

USPTO, silly patents and patent trolls

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In the United States, what can be patented is generally known as statutory subject matter. §101 of the Patent Act of 1952 states these to be: process, machine, manufacture, or composition of matter:

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, subject to the conditions and requirements of this title.

In *Diamond v. Chakrabarty*¹, the Supreme Court took a broad view of §101:

In cases of statutory construction we begin, of course, with the language of the statute. And ‘unless otherwise defined, words will be interpreted as taking their ordinary, contemporary, common meaning’. We have also cautioned that courts ‘should not read into the patent laws’ limitations and conditions which the legislature has not expressed’.

Accordingly, it decided that Chakrabarty’s invention, which was a live bacterium, was a manufacture or composition of matter, and hence statutory subject matter. It noted that Congress has purposely chosen broad and expansive terms to indicate what was statutory subject matter. ‘Congress plainly contemplated that the patent laws would be given wide scope’. It observed that:

The Committee Reports accompanying the 1952 Act inform us that Congress intended statutory subject matter to ‘include anything under the sun that is made by man’.

This is not to suggest that Section 101 has no limits or that it embraces every discovery. The laws of nature, physical phenomena, and abstract ideas have been held not patentable (citations omitted)¹.

The Court’s observation that

...Congress intended statutory subject matter to ‘include anything under the sun that is made by man’.

has since become an often cited quote in case law. The mere fact that Chakrabarty’s invention happened to be alive

was deemed immaterial. Chief Justice Warren Burger, who delivered the majority opinion declared that,

the relevant distinction was not between living and inanimate things, but between products of nature, whether living or not, and human-made inventions.

The judicial observations in this case have since permitted the patenting of software, business methods, and biological things such as transgenic animals. Later decisions by the Court of Appeals for the Federal Circuit have stressed that software-based inventions and methods of doing business are indeed patentable subject matter^{2,3}. It is important to note that the Federal Circuit has held that programming a general purpose computer creates a new machine³:

A general purpose computer in effect becomes a special purpose computer once it is programmed to perform particular functions pursuant to instructions from program software.

Computer scientists, familiar with the notion of the abstract Universal Turing Machine, would approve. The abruptness with which it became clear that software and business methods are patentable created some unfortunate consequences. The United States Patent and Trademark Office (USPTO) found itself quite unprepared to deal with the situation, since this expansion occurred without any oversight from the legislative branch and took patent law into uncharted territory. With software and business method patent applications pouring in, the USPTO found itself short of funds, short of adequately qualified patent examiners to examine software and business methods, and with a non-existent repository of prior art in these areas. The cost of doing a really good prior art search was thus high and beyond USPTO’s available funds and personnel. The circumstances have led to a crisis.

The blind side of the USPTO

Since the 1990s, the USPTO has faced ridicule for granting ‘silly’ or otherwise

questionable patents by the thousands, mainly related to software and business methods. ‘Silly’ patents describe obvious inventions that people ordinarily skilled in the art would have invented if they were required to do so. (Under §102 of the Patent Act of 1952, obvious inventions are not patentable.) Here are three examples.

US6748468: Caps lock notification. If your software product contains the following code, you could be infringing this patent:

```
if (caps_lock_on) {beep(0.5); printf(
  (“Your caps lock is on.\n”);}
```

US6016494: Expanding web documents by merging with linked documents. If you created a new document by merging the linked documents with the original document, you could be infringing this patent.

US5442741: Method for displaying pie chart information on a computer screen. If you displayed a pie chart on your computer screen, you could be infringing this patent.

Some questionable patents have led to high-profile controversies and litigations⁴. They include Amazon’s ‘one-click’ patent for online shopping, RiceTec’s patent on basmati rice, PriceLine’s reverse auction patents, and Acadia’s patents on digital transmission of audio and video⁵.

Some believe that more than half of the software patents granted by the USPTO are invalid in law. In October 2002, the USPTO acknowledged that many business method patents have been wrongfully awarded in the past⁴. A noted critic of the USPTO, Gregory Aharonian claims⁶: ‘The US patent office is just not competent to examine software patents’. And adds, ‘Eighty percent of software patents effectively cite nothing from the computing literature. To me it’s kind of contempt’.

The situation is such that those with deep pockets feel compelled to protect themselves by acquiring as many dubious patents as they think the USPTO will grant them. Corporations with giant patent portfolios use them to routinely enter into cross-licensing agreements with their competitors to avoid mutually destruc-

tive litigation and to ensure freedom of action in the market place. Those without such portfolios often pay large license fees for the patents they need, even if they are 'silly' patents or live in fear of litigation. This is because even though after a patent is granted, it is subject to challenge at any time during its term, the US courts are generally required to defer to the judgement of the examiner regarding the patent's validity. Under 35 U.S.C. 282,

A patent shall be presumed valid. Each claim of a patent (whether in independent, dependent, or multiple dependent form) shall be presumed valid independently of the validity of other claims; dependent or multiple dependent claims shall be presumed valid even though dependent upon an invalid claim.

That presumption, when 'silly' patents abound, appears to be legal fiction for software and business method patents.

Roth⁷ cites several instances of patents, which were granted due to the lax scrutiny by the USPTO, but which were later struck down by the courts. In the meantime, however, the monopoly profits earned by the respective patent owners were legally theirs to keep. Current legal provisions obviously allow faulty patents to do immense damage to the economy by allowing patent-owning firms to gouge customers with astronomical prices, inhibit research and innovation, decelerate economic growth, and even create investment bubbles.

The funding system of the USPTO is such that examiners are considered productive if they approve patent applications. A rejection produces no continuing maintenance fees. Lerner⁵ notes that all parties have an incentive to 'invest in abusing the system', for inventors are 'induced to make marginal applications by their likelihood of success'. Holders of marginal patents can then use them to force others to pay royalties they should not have to, or even stay out of the field.

Unfortunately, most of the thousands of 'silly' patents will never be challenged in court because of the high cost of litigation. Questionable patents can be fought and overthrown, but, on average, to challenge a patent in court costs more than \$1 million⁶. However, revoking patents on re-examination by the patent office is usually much less expensive. While this

may happen more frequently in the future if the Patent Act is amended, for rather convoluted reasons, presently re-examination is usually sought only after litigation!

The patent system as it operates under the USPTO, overwhelms many patent examiners, operates under laws and bureaucratic incentives that favour applicants, and can potentially be hoodwinked by the unscrupulous. A recent Federal Trade Commission report⁸ which made these criticisms concluded that in key industries such as pharmaceuticals, software, biotechnology, and the Internet, the USPTO now 'hamper[s] competition that otherwise would stimulate innovation'. Clearly, reforms are needed at the USPTO.

Patent trolls

In recent years there has been an increase in the number of 'patent trolls' (the phrase was coined by Peter Detkin while at Intel), entities whose sole business is to own patents and sue infringers. Often such firms acquire patents of another firm which has gone bankrupt and the assets are sold, or through other business deals. Another emerging phenomenon is that of companies whose business is to invent and to acquire (often rather broad) patents on their inventions, again for the sole purpose of licensing the patents for money or suing infringers. Because these firms (including patent trolls) have no other business, they have no interest in the patent portfolios of other companies such as in cross-licensing. Hence other companies have no choice but to defend themselves in court, or pay hefty licensing fees. Complex technologies have thus become vulnerable to patent assertions because a whole product can be held hostage to a patent on one of thousands of underlying functions. While no laws are broken, the occurrence of several such incidents has caused alarm.

In another variation, an opportunistic entrepreneur may produce a stream of patent applications to the point of abuse and use the system's overly broad and undisciplined patent grant to shake down a potential competitor. The tension between the patent as a way to stimulate invention and the patent as a weapon to stifle legitimate competition is unavoidable in the system, more so when viewed in light of the enormous competitive advantage conferred by a patent.

Remarks

Low quality patents give holders unwarranted legal and economic leverage. It enables firms to place mines in business fields for unsuspecting business entities to step on, wait for those companies to bring products to the market, and threaten an injunction to extract hefty fees. Clearly, there is a dire need for reforms to improve patent quality where only truly novel inventions are given patents, so that subsequent investment in the invention can be made with confidence. Present uncertainties are such that when one party accuses another of patent infringement, the accused party is quite likely to simply abandon its claim to an allegedly infringing technology, or even to agree to pay possibly unnecessary royalties or license fees.

Reformers in the US are trying to change that through their Patent Reform Act of 2007 and the Patent Reform Act of 2008. Whether either Act will be sufficient for the purpose or ever become law is debatable.

1. *Diamond vs Chakrabarty*, 447 U.S. 303, 1980; <http://supreme.justia.com/us/447/303/case.html>
2. *State Street Bank & Trust vs Signature Financial Group*, 149 F.3d 1368, 47 USPQ2d 1596 (Fed. Cir. 1998); <http://www.ll.georgetown.edu/federal/judicial/fed/opinions/97opinions/97-1327.html>
3. *In re Alappat*, 33 F.3d 1526, 31 USPQ2d 1545 (Fed. Cir. 1994); <http://digital-law-online.info/lpdi1.0/cases/31PQ2D1545.htm>
4. McCullagh, D., Report, last modified 18 February 2004; http://news.com/2102-1023_3-962182.html
5. Testimony of Josh Lerner, 'Patent Act of 2005', Subcommittee on Courts, the Internet, and Intellectual Property Committee on the Judiciary, U.S. House of Representatives, 9 June 2005; <http://bulk.resource.org/gpo.gov/hearings/109h/21655.pdf>
6. Gleick, J., *New York Times*, 12 March 2000; <http://www.around.com/patent.html>
7. Roth, Z., Report, June 2005; http://www.washingtonmonthly.com/features/2005/0506_roth.html
8. Federal Trade Commission, Report, October 2003; <http://www.ftc.gov/os/2003/10/innovationrpt.pdf>

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