

Patent Law & Policy: An Introduction

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Overview of the Patent Law

Sources of Law

- The Constitution
- The Patent Act of 1952 (35 USC)
- The PTO Regulations (37 CFR) and Manual of Patent Examining Procedure (MPEP)
- The Case Law of the Supreme Court and Court of Appeals for the Federal Circuit

Overview of the Patent Law

Acquisition of Rights

- Patent rights do not arise automatically.
- Inventors must prepare and file an application at the PTO.
- A patent application must completely disclose and distinctly claim the invention.
- Examiners review the application to ensure that the invention meets the requirements of the Patent Act.

Overview of the Patent Law

Term and Scope of Protection

- Issued patents ordinarily enjoy a term of 20 years measured from the date of filing.
- Patent proprietors may exclude others from making, using, selling, offering to sell and importing into the United States the patented invention.

Overview of the Patent Law

Enforcement of Rights I

- The patent proprietor bears responsibility for monitoring competitors to detect infringement.
- The patent proprietor may commence enforcement litigation against accused infringers.

Overview of the Patent Law

Enforcement of Rights II

- The scope of patent protection is founded upon, but not limited to, the wording of the claims.
- Accused infringers may assert that the patent-at-issue was improvidently granted.
- However, patents enjoy a presumption of validity that must be overcome by clear and convincing evidence.

Patent Policy

Perceived Benefits of the Patent System I

- Encourages invention.
- Encourages investment in R&D.
- Solves public goods problems associated with information products.
- Encourages disclosure of information.
- Discourages wasteful expenditures associated with maintaining trade secrets.

Patent Policy

Perceived Benefits of the Patent System II

- Coordinates rivalrous R&D efforts by competing firms, reducing duplicative costs.
- Stimulates markets.
- Reduces transaction costs of bargaining by commodifying information.
- Reduces need for firms to achieve complete vertical integration.

Patent Policy

Perceived Detriments of the Patent System I

- Increases industry concentration.
- Creates barriers to entry.
- Attracts speculators.
- A game industry cannot afford not to play.
- In terrorem effects upon innovation.

Patent Policy

Perceived Detriments of the Patent System II

- Unified patent bar results in dearth of policy debate.
- Capture of agency and specialized appeals court.
- Public goods problems associated with challenging issued patents.
- Difficult to quantify social consequences of the patent system.

Four Substantive Requirements

Three Provisions of the 1952 Patent Act

- § 101 - Statutory Subject Matter
- § 101 - Utility
- § 102 - Novelty
- § 103 - Nonobviousness

Statutory Subject Matter

Section 101

- Section 101 provides that a "process, machine, manufacture or composition of matter" may be patented.
- These broad words contain few inherent limitations.
- Judicial limitations nonetheless traditionally cabined the scope of the patent system.

Statutory Subject Matter

Traditional Exceptions to Patentable Subject Matter

- Laws of Nature
- Abstract Ideas
- Mathematical Algorithms
- Mental Steps
- Printed Matter
- Methods of Doing Business

Statutory Subject Matter

Broadening Subject Matter Trends

- The patent system has become increasingly ambitious in terms of subject matter.
- Traditionally confined to biology, chemistry and physics.
- Now virtually every human endeavor subject to private appropriation via patenting.
- "Everything under the Sun made by Man" may be patented.

Statutory Subject Matter

Why the Scope of Patentable Subject Matter is Important

- The patent law offers a robust property right with few restraining principles.
- The patent law lacks
 - A fair use privilege
 - A meaningful experimental use exception
 - An effective misuse doctrine
- Once an industry is subject to the patent system, firms possess broad power to regulate each other

Statutory Subject Matter

Examples of Broadening Trend

- **Diamond v. Chakrabarty**
 - Supreme Court 1980
 - Living inventions are patentable
- **In re Alappat**
 - Federal Circuit 1994
 - computer software broadly patentable

Methods of Doing Business

Traditional Views

- Ex parte Abraham (Patent Office Commissioner 1869): No patents for "methods of book-keeping."
- Application of Shao Wen Yuan (CCPA 1951): Constitution opposes exclusive rights "to engage even in ordinary business activities."
- Giles S. Rich, *Principles of Patenability* (1960): "Diaper service" not patentable.

Methods of Doing Business

The State Street Bank Case I

- Signature obtained U.S. Patent No. 5,193,056 on a "data processing system for managing a financial services portfolio established as a partnership."
- Such master feeder funds are entitled to certain tax advantages under the Internal Revenue Code and Treasury regulations.
- State Street Bank brought declaratory judgment action against Signature.

Methods of Doing Business

The State Street Bank Case II

- Trial court strikes down Signature patent on two alternative grounds:
 - Mathematical algorithm
 - Method of doing business
- On appeal, the Federal Circuit reverses in sweeping language.

Methods of Doing Business

The State Street Bank Case III

- Judge Rich announced that the patentable subject matter should focus upon "the essential characteristics of the subject matter, in particular, its practical utility."
- Judge Rich reasoned that the transformation of data by a machine through math produces a useful, concrete and tangible result, and is therefore patentable.

Methods of Doing Business

The State Street Bank Case IV

- Judge Rich also laid the "ill-conceived" business method exception to rest.
- Judge Rich reasoned that whether an invention is patentable should not depend upon whether the subject matter does "business" instead of something else.

Methods of Doing Business

The Amazon.com One-Click Patent I

- Amazon.com was awarded U.S. Patent No. 5,960,411, directed towards a method of placing an order to purchase an item on the Internet.
- Timeline
 - Patent Issued September 1999
 - Suit Filed Against BarnesandNoble.com on October 1999
 - Preliminary Injunction Issued December 1999
 - Federal Circuit Lifted Injunction February 2001

Methods of Doing Business

The Amazon.com One-Click Patent II

- The Internet Version of a Vending Machine?
- Concerns Over Consumer Lock-In
- Patents don't have to be enforceable for very long to have a significant marketplace impact.

Methods of Doing Business

The Contemporary Scope of Patentable Subject Matter

- The patent system extends to virtually every field of endeavor:
 - Accounting
 - Aesthetic Arts
 - Architecture
 - Finance
 - Legal Compliance
 - Marketing
- The patent system as the ultimate regime of private regulation.

The Utility Requirement

Basic Principles

- To be patentable, an invention must be useful:
 - Generally, a very lenient standard.
 - Must be minimally operable for a known use.
 - Must be different, not necessarily better than the state of the art.
 - The patent system is generally not considered the place for technology assessment.

The Utility Requirement

Biotechnology & Chemistry

- The utility requirement plays a larger role in unpredictable arts such as biotechnology and chemistry.
- In those fields, inventors often develop compounds with uncertain uses. Further testing is needed.
- When inventors seek patent protection on such compounds, they may confront the utility standard.

The Utility Requirement

The Leading Case

- The leading utility decision on utility is *Brenner v. Manson* (Supreme Court 1966).
- Manson attempt to obtain a patent on a method of making a steroid that was similar to a known steroid with tumor-inhibiting properties.
- However, Manson did not know whether his steroid actually worked.

The Utility Requirement

Brenner v. Manson

- The Court upheld the rejection of the application.
- "Unless and until a process is refined and developed to this point - where specific benefit exists in currently available form - there is insufficient justification for permitting an applicant to engross what may prove to be a broad field."

The Utility Requirement

Why the Utility Requirement is Important

- A robust utility requirement prevents patenting too close to the laboratory bench.
- Otherwise concerns arise over the tragedy of the anti-commons.
- Patent law is traditionally about downstream products, not upstream ideas.
- If multiple patents exist between pure research and the marketplace, transaction costs and hold-up rights may threaten commerce.

The Utility Requirement

Subsequent History

- The rigor of the utility requirement has wavered since *Brenner v. Manson*.
- *In re Brana* (Federal Circuit 1995) - more lenient than *Brenner v. Manson*.
- Utility Guidelines, Phase I (PTO 1995) - in keeping with *Brana*.
- Utility Guidelines, Phase II (PTO 2001) - a return to *Brenner v. Manson*?

The Utility Requirement

The PTO Guidelines, Phase II

- Under the Utility Guidelines, the applicant must demonstrate either
 - A specific, substantial and credible utility; or
 - A well-established utility.
- A single such named utility suffices.

Novelty

Section 102

- To be patentable, an invention must be new.
- Novelty is a lenient requirement that implies mere difference from a single source of public domain knowledge.
- The United States employs a first-to-invent system where applicants are allowed to assert that they actually invented prior to the date a prior art reference became publicly available.

Novelty

Statutory Bars

- One problem with a first-to-invent system is that few incentives exist for the first inventor to file a patent application.
- So the Patent Act encourages inventors to file by creating a statutory bar.
- If an inventor publicly discloses or commercially uses an invention more than one year before filing at the PTO, the patent is invalid.

Novelty

Prior Art Effect of Trade Secrets

- Generally speaking, an inventor's commercial use of a trade secret for more than one year before the filing date bars the issuance of a patent.
- However, if another independently invents the same technology, then a third party's trade secret use does not bar the patent application.

Novelty

Prior Art Effect of Pending Patent Applications

- If a U.S. patent application is allowed to issue, that patent has a prior art effectiveness date as of its filing date.
- Because patent applications have traditionally been held in secret by the PTO, this "section 102(e) date" conflicts with the normal rule that trade secrets don't block patents.

Nonobviousness

Section 103

- In addition to being strictly different than public domain knowledge, an invention must have been "nonobvious" to be patentable.
- Under Section 103, no patent may issue 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 person having ordinary skill in the art "

Nonobviousness

The Standard of "Invention"

- Nonobviousness descends from the earlier, amorphous requirement of "invention."
- Some courts required that inventions represent a flash of genius; synergy; something unexpected or exciting; or even "that impalpable something."
- This standard is negated by section 103.

Nonobviousness

The *Graham* Factors

- In *Graham v. John Deere & Co.* (1966), the Supreme Court stated that the following factors influence the nonobviousness determination:
 - The scope and content of the prior art.
 - The differences between the prior art and the claimed invention.
 - The level of ordinary skill in the pertinent art.
 - Secondary considerations such as commercial success and long-felt need in the art

Nonobviousness

Disfavoured Frameworks for Nonobviousness

- **Obvious to Try.**
 - It is not enough that the prior art simply suggests a possible field for experimentation.
- **Use of Hindsight.**
 - Nonobviousness should be judged within the framework of the prior art, not at the time of examination or litigation.
- **Unmotivated Combination of Prior Art Teachings.**

Novelty & Nonobviousness

Why are novelty and nonobviousness important?

- Preserve patent-free zone around the state of the art.
- Preserve and ultimately augment the public domain.
- Libraries, not laboratories.