Technology Worth Patenting...

By Professor Thomas G. Field, Jr.



Recently, Federal Reserve Chairman Alan Greenspan affirmed what most people engaged in technological research have long known:

> Over the past half century, the increase in the value of raw materials has accounted for only a fraction of the overall growth of U.S. gross domestic product. The rest of that growth reflects the embodiment of ideas in products and services that consumers value. This shift of emphasis from physical materials to ideas as the core of value creation appears to have accelerated in recent decades. [1]

He went on to observe: "Of particular current relevance to our economy overall is the application of property right protection to information technology." [2]

More narrowly, such protection enables research-intensive enterprises to recover their costs and improve their own fortunes as well as those of society in general. Although non-profit research entities traditionally were uninterested in such matters, that has changed. Now they, too, increasingly use legal protection for intellectual property (IP) to augment and recover governmental and charitable research investments. [3]

Software aside, copyrights are of small help,[4] and, as explained by the Supreme Court, secrecy may be less attractive than patents:

> While trade secret law does not forbid the discovery of the trade secret by fair and honest means..., patent law operates "against the world," forbidding any use of the invention for whatever purpose for a significant length of time. The holder of a trade secret also takes a substantial risk that the secret will be passed on to his competitors... in a manner not easily susceptible of discovery or proof. Where patent law acts as a barrier, trade secret law functions relatively as a sieve. [5]

Moreover, secrecy is less of an option when non-profit research is conducted by persons for whom publication is critical to professional growth, as in the case of universities and government labs. Yet patents are also usually the most expensive form of IP to obtain, maintain, and enforce, making strategies for seeking cost-effective protection compelling. [6]

Emerson apparently said that people who make better mousetraps will find paths beaten to their doors,[7] but his dictum may be misleading. For example, at the turn of the last century, few purchasers found Chester M. Woolworth's better mousetraps to warrant a 250% price premium.[8] The product failed in the market, meaning in retrospect that any money spent by Woolworth on patents, here or abroad, would have been misspent.

Those who manage patents probably think of them as fences, locks, or even as insurance. No one uses expensive locks to protect things nobody wants. Protection exceeding the value of underlying assets wastes resources, but insufficient protection represents foregone opportunities to recover research investments.

Until it becomes clear that a technology has no foreseeable commercial value, or that the technology is worth whatever it takes to keep free riders at bay, calculating the expense warranted to obtain, maintain, or enforce particular patents poses a dilemma. And while the dilemma may be large for licensing owners, it may be even larger for licensees, who are apt to invest more than those who create technology in the first instance.[9] Licensees may also appreciate the inherent advantages enjoyed by strangers: It is one thing to choose the scope and strength of protection needed when markets are uncertain, and another to know how much free riders will spend to bypass or invalidate protection after markets mature.

On average, it costs approximately $8,500 to prepare and prosecute a simple patent application—double that for, say, a biotechnology patent.[10] If a patent issues, examiners will spend close to 20 hours searching and negotiating its claims.[11] Well-prepared and prosecuted applications are less likely to be evaded or involved in litigation.[12] It is expensive to litigate the 2% to 4% of cases for which the cost is apparently justified.[13] Discovery in a small-stakes suit can easily exceed $300,000, and full costs in suits involving more than $25 million may exceed $4 million,[14] per party, without considering "the huge opportunity cost of time spent preparing for litigation by managers and R&D personnel."[15]

Much attention has been given to improving patent examination on the understanding that additional examination time cost-effectively reduces litigation expenses.[16] Government fees have risen dramatically to cover increased costs: In 1980, base patent fees were $165; maintenance fees were not charged. Today, unless applicants qualify for a 50% remission,[17] filing and issue fees begin at $2,100, and maintenance fees may increase the total to $8,320.[18]

All of the foregoing considerations counsel against stinting on the amount spent to prepare and prosecute patent applications. Inevitably scarce resources are better invested in deciding which applications are worth filing and seeking the broadest defensible claims for those that are chosen. Whether a patent can be obtained for less than, say, $10,000 is the wrong question.[19] Whether a patent is worth having is the better question—particularly from the standpoint of prospective licensees.[20]

Even at the most basic level, the answer to the second question has several parts. First, applicants should have the best possible understanding of prior art[21] and be prepared to explain why and how claimed inventions differ. That information must be available to those drafting applications. Next, applicants must have the best possible estimate of the technology's market value. Only when that value is known can wise decisions be made about whether, for example, to file outside the United States or to accept narrow claims instead of filing affidavits or appeals.

Technology can vary in value as much as, say, property—a small piece of Arctic tundra versus a large chunk of Tokyo. No one owning the latter will want to find themselves defending their rights with a set of claims more appropriate for the former. The more attention that is given to the steps outlined above, the less likely that unhappy situation will occur.

Professor Thomas Field is a founding member of the Pierce Law faculty, a former patent examiner, and a long-time participant in Techno-L, a tech-transfer e-mail list. His home page (http://www.piercelaw.edu/tfield/tgf.htm) provides additional information and links to several discussions of patents and other forms of intellectual property written for non-lawyers.

Professor Field appreciates the assistance of his colleagues, Jon Cavicchi and Karen Hersey, in the development of this article, but opinions expressed herein are his.

Notes

1. Chairman Alan Greenspan, "Market Economies and Rule of Law," Financial Markets Conference of the Federal Reserve Bank of Atlanta, Sea Island, Georgia April 4, 2003, conference remarks, para. 10, online at http://www.federalreserve.gov/boarddocs/speeches/2003/20030404/default.htm [Accessed May 16, 2004]
2. Id., para. 21.
3. See, e.g., Lawrence Rudolph, Overview of Federal Technology Transfer, 5 Risk: Health, Safety & Environment 133 (1994).
4. See, e.g., U.S. ex rel. Berge v. University of Alabama, 104 F.3d 1453 (4th Cir. 1997) (ideas and data in a dissertation were unprotected by copyright, and state protection was preempted).
5. Kewanee Oil Co. v. Bicron Corp., 416 U.S. 470, 490 (1974).
6. See, generally, Thomas G. Field, Jr., Converting Intellectual Assets into Property (written primarily for for-profit firms) online at http://www.piercelaw.edu/tfield/ipm.htm [Accessed May 18, 2004]
7. See, e.g., Bartlett's Familiar Quotations, 605 n.1 (Emily M. Beck, ed.,14th ed. 1968).
8. A. Kelly et al., Venture Capital, 12 (Boston College Management Institute, 2d ed. 1973).
9. See, e.g., Ronald E. Barks, Accessing and Licensing Federal Technology, Licensing Law & Business Report, May–June, 1992, at 76, "[F]or every $1 of research, a company spends $10 to develop the product and another $100 to take it to market."
10. American Intellectual Property Law Association, Report of the Economic Survey 2003, 20 (data from 2002) (hereafter AIPLA). The smaller figure represents about 1 week's work for an attorney; id. at 16 (the average 2002 billing rate for full time practitioners was $286 per hour).
11. John L. King, Patent Examination Procedures and Patent Quality, 53, 58 in Board on Science, Technology, and Economic Policy, National Research Council, Patents in the Knowledge-Based Economy (2003) (hereafter STEP).
12. Id. at 70 (particularly the discussion of Table 5).
13. Jean O. Lanjouw & Mark Schankerman, Enforcement of Patent Rights in the United States, 145, 146 in STEP, supra note 11.
14. AIPLA, supra note 10 at 22.
15. King, supra note 11 at 69.
16. See, e.g., id. at 68.
17. 35 U.S.C. § 41(h)(1).
18. The fee schedule is online at http://www.uspto.gov/web/offices/ac/qs/ope/fee2004apr01.htm [Accessed May 17, 2004]
19. Those who disagree should consider David Pressman's book, Patent It Yourself (Nolo 10th ed. 2004).
20. See Barks, supra note 9.
21. This will be easier as pending applications are published under 35 U.S.C. § 122.

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