. As recently as 2000, the annual examiner attrition rate was 14%.[33]

Budgetary pressures have also impacted the USPTO. The agency budget is supplied entirely from filing and issuance fees, with no monies taken from the general budget.[34] In recent years, however, surcharges, fee diversions and other measures have resulted in the reallocation of a portion of USPTO revenues into the general budget.[35] Such revenue shortfalls may be impacting the capabilities of the USPTO. In particular, the average time the agency takes to process an application has increased from approximately 18 months in 1991 to its current level of 26 months.[36]

Judicial precedents may also be placing more burdens upon the USPTO. Recent decisions from the U.S. Court of Appeals for the Federal Circuit, the USPTO's reviewing court, have increased the agency's obligations when issuing rejections of patent applications.[37] The USPTO must now articulate in a detailed fashion its specific factual findings in order to reject a patent application.[38] The requirement that the USPTO explain its reasoning in a particularized and thorough manner may increase the time the USPTO requires to process applications.

The Impact of Patent Quality Upon Innovation

Some commentators believe that perceived deficiencies in patent administration may negatively impact innovation. Increases in patent pendency periods may amount to one such deficiency. According to the USPTO, the average U.S. patent issues about 26 months after an application is filed, compared with 21 months in 1996. The USPTO reportedly projects that average patent pendency will increase to more than 38 months by 2006.[39]

Many observers have suggested that delays in processing patent applications can lead to deleterious consequences.[40] Especially in industries where product cycle

---

[32]*Ibid.*

[33]*Ibid.*

[34]Kim Coghill, "Washington Roundup Bill Passes to Let PTO Keep User Fees for Itself Next Year," 12 *Bioworld Today* issue 218 (9 Nov. 2001).

[35]*Ibid.*

[36]*Ibid.*

[37]*See In re Lee*, 277 F.3d 1338 (Fed. Cir. 2002).

[38]*Ibid.*

[39]Kent Hoover, "Patent backlog grows, approval time soars to 38 months," *Memphis Business Journal* (29 June 2001), 11.

[40]Nathanial Hernandez, "Patent Attorneys Travel the Fast Lane to Keep Pace with Global (continued...)

times are short, patents that were the subject of lengthy prosecution periods may be obsolete by the time they issue. Commenting about the software industry, patent attorney George F. Wheeler said that "by the time we get a patent issued, the infringers are done; and we are already on the next product."[41]

As a result, patent acquisition delays may discourage inventors from using the patent system at all. Inventors might instead prefer to take advantage of the immediate protections available under the trade secret law. The incidents of trade secrecy protection – ranging from physical security measures such as safes and fences to confidentiality agreements that may limit the ability of employees to interact with one another -- may in turn lead to costs that may not be socially productive.[42]

Long periods of delay may also create industrial uncertainties. Enterprises may establish industries based on technologies that are believed to fall within the public domain. Years later, the USPTO might allow a patent to issue that covers these basic technologies. Such patents are sometimes termed "submarine" patents, and they potentially grant their owner a broad proprietary interest affecting established industries.[43]

In addition to delay, trends towards an increasing number of filed applications, more complex technologies, and less generous budgets may result in less rigorous patent examination procedures. Faced with an increasingly difficult examination environment, the USPTO may approve some patent applications that do not meet the patentability requirements under the Patent Act. Some commentators believe that this prospect of "low patent quality" may lead to certain socially undesirable results.

Large numbers of inappropriately granted patents may negatively impact entrepreneurs. For example, innovative firms may be approached by an individual with a low quality patent that appears to cover the product they are marketing. The innovative firm may recognize that the cost of challenging a patent even of dubious validity may be considerable. Therefore, the firm may choose to make payments under licensing arrangements, or perhaps decide not to market its product at all, rather than contest the patent proprietor's claims.

Some enterprises have also been accused of creating "patent thickets," or clusters of closely related patents that cover different aspects of a particular technology.[44] For example, a drug company may own a suite of patents covering not just the pharmaceutical compound, but also various formulations, chemical

---

[40](...continued)
Changes," *Chicago Lawyer* (April 2001), 8.

[41]*Ibid.*

[42]David D. Friedman *et al.*, "Some Economics of Trade Secret Law," 5 *Journal of Economic Perspectives* (1991), 61.

[43]Michael Ravnitsky, "More Lemelson Suits," *The National Law Journal* (17 Dec. 2001), B9.

[44]David Balto, "IP Watch: Analyzing the game," *Electronic Engineering Times* (11 Mar. 2002), 43.

intermediates, metabolites, and methods of manufacturing and using the pharmaceutical. Some enterprises have been said to cause follow-on patents to issue as earlier patents are set to expire, resulting in an "evergreening" portfolio that effectively extends patent term beyond the twenty-year statutory period.[45]

Improvidently granted patents are also believed to create duplicative transactions costs. For example, if the patent quality is low, private parties must engage in extensive due diligence efforts in order to assess whether particular issued patents are enforceable or not. The result may be that the innovative community must consistently conduct their own private patent examinations, revisiting the work of the USPTO to see if it was done properly.

Poor patent quality may also encourage activity that is not socially productive. Perhaps attracted by large damages awards and a potentially porous USPTO, rent-seeking entrepreneurs may be attracted to form speculative patent acquisition and enforcement ventures. Industry participants may also be forced to expend considerable sums on patent acquisition and enforcement.[46] The net results would be reduced rates of innovation, decreased patent-based transactions, and higher prices for goods and services.

Although low patent quality appears to affect competitors of a patentee, patent proprietors themselves may also be negatively impacted. Patent owners may make managerial decisions, such as whether to build production facilities or sell a product, based upon their expectation of exclusive rights in a particular invention. If their patent is declared invalid by the USPTO or a court, the patentee will be stripped of exclusive rights without compensation. The issuance of large numbers of invalid patents would increase the possibility that the investment-backed expectations of patentees become unsettled.[47]

The Appropriateness of Patent Administration Reform

To the extent there are perceived problems of patent quality, potential fiscal, technological and staffing challenges to the U.S. patent administration regime may prompt consideration of legal reform. Before considering possible legal reforms further, however, it should be noted that at least two factors suggest that current patent administration practices should be retained. First, not everyone agrees that additional resources should be devoted towards augmenting the rigor of patent examination. Second, the USPTO may already be engaged in the best practices available to a patent-granting agency.

---

[45]*See* Alfred B. Engelberg, "Special Patent Provisions for Pharmaceuticals: Have They Outlived Their Usefulness?", 39 *IDEA: Journal of Law and Technology* (1999), 389.

[46]Merges, *supra* note 2.

[47]*See* Craig Allen Nard, "Certainty, Fence Building and the Useful Arts," 74 *Indiana Law Journal* (1999), 759.

As to the first of these factors, the notion that USPTO should perform an extremely rigorous examination has been challenged.[48] Some commentators believe that interested private parties are often able to assess the robustness and value of individual patents more easily than the USPTO. As a result, a USPTO "hard look" during its examination procedures may be economically inefficient. Others observe that relatively few patents are believed to be licensed or the subject of litigation.[49] Under this view, society is better served if that select number of valuable patents is subject to a rigorous review by private parties after their issuance.

As well, the USPTO may already employ the best available practices during patent examination. Surveys of patent applicants indicate that their overall satisfaction rate increased from 52% in 1998 to 64% in 2000.[50] Although this largely favorable response suggests some room for improvement, it may not motivate significant patent administration reforms. On the other hand, given that applicants are presumably motivated to obtain issued patents, one might question the appropriateness of surveying applicants to determine whether the USPTO is performing its functions at a suitable level.

Acceptance of either of these views leads to the conclusion that patent administration reform efforts would be inappropriate. Unfortunately, no rigorous analytical methods are available to weigh the propriety of these positions. The relationship between innovation and patent rights remains poorly understood. Current economic and policy tools simply do not allow us to set the appropriate level of patent quality precisely in order to produce an optimal level of investment in innovation.[51]

Nonetheless, uncertainties inherent in the patent law reform process should be weighed carefully when considering modifications to the current patent administration regime. This report will review several different avenues for patent administration reform, in the event that legal reforms are deemed appropriate.

Possibilities for Patent Administration Reform

Patent administration reform proposals may be divided into three groups. Some of these proposals have attempted to increase the responsibilities of patent applicants. A second set have encouraged third parties to assist the patent office during the examination process. A third group of proposals have offered more general mechanisms for reducing patent office workload. Each category potentially provides

---

[48] *Ibid.*

[49] Mark A. Lemley, "Rational Ignorance at the Patent Office," 95 *Northwestern University Law Review* (2001), 1495.

[50] United States Patent & Trademark Office, *Customer Satisfaction Survey - 2000, available at* http://www.uspto.gov/web/offices/com/oqm/new_survey_2000_results.htm.

[51] Congressional Research Service, *Multinational Patent Acquisition and Enforcement: Public Policy Challenges and Opportunities for Innovative Firms*, by John R. Thomas, CRS Report RL31132, 31 August 2001.

practical policy tools for assessing and potentially reforming contemporary patent administration.

Increased Applicant Responsibilities

Under current U.S. law, the principal obligation of inventors is to prepare truthfully an application fully describing and distinctly claiming the invention for which a patent is sought.[52] Inventors must also submit an oath stating they believe themselves to be the original and true inventor.[53] Once an inventor submits a patent application, the responsibility wholly falls to the patent examiner to identify the state of the art and analyze whether the application claims a sufficiently inventive advance to merit a patent.[54] If the examiner cannot provide sufficient reason to reject the application, it must be allowed to issue as a granted patent.[55]

Some commentators have noted the limited role of the applicant during patent examination. They have offered reform proposals that have discussed augmenting the responsibilities of patent applicants. The following proposals, some of which have been implemented in terms of patent office programs, provide different ways of increasing applicant obligations.

Compelled Prior Art Searches. Some commentators have suggested that patent applicants be required to conduct their own searches of the earlier scientific and patent literature.[56] Such documentation of the state of the art is termed the "prior art" in the patent law.[57] Currently, inventors need not conduct a prior art search before filing a patent application. Although some inventors probably do conduct such a search, in order to see whether their invention would be considered patentable,[58] the Patent Act currently does not compel such a search.

A mandatory prior art search could potentially provide certain benefits to the patent examination procedures. A compelled search could cause some applications not to be filed at all, as inventors realized that their inventions were already within the state of the art. Those applications that were filed would presumably be more carefully tailored in light of the existing prior art.

Some commentators are less sanguine that a compelled prior art search would yield practical benefits. Skeptics believe that a mandatory prior art search would lead to the disclosure of many prior art documents, but not necessarily the most pertinent

---

[52]37 C.F.R. § 1.56.

[53]35 U.S.C. § 115.

[54]*In re Oetiker*, 977 F.2d 1443 (Fed. Cir. 1992).

[55]*Ibid.*

[56]See Brenda Sandburg, "PTO's Destination: Silicon Valley," *The Recorder (San Francisco)*, June 29, 1999.

[57]35 U.S.C. § 103.

[58]Wayne M. Kennard, "Obtaining and Litigating Software Patents and Protecting Software Patents on the Internet," 471 *Practising Law Institute/Patent* (1997), 457, 473-75.

ones.[59] Also, although searches could be readily compelled, it seems more difficult to mandate the quality of the searches.[60]

A related approach proposal calls upon an applicant to reveal whether he has completed a prior art search or not and, if so, where the applicant has searched.[61] Although this proposal does not compel a search, it could nonetheless save examiners from redundant efforts when a search has already been completed. Examiners would be able to move immediately to prior art libraries that were not previously considered by the applicant. This proposal seemingly suffers from the same drawback as a compelled prior art search, however, in that monitoring the quality of a disclosed search may be difficult.

The effectiveness of either of these proposals might be improved if the entire USPTO prior art library were readily available to the public. The USPTO prior art database could, for example, be made available on the Internet. In such a case, an applicant could tell the examiner exactly which databases had been searched. As computerized search tools become increasingly prevalent, applicants might also disclose search terms and other searching methodologies. This technique might allow the USPTO to avoid redundant efforts, yet stand in a position to assess the quality of applicant searches.

Use of Jepson Claims. Inventors are required to claim distinctly the invention they regard as proprietary.[62] As a result, patent instruments include one or more "claims" that define the patented invention. The U.S. patent statute does not require that claims be written in any particular fashion. However, USPTO practice mandates that each claim consist of a single sentence.[63] In somewhat simplified form, the following patent claim is drafted in a manner commonly found in U.S. patent instruments:

A bicycle, comprising:
a frame;
one or more wheels;
a means for propelling said bicycle; and
a fender over the frontmost wheel.

Many such patent claims can be drafted in the fashion of a "Jepson claim." This claim's name is based on a case, *Ex parte Jepson*, which was ruled on in 1917. A Jepson claim defines an invention in two parts. First, a preamble recites the features of the invention that were known to the public domain. The second, or characterizing

---

[59]Thomas, *supra* note 6.

[60]*Ibid.*

[61]H.R. 1332, 107th Cong., 1st Sess. (3 Apr. 2001) ("Business Method Patent Improvement Act of 2001"), § 5.

[62]35 U.S.C. § 112.

[63]*See Fressola v. Manbeck*, 36 USPQ2d 1211 (D.D.C. 1995).

portion of the claim states the technical features that the invention adds to the public domain.[64] Rewritten in Jepson style, the above claim could be expressed as follows:

> A bicycle having a frame, one or more wheels, and a means for propelling said bicycle, wherein the improvement comprises:
> a fender over the frontmost wheel.

Under the Jepson claim format, the applicant admits that the subject matter within the preamble of the claim constitutes prior art. Only the subject matter within the body of the claim is asserted to be inventive.[65]

Many U.S. patent attorneys prefer not to use Jepson claims. Some patent attorneys believe Jepson claims tend to portray the invention as a limited improvement, rather than an elegant combination of diverse elements that together produce an inventive advance.[66] Conversely, USPTO examiners generally prefer to receive such claims.[67] Jepson claim format is said to make prosecution more compact, for the claim itself identifies the state of the art and the inventor's asserted technical contribution.

The present policy of the EPO is to encourage applicants to use Jepson claim format.[68] One possibility is that the USPTO do the same. Drafting claims in the Jepson format appears to raise few additional costs or inconveniences on behalf of patent applicants. On the other hand, the benefits of obligatory Jepson claims may be modest. Jepson claims are likely most effective when the applicant has completed a prior art search, and therefore is better able to identify technical features that fall within the state of the art. If such a search has not been done fully, or at all, then Jepson claims may not be of significant assistance to examiners.

USPTO Rule 105. The USPTO has recently promulgated Rule 105, titled "Requirements for information."[69] Rule 105 allows examiners to require applicants to submit a broad range of information, including any materials referenced during the drafting of the application, literature consulted during the invention process and identification of any predecessor technology that the invention improves.[70] If a complete reply is not forthcoming, the application may be considered abandoned.[71]

---

[64]*See In re Fout*, 675 F.2d 297, 213 USPQ 532 (CCPA 1982).

[65]*Ibid.*

[66]Martin J. Adelman *et al.*, *Patent Law: Cases and Materials* (West Group, St. Paul, Minn., 1988), 681.

[67]*Ibid.*

[68]Arthur L. Plevy, *Some Important Differences Between Patent Practice in Europe and the United States*, 209 N.J. Law. 40, 41-42 (June 2001).

[69]37 C.F.R. § 1.105.

[70]37 C.F.R.. § 1.105(a)(1).

[71]37 C.F.R. § 1.105(c).

Rule 105's significance is that it provides examiners with explicit authority to ask for information that may be reasonably necessary to examine an application properly. Examiners have traditionally lacked inquisitorial powers and, absent unusual circumstances, are resigned to accept sworn applicant submissions as truth.[72] Rule 105 alters this passive stance by providing examiners with the ability to query applicants more actively. As explained by Nicholas P. Godici, former Acting Under Secretary of Commerce for Intellectual Property and Acting Director of the USPTO, USPTO management is "hopeful that Rule 105 will further enable our examiners to perform the best examination possible, with applicants' assistance."[73]

It is difficult to assess whether USPTO examiners have actually made much use of Rule 105. Because patent applications have traditionally been maintained in secrecy,[74] observers are often unable to track the process of individual applications until the date a patent issues. From the perspective of examiners, however, Rule 105 involves a potentially time-consuming process of drafting a statement and parsing the applicant's response. Use of Rule 105 may also not necessarily supply an examiner with additional information. The rule provides that if an applicant states that the requested information is unknown or not readily available, then examiners must treat that answer as a complete reply.[75]

Focus on the Patent System's Heaviest Users. Some entities employ the patent system more frequently than others. For example, fourteen enterprises were awarded 1000 or more U.S. patents in 2000; an additional 151 obtained at least 100 patents. These 165 enterprises received in total 56,105 patents – about 35.6% of the 157,497 utility patents granted that year.[76] These statistics reveal that over one-third of the USPTO's efforts are devoted to 165 large customers.

The JPO has relied upon frequent filers before. Through the so-called "Action Program for 80%," the JPO caused its best customers to devote more resources to the preparation of patent applications.[77] The thinking behind "AP 80%" was apparently to ease the task of examiners by presenting them with more applications that were amenable to quick review and allowance. Through AP 80% the JPO requested that large applicants endeavor to increase their individual allowance rate to 80%. Among the steps applicants could take to reach the 80% allowance plateau were conducting

---

[72]*See* Lawrence Schlam, "Compulsory Royalty-free Licensing as an Antitrust Remedy for Patent Fraud: Law, Policy and the Patent-Antitrust Interface Revisited," 7 *Cornell Journal of Law and Public Policy* 467 n.277 (1998).

[73]Statement of Nicholas Godici, Acting Under Secretary of Commerce for Intellectual Property and Acting Director of the United States Patent and Trademark Office, Before the House of Representatives, Committee on the Judiciary, Subcommittee on Courts, the Internet and Intellectual Property, "Business Method Patents" (4 Apr. 2001).

[74]35 U.S.C. § 122. This rule has been recently been subject to changes of prospective application. *See infra* notes 92-100 and accompanying text.

[75]37 C.F.R. § 1.105(a)(3).

[76]United States Patent & Trademark Office, *Patenting by Organizations* (2000).

[77]Japanese Patent Office, *Annual Report* (1990).

augmented prior art searches, requesting that fewer filed applications be examined, and, of course, making more selective filing decisions in the first place.

Other patent offices might also call upon their largest users to assist in the patent examination process. The USPTO could mimic the JPO Action Plan for 80%, for example, asking "Century Club" members to place their applications in a better position for timely examiner review. Larger users might perform initial classifications and prior art searches with respect to their own applications, on behalf of the USPTO and under its supervision.

Other arguments suggest that all applicants should be treated equally, however. Applicants pay the same fees no matter how many applications they file.[78] The number of patents a particular enterprise obtains varies from year to year, suggesting instability among the individual participants in this proposed program. Larger applicants might also appear to be the preferred customers of the USPTO under such a regime.

Encourage Third Party Involvement

Commentators have proposed that the USPTO make more effective use of interested parties to assist in the task of patent examination.[79] Entities outside the USPTO may possess certain informational advantages over the corps of examiners. Current participants in the marketplace may possess a better sense of the state of the art, for example, than the USPTO.[80] By allowing these third parties to play a role as "private patent examiners," the USPTO may be able to make better patentability decisions than it could through its own resources. Two principal mechanisms for encouraging third party involvement, opposition proceedings and pre-grant publication of pending applications, are considered here.

Opposition Proceedings. Many foreign patent regimes allow for so-called opposition proceedings. An opposition is a patent revocation proceeding that is usually administered by authorities from the national patent office. Oppositions often involve a wide range of potential invalidity arguments and are conducted through adversarial hearings that resemble courtroom litigation.

Although the U.S. patent system does not include oppositions, the U.S. patent system has incorporated a so-called "reexamination" proceeding since 1981. Some commentators have viewed the reexamination as a more limited form of an opposition.[81] Under the reexamination statute, any individual, including the patentee, a competitor, and even the USPTO Director, may cite a prior art patent or printed publication to the USPTO. If the USPTO determines that this reference raises a

---

[78]37 C.F.R. § 1.17.

[79]Thomas, *supra* note 6.

[80]Jay P. Kesan & Marc Banik, "Patents As Incomplete Contracts: Aligning Incentives for R&D Investment with Incentives to Disclose Prior Art," 2 *Washington University Journal of Law and Policy* (2000), 23.

[81]Thomas, *supra* note 6.

"substantial new question of patentability" with respect to an issued patent, then it will essentially reopen prosecution of the issued patent.

Traditional reexamination proceedings are conducted in an accelerated fashion on an *ex parte* basis. Following the American Inventors Protection Act of 1999, an *inter partes* reexamination allows the requestor to participate more fully in the proceedings through the submission of argument and the filing of appeals.[82] Either sort of reexamination may result in a certificate confirming the patentability of the original claims, an amended patent with narrower claims or a declaration of patent invalidity.[83]

Congress intended reexamination proceedings to serve as an inexpensive alternative to judicial determinations of patent validity.[84] Reexamination also allows further access to the legal and technical expertise of the USPTO after a patent has issued.[85] However, some commentators argue that reexamination proceedings have been employed only sparingly and question their effectiveness.[86]

Legislation introduced in the 107th Congress would introduce opposition proceedings into U.S. patent law.[87] Supporters of full-featured oppositions believe that opposition proceedings will succeed where reexamination has arguably failed.[88] Some detractors believe that oppositions can be used to harass a patentee, however.[89] Other detractors question the capacity of the USPTO to administer oppositions,[90] while still others question whether oppositions can ever fully substitute for proceedings in federal court.[91]

Publication of Pending Applications. Most foreign patent regimes publish all pending patent applications 18 months after they have been filed.[92] A perceived advantage of pre-grant publication is that interested parties may inspect the pending application. Many foreign patent systems allow competitors to submit prior art documents and commentary upon the pending application. Such submissions may

---

[82]Mark D. Janis, "Inter Partes Reexamination," 10 *Fordham Intellectual Property, Media & Entertainment Law Journal* (2000).

[83]*Ibid.*

[84]*Ibid.*

[85]*See* Craig Allen Nard, "Certainty, Fence Building, and the Useful Arts," 74 *Indiana Law Journal* (1999) 759, 769.

[86]*See* Thomas, *supra* note 6.

[87]H.R. 1333, 107th Congress, 1st Session ("Patent Improvement Act of 2001").

[88]Mark D. Janis, "Rethinking Reexamination: Toward a Viable Administrative Revocation System for U.S. Patent Law," 11 *Harvard Journal of Law and Technology* (1997), 1.

[89]*Ibid* at 106-07.

[90]Nard, *supra* note 85.

[91]Thomas, *supra* note 6.

[92]John C. Todaro, "Potential Upcoming Changes in U.S. Patent Laws: the Publication of Patent Applications," 36 *IDEA: Journal of Law and Technology* (1996), 309.

assist a patent examiner in reaching an appropriate decision about the patentability of the invention.

Until recent years, the U.S. patent system acted differently from its counterparts overseas. The USPTO traditionally did not publicly disclose patent applications at all. Only granted patents were disclosed to the public, upon the day of their issuance. This regime was said to advantage patent applicants because it allowed them to understand exactly what the scope of any allowed claims might be prior to disclosing an invention. Thus, if the applicant was wise enough to maintain the invention that was subject to a patent application as a trade secret, then he could choose between obtaining the allowed patent claims and trade secret status.[93]

However, this secrecy regime has been perceived as imposing costs as well. Others might well engage in repetitive research efforts during the pendency of patent applications, unaware that an earlier inventor had already staked a claim to that technology. This arrangement also allows inventors to commence infringement litigation on the very day a patent issues, without any degree of notice to other members of the technological community.[94]

The Domestic Publication of Foreign Filed Patent Applications Act of 1999, which was one component of the American Inventors Protection Act of 1999, P.L. 106-113, altered the U.S. regime. The Domestic Publication of Foreign Filed Patent Applications Act allowed inventors to take advantage of a secrecy regime where patent filings concerned only the United States, but acknowledged that inventors who sought patent protection abroad were already subject to pre-grant publication overseas. Under this statute, U.S. patent applications are published after the expiration of18 months from the date of filing. There is an exception, however, if the inventor represents that he will not seek patent protection abroad. If an applicant certifies that the invention disclosed in the U.S. application will not be the subject of a patent application in another country that requires publication of applications 18 months after filing, then the PTO will not publish the application.[95]

The Domestic Publication of Foreign Filed Patent Applications Act of 1999 includes a significant qualification:

> Protest and pre-issuance opposition.--The Director shall establish appropriate procedures to ensure that no protest or other form of pre-issuance opposition to the grant of a patent on an application may be initiated after publication of the application without the express written consent of the applicant.[96]

---

[93]Mimi C. Goller, "Is a Padlock Better than a Patent? Trade Secrets vs. Patents," 71 *Wisconsin Lawyer* (May 1998), 20.

[94]Thomas, *supra* note 13.

[95]*Ibid.* Note that if a U.S. patent applicant later decides to file abroad as well, that enterprise is charged with notifying the USPTO so that its U.S. application may be published.

[96]35 U.S.C. § 122(c).

Commentators have identified this provision as prophylactic in nature.[97] It was reportedly designed to prevent post-publication harassment by third parties, who might be motivated to flood the USPTO with protests against pending applications.[98]

In accordance with this statute, the USPTO established Rule 99, a new regulation addressing third party submissions that pertain to published patent applications. The USPTO allows interested members of the public to submit prior art patents and publications that pertain to a published application. However, the USPTO will not accept argumentation or explanation of those references. As stated in Rule 99:

> A submission under this section shall not include any explanation of the patents or publications, or any other information. The Office will dispose of such explanation or information if included in a submission under this section.[99]

In other words, the USPTO will accept any prior art references submitted by interested members of the public in response to the pre-grant publication of a pending patent application. The USPTO will not consider any argument or explanation accompanying those references.

This compromise seemingly allows the USPTO to avoid potentially entangling advocacy by third parties during prosecution. But it may diminish the effectiveness of public input into patent examination. Interested members of the public may also be less inclined to forward pertinent references to the USPTO if they cannot submit accompanying commentary. They may reason that the better course is to allow the reference to be considered for the first time during litigation, where they may offer a full argument, possibly in front of a jury.[100]

Workload Reduction

A number of legal reform proposals and existing patent office programs generally relate to workload reduction. This report identifies three of these proposals: deferring examination, limiting examination tasks and promoting international worksharing.

Deferred Examination. Every application filed at the USPTO is automatically placed into a queue for substantive examination. One distinct aspect of patent practice in some other nations is that examination is deferred following

---

[97]Bradley William Baumeister, "Critique of the New Rule 1.99: Third-party Information Disclosure Procedure for Published Pre-grant Applications," 83 *Journal of the Patent and Trademark Office Society* (2001), 381.

[98]*Ibid* at 387.

[99]37 C.F.R. § 1.99.

[100]Robert E. Cannuscio, "Optional Inter Partes Reexamination: A Practitioner's Perspective," *American Law Institute - American Bar Association Continuing Legal Education: Patent and Trademark Law and Procedure after the Intellectual Property and Communications Omnibus Reform Act of 1999* (Nov. 2000), 75, 78.

submission of an application. Stated differently, in many other patent-issuing states the mere filing of an application does not mean that the patent office will further consider the application. Inventors who wish their applications to mature into an issued patent must submit additional requests in order for the patent office to consider the application. Such requests must occur within a specified time and be accompanied by the appropriate fee. In Germany, an inventor may defer examination for up to seven years;[101] in Japan, the maximum deferral period was recently reduced from seven to three years.[102] If no request for examination is made in a timely fashion, the application is deemed abandoned. If a request for examination is seasonably made, the novelty and nonobviousness of the application are judged as of the application's filing date.

Supporters of deferred examination regimes observe that they allow applicants the option of deciding to postpone the decision as to whether to obtain patent protection. Deferred examination regimes may also reduce patent office workloads. Further, since all pending applications are published approximately 18 months following their filing dates, the public has notice of the prospect of a granted patent whether examination is deferred or not.[103] Detractors note that a deferred examination system may delay the issuance of a fully considered patent instrument and, as a result, substantially increase marketplace uncertainties.

Limited Examination Tasks. The USPTO currently operates under an "examination" regime. Each patent application presented to the USPTO is reviewed to determine whether the invention described therein meets the requirements of the patent laws.[104] An alternative to examination is a so-called "registration" system. Under a registration regime, patent applications are simply recorded and issued. No formal review of the application occurs. If a patent is asserted, determination of its validity is wholly left to the courts.[105]

Early in its history, the United States operated under a registration system. From 1793 through 1839, patents were registered without formal review.[106] Various foreign patent systems have also employed registration schemes during their history. For example, since 1995 the Dutch patent system has largely acted as a registration system.[107]

---

[101]Nancy J. Linck, et al., "A New Patent Examination System for a New Millennium," 35 *Houston Law Review* (1998), 305.

[102]Japanese Patent Office, "Procedures for Obtaining a Patent Right" (available at www.jpo.go.jp).

[103]Linck, *supra* note 101.

[104]35 U.S.C. § 131.

[105]Michael N. Meller, "Planning for a Global Patent System," 80 *Journal of the Patent and Trademark Office Society* (1998), 379.

[106]*See* Edward C. Walterscheid, "Patents and the Jeffersonian Mythology," 29 *John Marshall Law Review* (1995), 269.

[107]*See* Harold C. Wegner & Stephen Maebius, "The Global Biotech Patent Application," 666

(continued...)

Registration systems may be less expensive to operate than examination systems, at least initially. They would appear capable of acting more quickly than examination systems.[108] However, registration regimes provide less certain rights than an examination system and may encourage frivolous filings. As a result, more burdens may be placed upon the courts and private enterprise to determine which registered patents are valid and enforceable.[109]

International Worksharing. No global patent system exists. There is no mechanism for an inventor to obtain an "international patent." Individuals who wish to obtain patent protection in several countries must instead file applications on an individual, nation-by-nation basis.[110] In turn, the patent offices of the world will examine these applications in parallel, each providing an independent decision on whether the application should be approved or not. For example, if an inventor wishes to obtain patent protection in the United States, Japan and Germany, essentially the same examination tasks will be performed by three different examiners.[111]

Observers have suggested that it is inefficient for multiple patent offices to examine parallel applications.[112] Even absent a global patent system, the world's patent offices could respect the examination results of their peer agencies. Once an application was approved by one patent office, the other patent offices could provide some level of deference to that result. The deference could range from a "soft look" by the USPTO at an application that was approved elsewhere, to a very lenient review that would effectively amount to a registration of that application.[113]

Some practical difficulties may attend this worksharing proposal. The U.S. patent laws differ from those of many foreign states. For example, only the U.S. employs a first-to-invent priority principle, where a patent is awarded to the first actual inventor rather than the first individual to file a patent application.[114] Unlike many of its trading partners, the U.S. also imposes a "best mode" requirement, where inventors must disclose the preferred way of which they are aware to practice the

---

[107](...continued)
Practising Law Institute/Patent (2001), 87, 151.

[108]Walterscheid, *supra* note 106.

[109]*Ibid.*

[110]Congressional Research Service, *Multinational Patent Acquisition and Enforcement: Public Policy Challenges and Opportunities for Innovative Firms*, by John R. Thomas, CRS Report RL31132, 31 August 2001.

[111]*Ibid.*

[112]Gerald J. Mossinghoff & Vivian S. Kuo, "World Patent System Circa 20xx," 38 *IDEA: Journal of Law and Technology* (1998), 529.

[113]*Ibid.*

[114]35 U.S.C. § 102(g).

invention.[115] U.S. law also allows patents to issue on business methods, while many foreign patent systems do not.[116]

Another potential problem with worksharing proposals is that the United States may lack the ability to monitor the rigor of foreign examination procedures. If foreign patent offices lack stringent examination protocols, the USPTO may have to allow invalid patents to issue. To the extent that the USPTO would actually monitor issued patents from foreign offices under these proposals, the benefits of a worksharing arrangement may be reduced.

Experience with the Patent Cooperation Treaty, or PCT suggests this possibility. The PCT provides for the filing of one patent application that can lead to issued patents in many countries.[117] An inventor may use the PCT if he is a national or domicile of a PCT contracting state. Most often, an inventor commences the PCT process by filing a so-called "international application" at his local patent office. The international application designates all PCT member states in which the inventor wishes to obtain patent protection. An international application has the effect of a national application in all of the countries that the applicant designates.

This application will then be sent to one of the individual national patent offices, including the USPTO, EPO and JPO, that are designated as an International Searching Authority. These patent offices research existing patent documents and other technical literature in order to determine public domain knowledge pertinent to the invention claimed in the patent application. The applicant then receives an international search report, which lists citations of prior art relevant to the claims of the international patent application and gives an indication of the possible relevance of the citations to the questions of novelty and nonobviousness.

If the international search report does not reveal any public domain knowledge that would defeat the patentability of the claimed invention, the applicant may wish to enter the second part of the PCT process, the so-called "national stage." Here the applicant submits the PCT application to various national offices. At this time, patent examiners in each country examine the application based upon their own national laws, either allowing or rejecting the patent application.

The PCT framework appears to provide opportunities for the world's patent offices to rely upon the efforts of their colleagues. The USPTO could simply accept the international search report and commence with substantive examination. Experience suggests, however, that this benefit may not have been fully achieved. A perceived difficulty with the PCT is that many patent offices do not appear to respect fully the work product of the International Searching Authority. In fact, most patent offices normally repeat the search and examination at the national phase in the same manner as for an ordinary national application. A possible reason for this

---

[115] 35 U.S.C. § 112.

[116] Congressional Research Service, *Patents on Methods of Doing Business*, by John R. Thomas, CRS Report RL30572, 1 June 2000.

[117] *Ibid* at 1430-41.

posture is that many PCT signatories do not fully respect the rigor of the examination proceedings elsewhere. Under the view of some observers, these redundant efforts appear to undermine much of the logic behind PCT.[118]

Concluding Observations

The technical, fiscal and industrial environment in which the patent examination system exists presents a number of challenges for the USPTO. In turn, patent administration potentially holds implications for innovative U.S. industry. Given their lack of market power, small businesses and independent inventors have been perceived to rely more heavily upon the patent system than larger firms.[119] Entrepreneurs and small, entrepreneurial firms may therefore possess a substantial stake in the rigor of patent examination proceedings.

To the extent that patent administration is believed deserving of further attention, a number of existing programs and proposals suggest possibilities for improvement. Each of these avenues for reform promises benefits but may also lead to costs and complexities. Selection from this range of possibilities will require a careful balancing of the potential advantages and possible drawbacks of patent administration reform.

---

[118] *See* Markus Nolff, "TRIPS, PCT and Global Patent Procurement," 83 *Journal of the Patent and Trademark Office Society* (2001), 479.

[119] *See* Hawkins, *supra* note 8.