

# Patent Law in Fifteen Minutes

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## Overview



Securing Innovation

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# A. Patent Overview

- Article 1, Section 8 of the U.S. Constitution reads
  - Congress shall have Power... to 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.
- Strong historical backing
  - George Washington's, the first president of the United States, address to the U.S. Congress in 1790, just prior to the passage of the first U.S. patent law, urged that the United States should encourage and reward its own inventors and not rely on the importation of technology.

## A. Patent Overview (Cont.)

- **Patent Right: The Negative Right to Exclude Others**
  - 35 U.S.C. §271(a) recites “[e]xcept as otherwise provided by this title, whoever without authority makes, uses, offers to sell or sells any patent invention, within the United States or imports into the United States any patented invention during the term therefore infringes the patent.”
  - A patent is a negative right, a right to exclude others from making, using, offering for sale or selling one’s invention. It is not an affirmative right to make or use your own invention. It is very positive to receive a patent on an invention, but by making or using the invention, you may be infringing another’s patent.

## A. Patent Overview (Cont.)

- Compared to other forms of IP, term is very short
  - Term of Utility Patent Application: 20 years from filing
  - Trade Secrets and Trademarks: Potentially indefinite
  - Copyrights: 70-90 years
- Coverage is stronger and more broad
  - Presumption of validity (not true in trade secrets)
  - Not tied to specific product or expression (not true in copyright or trademark)

## A. Patent Overview (Cont.)

- Balancing of Competing Interests
  - The U.S. patent system is designed to balance interests
- Interest of inventor
  - In order to create an incentive for the inventor to expend effort and expense to advance the useful arts, the inventor is given a monopoly right for the length of the patent term
    - Venture capital often requires proof of IP to show ownership of technology

## A. Patent Overview (Cont.)

- Interest of general public
  - Disclosure: the inventor is required to provide a disclosure which would enable one of ordinary skill in the art to make and use the invention once the monopoly right (patent term) has expired.
    - Thus, once the monopoly right has expired, the amount of information and technology available to the general public is further increased to the benefit of the general public as a whole.
  - Commercialization of technology: Without patent, less incentive to bring new inventions to market (if easily copied).

# A. Patent Overview (Cont.)

## ● What is Patentable

- Utility patents: inventions and discoveries of a
  - new and useful
  - process, machine, manufacture, composition of matter, or new and useful improvements of the same.
- “New”
  - not previously invented or discovered by another, or obvious in view of what was previously known
- “Useful”
  - Not frivolous or immoral, laws of nature, pure mathematical algorithms

## A. Patent Overview (Cont.)

- A U.S. patent may be obtained on practically anything resulting from man's intervention, including new animals, software, seeds, fruits and in special cases, products of nature. This is in addition to the normal subjects that are patented.
- The U.S. Supreme Court has held that statutory subject matter "... include[s] anything under the sun as made by man." *Diamond V. Chakrabarty*, 447 U.S. Patent 303 (1980). (The invention related to a genetically engineered bacterium that breaks down crude oil.)

## A. Patent Overview (Cont.)

- However, the following may be not the subject of a U.S. patent:
  - a) mere ideas;
  - b) methods involving only mental steps;
  - c) intellectual and mathematical operations;
  - d) fundamental scientific discoveries;
  - e) laws of nature;
  - f) properties of matter;
  - g) writing, such as business plans, customer lists, etc.; or
  - h) computer software is patentable as process or a system. However, if based upon algorithm, then the patent may not monopolize all uses of the algorithm.

# A. Patent Overview (Cont.)

## U.S. Patents Issued: Fiscal Years 2000–2004

Type	2000	2001	2002	2003	2004	% Change 2000– 2001	% Change 2001– 2002	% Change 2002– 2003	% Change 2003– 2004
Utility	164,490	169,576	160,843	171,500	<b>169,296</b>	+3.09%	-5.15%	+6.63%	<b>-1.29%</b>
Design	16,719	17,719	15,096	16,525	<b>16,533</b>	+2.75%	-12.13%	+9.47%	<b>+0.05%</b>
Plant	453	563	912	1,178	<b>998</b>	+24.28%	+61.99%	+29.17%	<b>-15.28%</b>
Reissue	561	504	466	394	<b>343</b>	-10.16%	-7.54%	-15.45%	<b>-12.94%</b>
Total	182,223	187,822	177,317	189,597	<b>187,170</b>	+3.07%	-5.59%	+6.93%	<b>-1.28%</b>

<sup>1</sup> USPTO Fiscal Year ends on September 30



# A. Patent Overview (Cont.)

## Top 10 Companies Receiving Patents in 2004

Preliminary Rank in 2004	Preliminary Number of Patents in 2004	Company	Final Rank in 2003	Final Number of Patents in 2003
1	3,248	IBM	1	3,415
2	1,934	Matsushita	4	1,774
3	1,805	Canon	2	1,992
4	1,775	Hewlett-Packard	5	1,759
5	1,760	Micron	6	1,707
6	1,604	Samsung Elec.	9	1,313
7	1,601	Intel	7	1,592
8	1,514	Hitachi	3	1,893
9	1,310	Toshiba	13	1,184
10	1,305	Sony	10	1,311
	901	U.S. Government <sup>1</sup>		904

<sup>1</sup> Shown for comparison



## A. Patent Overview (Cont.)

- The United States Patent and Trademark Office has a lot of good information on their Web site:

[www.uspto.gov](http://www.uspto.gov)

## B. What does a patent look like?

- Written description- The specification shall contain a written description of the invention, in such full, clear, concise, and exact terms so that persons skilled in the art can make and use the invention. The written description must also set forth the best mode contemplated by the inventor of carrying out the invention. 35 U.S.C. 112, 1<sup>st</sup> paragraph

## B. What does a patent look like? (cont.)

- Claims

The claims are the enforceable part of the patent and define the property right owned by the patentee. Typically, a claim includes a preamble and a body. The preamble sets out the general category of what the invention is and the body sets out the details or elements of the claim. Each claim written as a single sentence.

## B. What does a patent look like? (cont.)

- A made-up example of patent claims:
  1. A composition comprising:  
a mixture of compound A and compound B,  
wherein A is 50 – 80 % by weight and compound B  
is 20 – 50% by weight of the mixture.
  2. The composition of claim 1, wherein A is 60 - 65 %  
by weight and B is 35 - 40 % by weight of the  
mixture

## B. What does a patent look like? (cont.)

- A patent contains at least one independent claim and may contain dependent claims, which provide a narrower limitation of some aspect or element of an independent claim.
- The total number of claims may vary according to how complicated the invention is and other factors. Typically, issued patents contain about 10 – 30 claims.

## C. How do you get from an inventor's idea to an issued patent?

### Patent Application Preparation

Typically, a patent attorney prepares a patent application based on an inventor's disclosure.

The patent application contains a written description and a set of claims. Application fees are based in part on the number of claims.

Once the patent application is filed, new matter cannot be added.

## C. How do you get from an inventor's idea to an issued patent? (cont.)

### Patent Examination

A filed patent application is examined by an Examiner at the Patent and Trademark Office.

The Examiner checks to see if the specification meets the statutory requirements and examines the claims in view of prior art- has someone else already invented it, or has anyone (including the named inventor) published it more than one year before the filing date.

## C. How do you get from an inventor's idea to an issued patent? (cont.)

Patent examination (cont.)

Often, there is a lot of back and forth between the patent attorney and the Examiner. If the Examiner rejects the claims over prior art, the Applicant gets to respond, and the claims may be amended to include features not shown or obvious over the prior art.

When a patent is finally issued, the written description usually looks about the same as what was in the patent application, but the claims may be quite a bit different.

## D. Patent infringement

- 35 U.S.C. §271(a) provides that whoever without authority makes, uses, offers to sell or sells any patent invention, within the United States or imports into the United States any patented invention during the term therefore infringes the patent.”
- To determine infringement:
  - **First**, the claim scope is determined without regard for the accused product or process; and
  - **Second**, the properly construed claim is then compared with the accused product or process to determine whether there is literal infringement or infringement under the doctrine of equivalents (a judicially-created doctrine that can allow some flexibility in determining infringement).

## D. Patent infringement (cont.)

### Defenses to infringement

- **Invalidity:** Patents are presumed to be valid, since they have gone through examination at the Patent Office. However, a motivated accused infringer will look for ways to invalidate a patent, such as finding prior art that the Examiner may have overlooked.
- **Non-infringement:** To infringe a patent, one must practice every element of at least one claim of a patent. An accused infringer will look at each element of the claim and try to find an argument that at least one element of the claim is not practiced.
- This is why a patent application should be prepared by a patent attorney and why a pro se application is a bad idea: In litigation, the other side will go over every little part of the issued patent.

# Patent infringement (Cont.)

## Damages

- If successful, a patentee may recover money damages in the form of a reasonable royalty, that is, what the patentee could have made by licensing the patented invention. The money damages can be tripled for willful infringement.
- The patentee also can get an injunction to stop further use and sale of the patented invention. If the infringer has made a great investment in the technology, this can provide the patentee with a huge amount of leverage to force a lucrative settlement.

## E. Notable Patent Verdicts and Settlements

- *NTP Inc. v. Research In Motion Ltd.* (2006) (the Blackberry case)
  - \$612 million settlement agreement for infringement of wireless email patents. A permanent injunction was about to be imposed before the settlement was agreed upon.
- *Polaroid Corp. v. Eastman Kodak Co.* (1990)
  - \$873 million for infringement of instant camera.
- *Karlin Technologies v. Medtronic Inc.* (2005 )
  - \$1.35 billion patent settlement relating to spinal surgery fusion patents.
  - Yes, that was billion, not million.

## E. Notable Patent Verdicts and Settlements (cont.)

- *City of Hope. v. Genentech* (2002)
  - \$500 million verdict for back payment of royalties.
- *Igen International v. Roche Holding* (2002)
  - \$505 million jury verdict (later reversed) in licensing dispute relating to blood-testing technology.
- *Digital v. Intel* (1998) \$700 million settlement over patents relating to 64 bit processor chips
  - \$700 million settlement over patents relating to 64 bit processor chips
- *Pitney Bowes Inc. v. Hewlett-Packard Co.* (1999)
  - \$400 million settlement over infringement of printer patents

## F. Some Topics Addressed by Statutes or Recent Case Law

### 28 U.S.C. §1498

Q. I work for the federal government. Can the federal government be sued for patent infringement?

A. Yes, the Federal government can be sued for patent infringement:

- Court of Federal Claims using 28 U.S.C. §1498(a)

Whenever an invention described in and covered by a patent of the United States is used or manufactured by or for the United States without license of the owner..., the owner's remedy shall be by action against the United States ...for the recovery of his reasonable and entire compensation for such use and manufacture.

- Administrative Claim

- 35 U.S.C. § 286 (tolls damage limitation if file claim)
- Specific Agencies have own rules
  - E.g., DFARS 227.70 provides most detailed procedure



## F. Some Topics Addressed by Statutes or Recent Case Law

- Federal Government liable for
  - Direct infringement: using or manufacturing by the United States
  - Indirect Infringement: used or manufactured for the United States
- Unlike regular infringement cases
  - Limitation as to damages
    - Does not matter if willful
    - No injunction
  - No additional requirements for showing inducement or contributory infringement
    - If made by the United States, infringing

## F. Some Topics Addressed by Statutes or Recent Case Law

- Elements of liability the same as regular infringement
  - **First**, the claim scope is determined without regard for the accused product or process; and
  - **Second**, the properly construed claim is then compared with the accused product or process to determine whether there is literal infringement or infringement under the doctrine of equivalents.
- Government Defenses
  - Government can assert the same defenses that can be raised by a private party in a commercial infringement action
  - Can also raise unique licensing defenses
    - Bayh-Dole and Patent Rights clause defenses
      - Required rights or title transfer if find asserted patent is “subject invention”

## F. Some Topics Addressed by Statutes or Recent Case Law

- No injunctions!
  - Under 28 U.S.C. §1498 injunctions to stop infringement are not permitted
- Damages: Reasonable and Entire Compensation
  - Measured same way as commercial litigation
    - According to hypothetical willing buyer/willing seller approach is the preferred damages calculation method. (*Georgia-Pacific Corp. v. United States Plywood Corp.*, 318 F. Supp. 1116, 1120) (S.D. N.Y. 1970)
    - Lost Profits (*Decca Limited v. United States*, 202 U.S.P.Q. 52, 60 (Ct. Cl. 1980).
    - Savings to the Government (*Decca Limited v. United States*, 202 U.S.P.Q. 52, 60 (Ct. Cl. 1980).
- Includes reasonable costs (e.g., attorneys fees and expert witness fees) if the patent owner is a nonprofit, small business with less than 500 employees or an independent inventor
- May include delay in compensation to compensate for Government's delay in paying for a license
- 28 U.S.C. §1498 may relieve a third party that contracts with the government from liability

## F. Some topics addressed by statutes or recent case law (cont.)

### *Madey v. Duke University*

Q. I run a university laboratory. In the lab, there is this big gizmo that we use in a lot of our research. Someone else owns a patent to the gizmo. We use the gizmo for work that is done under a government grant, and we have been using it for other research as well. Aren't we protected from liability, since some of the work is for the government, and, also, isn't there some kind of research exemption or something to protect us from infringement?

## F. Some topics addressed by statutes or recent case law (cont.)

### *Madey v. Duke University*

- A. See *Madey v. Duke University*, 307 F.3d 1351;64 U.S.P.Q.2D 1737 (Fed. Cir. 2002)

Briefly, Madey was a research professor who set up a lab at Duke to carry out research using equipment that was covered by patents he owned. After 10 years, Madey and Duke had a falling out, Madey left, and Duke kept using the equipment to do work under an ONR contract and to do other research. In the inevitable lawsuit, the district court dismissed the infringement claims on the grounds that Duke was protected from an infringement claim for any use under the ONR contract because of 28 U.S.C. §1498 and that regarding other work, a common law research exception applied.

## F. Some topics addressed by statutes or recent case law (cont.)

### *Madey v. Duke University*

- On appeal, the Federal Circuit held that regarding the ONR contract, the District Court did not have enough information to support a dismissal. The Court stated that there was no explanation on the record of exactly how the ONR grant authorized the government to be sued under 28 U.S.C. 1498.
- Regarding the other uses, the Federal Circuit acknowledged that there is a common law exception for patent infringement for uses that are solely for research, academic or experimental purposes, but held that the exception is drastically limited to actions performed “for amusement, to satisfy idle curiosity or for strictly philosophical inquiry. The Court stated that for a major research university, research projects further the institution’s legitimate business interests and do not qualify for the experimental use defense.

F. Some topics addressed by statutes or recent case law  
(cont.)

***Campbell Plastics Engineering & Mfg., Inc., v. Army***

Q. I have a contract with a branch of the military to develop a new protective mask. The research is coming along pretty well. There is some form DD Form 882 that I am supposed to fill out every year to disclose any subject invention developed pursuant to the contract. What happens if I don't ever fill out that form to report the inventions we have come up with?

## F. Some topics addressed by statutes or recent case law (cont.)

### ***Campbell Plastics Engineering & Mfg., Inc., v. Army***

- A. The reporting requirements governed by FAR 52.227-11 and by statute (35 U.S.C. §202)

See *Campbell Plastics Engineering & Mfg., Inc., v. Army*, 389 F.3d 1243;73 U.S.P.Q.2d 1357 (Fed. Cir. 2004)

In *Campbell Plastics*, contractor stated “no inventions” on the DD Form 882 each year. Shortly after the Army report on the research was published, the contractor filed a patent application from which a patent issued. The Army claimed that *Campbell Plastics* forfeited title to the patent by failing to comply with FAR 52.227-11. *Campbell Plastics* argued that they had disclosed every detail regarding the invention in informal communications. In the ensuing litigation, the Army won. The Federal Circuit upheld the judgment on appeal, stating that the contract requirement of a single, easily identified form on which to disclose inventions is sound and should be strictly enforced.

**F. Some topics addressed by statutes or recent case law  
(cont.)**

***Zoltec v. United States***

Q. I own a patent directed to a method of making a carbon fiber. A contractor for the government is using my method to make carbon fibers in Japan which are then imported into the U.S. The U.S. is telling me that an infringement claim is barred under 28 U.S.C. 1498(c) because the infringing activities take place in Japan. Ok, whatever. But can't I recover something under the Fifth Amendment, since they are taking my private property for public use?

## F. Some topics addressed by statutes or recent case law (cont.)

### ***Zoltec v. United States***

- A. See *Zoltec Corporation v. United States*, \_\_\_ F3d\_\_\_ (Fed. Cir., last month)

In *Zoltec*, the Court of Federal Claims held that an infringement action was barred under 28 U.S.C. 1498(c) because the action arose in a foreign country. But the Court of Federal Claims held that it could assert jurisdiction over the infringement allegations by treating the action as a Fifth Amendment taking under the Tucker Act. The Federal Circuit agreed that the infringement action was barred under 28 U.S.C. 1498(c), but reversed the lower court's decision that there was jurisdiction under the Tucker Act. (The Federal Court decision was based on a 1894 Supreme Court ruling, *Schillinger v. U.S.*, 155 U.S. 163 (1894).)