

Legally Speaking: Why Reform the U.S. Patent System?

By

Pamela Samuelson

Computing professionals have been complaining for years about “bad” software and Internet-related patents. Now there’s something they can do about it: Support reforms of the U.S. patent system recommended in three recent high profile reports—one issued by the Federal Trade Commission, one by the National Academy of Sciences, and one by the U.S. Patent and Trademark Office [1, 3, 5]. One short column cannot hope to do justice to all of the recommendations in these reports. But it is possible to highlight three key reforms that deserve support.

First, the nonobviousness standard (by which the U.S. patent system judges whether the patent applicant is an “inventor”) should be substantially reinvigorated. Second, there should be a more meaningful process for reviewing “bad” patents so that they can be challenged in a more cost-effective manner than by full-scale litigation. Third, the presumption in favor of the validity of an issued patent should be changed somewhat. At present, a challenger must produce “clear and convincing” evidence of invalidity in order to overcome the presumption of validity that attaches when a U.S. patent is issued. The FTC recommends that a “preponderance” of evidence of invalidity should suffice. Any one of these reforms would be an improvement, but the three together would significantly improve patent quality and hence, public confidence in the patent system.

NONOBVIOUSNESS

Current law states: “A patent may not be obtained...if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains...” The nonobviousness test for invention inverts this straightforward proposition: if a design for a machine, manufacture, composition of matter, or process would be nonobvious to a person of ordinary skill in the art to which it pertains, then it is inventive. Assuming other requisites are met (e.g., novelty, utility, appropriate claims and disclosures about how to make the invention), the patent applicant is entitled to receive a patent on this invention.

The Supreme Court discussed the nonobviousness standard in 1966 in *Graham v. John Deere Co.* The primary inquiry, said the Court, ought to focus on a comparison of the claimed invention with the closest prior art references and judging how much of an advance the claimed invention was over these prior technologies: if an obvious advance, no patent should issue; if a nonobvious one, a patent is warranted.

Yet, the Supreme Court recognized the risk of “20/20 hindsight” in making such judgments (i.e., once the insight has been made, it may seem obvious). To guard against

the risk that such hindsight would unfairly cause an inventor to be denied a patent, the Court decided that secondary factors, such as whether the claimed invention solved a long-felt need in the field, might also be considered. Among the secondary factors the Court identified as a potentially relevant secondary consideration was the commercial success of products embodying the invention.

Over the years, the Court of Appeals for the Federal Circuit (which hears all appeals in U.S. patent cases) has elevated what the Court in *Graham* designated as secondary considerations to primary status. It has ruled that courts *must* consider such factors in a nonobviousness inquiry, not just that they *may* consider such factors. Moreover, the CAFC has put the burden on the defendant to prove that the commercial success of products covered by a patent was due to something other than use of the claimed invention.

The FTC recommends shifting the burden of proof so that the plaintiff would have to show that commercial success was attributable to the patented invention. After all, the plaintiff has access to better information about success. More importantly, the chain of inferences between the fact of commercial success and the existence of an invention is long and quite weak. The current burden of proof rules make it too easy for plaintiffs to come in with patent in hand and some evidence of commercial success and elide rigorous assessment of the causes of this success.

THE SUGGESTION TEST

The FTC also bemoans the CAFC's use of a "suggestion" test in judging nonobviousness. Unless the prior art suggests to persons of ordinary skill in the art to do as the patent applicant did and further suggests that doing so would have a reasonable likelihood of success, the CAFC believes that the patent should issue. Sometimes the CAFC seems to require that this suggestion actually be explicit in the prior art and has overturned PTO rulings of obviousness. And the CAFC also considers what motivation there was to combine prior art references as part of the suggestion analysis.

The FTC recommends that "in assessing obviousness, the analysis should ascribe to the person having ordinary skill in the art an ability to combine or modify prior art references that is consistent with the problem-solving skills that in fact are characteristic of those having ordinary skill in the art." This is a second reform that would reinvigorate the nonobviousness standard and allow PTO examiners to issue higher quality patents.

RE-EXAMINATION

The U.S. patent law presently allows any person to request that an issued patent be re-examined in light of a printed publication or another patent that bears on whether the novelty standard for patents has been satisfied (i.e., is a claimed invention actually "new" to the publicly known art in the field?) The U.S. Patent and Trademark Office (PTO) can also decide to re-examine an issued patent on its own, as it did recently with the Eolas

patent under which Microsoft was recently held liable for half a billion dollars in damages. The PTO only undertakes the requested re-examination if it decides that the submitted prior art raises a substantial new question of patentability.

Requests for patent re-examination most often come not from those who question the patent's validity, but rather from the patentee him/herself. Patentees are most likely to seek re-examination when the validity of their patents has been called into question either in the course of negotiations about licensing the use of their patents or when validity is challenged in patent litigation.

Patentees are likely to seek re-examination of their own patents if they believe chances are good that the PTO will either declare that a particular prior art reference does not present substantial new novelty questions or reaffirm the patent claims after re-examination. Patentees may be able to strengthen their patents during the re-examination process by proposing amendments to the patent claims to distinguish further his/her invention from the prior art. Thus, re-examination may help patentee fend off invalidity challenges in litigation.

Re-examination was, until recently, an "ex parte" proceeding (i.e., only the PTO and the patentee participated in it). Challengers could send prior art to the PTO and explain in writing why it raises doubts about novelty, but then they could only wait to learn what the PTO decided. If the PTO upheld the patent, no appeal from the PTO's decision was possible. Weighing the costs and benefits of re-examination, challengers very often decided to take their chances before a judge than to use up their best defense evidence in such a one-sided re-examination process.

In the late 1990's, Congress was persuaded that challengers, as well as patentees, should be able to participate in the re-examination process, and thereafter, to allow PTO's re-examination decisions to be appealed. Proponents of these reforms hoped that the new "inter partes" procedure would induce challengers to use the re-examination process rather than litigation to test patent validity. However, only four "inter partes" proceedings have taken place since 1999. The FTC cites this as evidence that further reform of the post-grant review process is needed, and the other two reports agree.

POST-GRANT REVIEW REFORMS

All three reports recommend that a new and more meaningful post-grant review (PGR) system be adopted. Reform includes broadening the issues that can be addressed in a PGR, allowing substantially greater participation by challengers in such reviews, and establishing an administrative law judiciary to conduct them. Each report recognizes the potential for abuses of the PGR process and recommends some measures to mitigate abuses.

The current re-examination system only addresses the novelty of the claimed invention in light of pre-invention printed publications or patents. All three reports recommend expanding the issues upon which administrative review of patent validity to include such

issues as nonobviousness, utility, adequacy of written description and enablement, along with other novelty-related issues (e.g., selling products embodying the invention more than a year before one applies for a patent).

The PTO report recommends, among other things, allowing participants in a review to make a case for pre-hearing discovery of documents pertaining to a validity challenge (e.g., documents about when the invention actually was made). It would allow participants to cross-examine witnesses and present expert witnesses. Because of the broader scope of issues that could be raised and the greater participation allowed in PGR hearings, trained administrative law judges would be needed to ensure expert adjudications that would provide a more timely and well-informed review of patent validity issues than federal trial court judges, on average, are able to provide.

To protect against abusive use of the post-grant review process, the FTC recommends requiring a challenger to make a threshold showing of invalidity before a PGR is initiated, disallowing more than one challenge by the same person or firm, and perhaps limiting the time during which a challenge to the validity of the patent can be tested in a post-grant review other than that conducted during a pending litigation. (If the challenge period is one year, say, and a patentee sues an alleged infringer two years after the patent issues, the defendant should be able to challenge the patent's validity, even if others not facing patent litigation might be precluded.) Many details need to be worked out, but Europe has experience with allowing post-grant opposition challenges, and as long as these can be done in a timely manner, patentees, competitors, and the public can benefit by establishment of a meaningful PGR system.

PRESUMPTION OF VALIDITY

U.S. patent law says that "patent[s] shall be presumed valid," but it doesn't say how strong such a presumption of validity should be. The effect of the presumption is to put onto anyone who contests the validity of a patent (say, on obviousness grounds) the burden of proving invalidity. Should this burden be the normal standard used in civil litigation under which a preponderance of evidence suffices to meet whatever burden of proof the law imposes, or should "clear and convincing" evidence be required, as the CAFC has ruled?

(N.B. If both sides in a lawsuit produce evidence of equal relevance and weight, then whoever bears the burden of proof loses. If the weight of the evidence tips, even if only slightly, in one party's favor, she wins under a preponderance of evidence standard, but not under a clear and convincing evidence standard. Clear and convincing evidence lies in between the "beyond a reasonable doubt" burden of proof used in criminal cases, and the preponderance standard.)

A presumption of patent validity makes sense given the examination that takes place in the patent office before a patent issues. Patent applicants must provide examiners with a considerable amount of detailed information, such as how to make and use their

inventions, prior art of which the applicants are aware, and specific claims defining their inventions, among other things. Examiners study these and other documents (e.g., prior patents in the same field not cited by the applicant) to determine whether a patent should issue. Often, patent examiners will question some claims, insist on more disclosure, or indicate that claims must be narrowed to be allowable. The presumption of validity assumes that patent examiners did conscientious work in the examination process.

The FTC makes several arguments in favor of a preponderance standard for overcoming the validity presumption. One arises from another presumption that works in an applicant's favor at the time he files for a patent. The law puts the patent examiner to the task of identifying reasons why the patent shouldn't issue to an applicant, not on the applicant to prove he is entitled to it. Moreover, patent examiners have heavy caseloads and a limited number of hours within which to conduct examinations of each application. The PTO's own decisions about patents are made on a preponderance standard, so it makes sense that the presumption in favor of the patent is no greater than this.

If Congress was willing to invest far greater resources in the patent examination process, that would arguably justify the clear and convincing evidence standard, but that raises the question about whether such an investment would provide sufficiently higher quality decisions in a cost-effective manner. Professor Mark Lemley [2] has suggested that it is rational for the PTO to be (relatively) ignorant about patent quality. He points out that the overwhelming majority of patents are neither litigated nor licensed. If some "bad" patents are never asserted, society is arguably not harmed (except for the wasted resources in acquiring the patent). Patent quality matters most as to litigated and licensed patents, and if one wants to focus on the quality of those patents, a post-grant review process would be a better investment than throwing substantially more resources into the patent examination process. The FTC relied on Lemley's theory in recommending adjustments to the presumption of validity.

CONCLUSION

The reforms discussed in this column would significantly improve the current U.S. patent system. Reinvigorating the nonobviousness standard would improve the quality of issued patents and might well deter some unmeritorious applications from being filed. A meaningful post-grant review system would allow the PTO's mistakes to be challenged in a more timely and cost-effective way than the current system allows.

More controversial, perhaps, is the recommendation to lighten the presumption in favor of the validity of issued patents. The strongest argument for the presently very heavy presumption of validity—one that can only be overcome by clear and convincing evidence—arises from the notion that patent examination involves a rigorous review of the patent application. However, given the many real-world constraints on patent examiners' ability to live up to the ideal patent examination procedure and given the high costs and marginal benefits of investing substantial new resources in the patent

examination process, it may be better to maintain a presumption of validity but allow it to be overcome by a preponderance of the evidence, as the FTC recommends.

Some CACM readers may think that there should be no patents on software-related inventions. Whatever the merits of this position [5], the debate in the U.S. has shifted from this issue to that of patent quality. The information technology industry, and in particular, the software industry, would greatly benefit if the patent reforms discussed in this column were adopted. As the FTC report points out, a well-functioning patent system promotes innovation and competition, and a dysfunctional patent system can undermine both societal goals. Computing professionals can—and should—help to create the momentum necessary to make patent reform in the U.S. a reality.

ABOUT THE AUTHOR

Pamela Samuelson is a Chancellor's Professor of Information Management and of Law at the University of California at Berkeley. She served on the Study Committee that produced the report at [3]. She can be reached at pam@sims.berkeley.edu.

FOOTNOTES

[1] Federal Trade Commission. To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy. October 2003.

[2] Lemley, M. A. Rational Ignorance at the Patent Office. *Northwestern Law Review*, 95:1495 (2001)

[3] National Research Council. A Patent System for the 21st Century (April 2004).

[4] Samuelson, P. Should Program Algorithms Be Patented? *Comm. ACM* 33:23 (Aug. 1990).

[5] U.S. Patent & Trademark Office. 21st Century Strategic Plan (June 3, 2002).