

**Lack of Commercialization of “Concept” Patents:
How it affects independent inventors**

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Introduction

Patents are meant to stimulate progress and innovation. When patents are awarded to inventors on a concept that shows no realistic means of implementation, they can act as a deterrent to innovation. A patent with broad claims but no implementation details can prevent other inventors from pursuing truly innovative designs that may be required to materialize the concept. Statistics show that most patents are never commercialized. In some cases this could be due to an inventor “reserving” a concept without a concrete design, with the intention of preventing others from entering a market. My report concentrates on these “concept patents”. A recent patent (US **6,536,440**) awarded to Sony is analyzed in detail as an example. In that patent, Sony claims they can use ultrasonic waves aimed at the brain to control different senses. Their primary interest appears to be applying this to entertainment and games. Yet they do not provide any technical details of how that concept could be achieved. They also filed another patent application (app **20040267118**) on a related concept, also including broad claims but no implementation details. Some industry experts argue that it could take a decade before these brain wave concepts could be made feasible. This project provides some insights on these ambiguous aspects of the patent system and evaluates solutions that have been proposed to avoid them.

The problem

The United States is in danger of losing its lead in engineering and innovation. Every year the number of U.S. engineering degrees is lower. Last year only 5% or 73,000 of all U.S. bachelor’s degrees were in engineering while in China, in 1999, over 44% or 200,000 of bachelor’s degrees were in engineering¹. Clearly other countries are preparing more people for technology careers, some of which will lead to inventions. Invention and innovation has given United States and edge in technological advancements and the economic progress that this entails. American innovation is responsible for a lot of the things we use every day. Large companies should not leverage their resources to block independent inventors from making

¹ *U.S. needs more engineering students – Ronald Barr*
<http://www.asee.org/about/RONALD-BARR-Editorial.cfm>

progress and creating their companies. A significant amount of the patents are still being submitted by independent inventors.

The patent system is sometimes ambiguous in its requirement of showing feasibility of a concept. As the Constitution states², patents are meant “*to promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries*”. There are no clear guidelines as to how far an inventor should pursue the implementation of an invention before being granted a patent. The United States patent system is unique in the fact that they award the patent to the first to invent rather than the first to file like in most other countries. This can be dangerous because it may be hard to document a prior invention after someone else has filed a patent application.

Throughout history, the United States Patents and Trademark Office (USPTO) has been attacked for not doing a good job examining the patents and awarding patents to “bad” inventions.³ Some ridiculous patents have been approved by the USPTO including trivial things such as executing tennis strokes while wearing a knee pad (U.S. 5,993,336).⁴ Will this mean that everyone who uses a knee pad to kneel to reach tennis balls can now be sued for patent infringement? Yes!

The case study

On March of 2003, Sony Corporation was granted patent 6,536,440 on a “Method and system for generating sensory data onto the human neural cortex”⁵. The patent proposes that by ultrasonically stimulating the brain it can induce sensory experiences. Unfortunately, they do not show enough implementation details to allow someone familiar with the field determine that they can fulfill the concept. They basically say they can use low frequency waves to make you “feel” things. Not only could this be a breakthrough in the entertainment industry by making you “feel”

² Constitution of the United States, Section 8

³ Mark Lemley, *Rational Ignorance at the Patent Office*, 95 NW. U. L. REV. 1496, 1495 (2001)

⁴ James Glieck, *Patently Absurd*, N.Y. TIMES MAG., March 12, 2000

⁵ <http://patft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=/netahtml/search-bool.html&r=1&f=G&l=50&co1=AND&d=ptxt&s1=6,536,440.WKU.&OS=PN/6,536,440&RS=PN/6,536,440>

movies and games, but also in the medicine industry where it could help blind or deaf people. Yet experts in the field indicate that Sony's patent will take over a decade to produce.

This Sony patent shows a flaw on the patent system that acts as a deterrent to innovation instead of promoting it. Its intent appears more to preempt competitors from entering the field instead of protecting a feasible innovation. It's not about how much you do, but how much you don't let other people do. By using the patent to grant Sony rights to the concept, other inventors or companies are prevented from producing designs that can make the concept feasible.

There are several possible strategies behind Sony's filing for a patent with insufficient implementation details. Possibly they have an insight on competitor's actions and want to block them from producing something like this. They may also be planning on releasing follow up technologies and patent other concepts or devices related to this patent. A third possibility would be to control any research related to this new field.

Individual inventors working in this field will be scared off because they don't have the resources to compete with such a large company as Sony. Even if Sony made a prototype in the next ten years, while they test it and is in widespread use, time may go past the life of the patent. Sending information to the brain is uncharted territory for humans and there is still a lot of research to do.

Proposed Solutions

One proposal in the patent system to avoid "concept" patents would be to require patent applications to include a basic design or process that demonstrates the concept can be implemented. With this proposal, patent examiners will be able to see the feasibility of the concept. Another proposal would be to require a proof of concept within a stated time period (three years?) with the possible loss of patent rights away if the idea has not been shown to be feasible. These proposals would need to be elaborated to avoid loopholes but could help reduce the large number of "concept" patents granted on ideas that are not feasible.

These proposals could be extended to address another problem, that of “worthless” patents. A “worthless” patent is one that lacks potential for monetary gains if it were to be commercialized. This means the inventor would lose money for putting it in the market. Several factors affect how much a patent is worth to the inventor. Several entities estimate patent value based on the possibility of renewal, the number of citations and the number of countries where it was filed. Others also consider the possibility of litigation by competitors, if the inventor has a series of related patents in his portfolio and if it has the potential to be a success in the marketplace.⁶ The tennis stroke patent is an example of this worthless category. However, there will be ideas that may fall in the worthless category while still having potential due to the market for that invention not being well developed yet. In the cases of patents with high “worth”, the author of the patent could still lose the rights to his patents if at the end of three years if it has not been shown to be feasible.

Conclusion

The patent system needs to eventually go through some changes. Since it was established such a long time ago commercialization circumstances for inventors have changed. One area that needs to be addressed are “concept” patents that include a new idea but not enough details for implementing it. This paper uses the Sony brain wave patent as an example, where industry experts estimate that over a decade of development would be required before the idea can be feasible. A proposal is made to require that patent applications include a basic design or process that demonstrates the concept can be implemented.

Patents held by individuals and small firms are more likely to be involved in litigation.⁷ This can scare some individual inventors from pursuing to commercialize their patents. Since individual inventors are such a large portion of patents, actions like that of Sony should be controlled. The individual inventor will always be pushed away by the large companies. Money is what causes these problems and is what these inventors don’t have a lot of. As long as there is giants guarding the inventions the small businesses will not be able to expand. Some individual inventors end up joining large companies or quitting their ideas.

⁶ <http://www.aicpa.org/pubs/jofa/nov2004/cromley.htm>

⁷ An Empirical Analysis of the Enforcement of Patent Rights in the United States – J. Lanjouw, M. Schankerman
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