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# Patent Law Basics

Class 5 – October 3, 2008

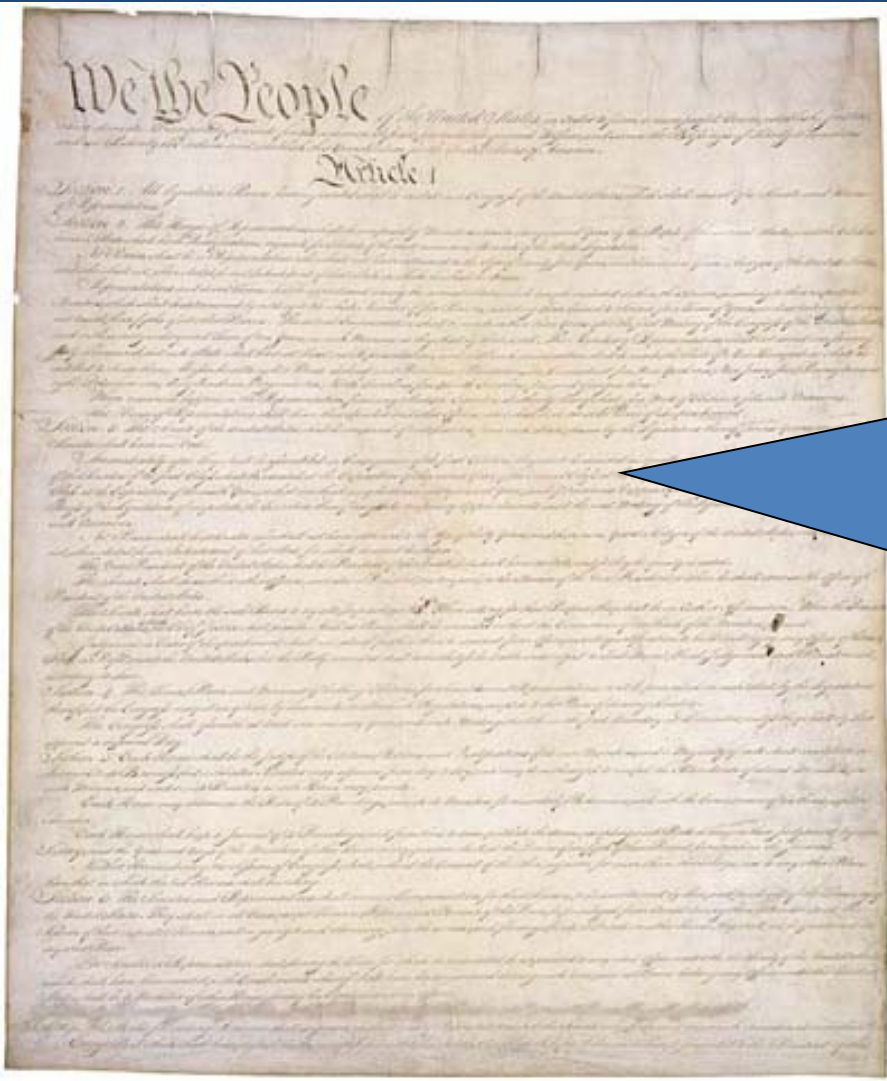
SI 519 / PubPol 688

Bryce Pilz

Fall 2008

Why do we have patent laws?

# Why?



“The Congress shall have the power... To Promote the Progress of Science and the **useful Arts** by securing for limited times to Authors and **Inventors** the exclusive right to their respective writings and **discoveries.**”

# Rationale

- “The exclusive right to invention is given not of natural right but for the benefit of society.”
  - Thomas Jefferson, 1813

# Rationale

- To advance the state of technology available to the public.
- Supreme Court:
  - 1) To foster and reward invention;
  - 2) To promote disclosure of inventions, to stimulate further innovation and to permit the public to practice the invention once the patent expires; and
  - 3) stringent requirements for patent protection seek to assure that ideas in the public domain remain there for the free use of the public.

What can be patented?

# What Can Be Patented?

Sec. 101 “Process, machine, manufacture, or composition of matter (or any new and useful improvement thereof)”

Source: U.S. Constitution, Section 101



# What Can Be Patented?

- “everything under the sun that is made by man”

Source: *Diamond v. Chakrabarty*, 447 U.S. 303 (1980)



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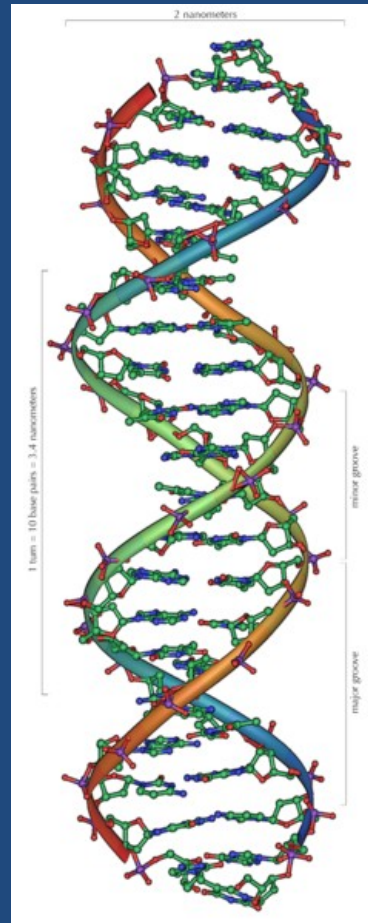
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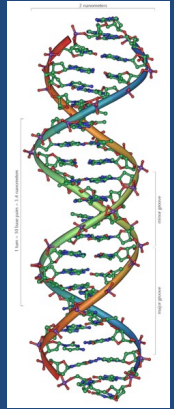
NOT: abstract ideas, laws of nature, and natural phenomena



# Controversial patentable subject matter

- DNA

- PTO: because a scientist isolates, purifies and sequences a piece of DNA, it has been manipulated by man from its natural state



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- Software / Business Methods

- 1998: no more business method exception
- Now: must be tied to more than just a general purpose computer; or physically transform something
- Bilski case coming soon



Source: <http://www.amazon.com/>

# Requirements?

- 1) Useful – low threshold
- 2) Novel – your invention must differ from existing public information disclosing the state of the art (e.g., publications, presentation, products on market)
- 3) Nonobvious – invention must be beyond the ordinary abilities of a skilled artisan knowledgeable in the relevant field.
- 4) Described in a way that enables of person in the field to practice the invention without undue experimentation.

When does one seek/obtain patent protection?

# When?

- First-to-invent (U.S. now) v. First-to-file (non-U.S.)



First-to-invent: B could obtain priority through “interference”

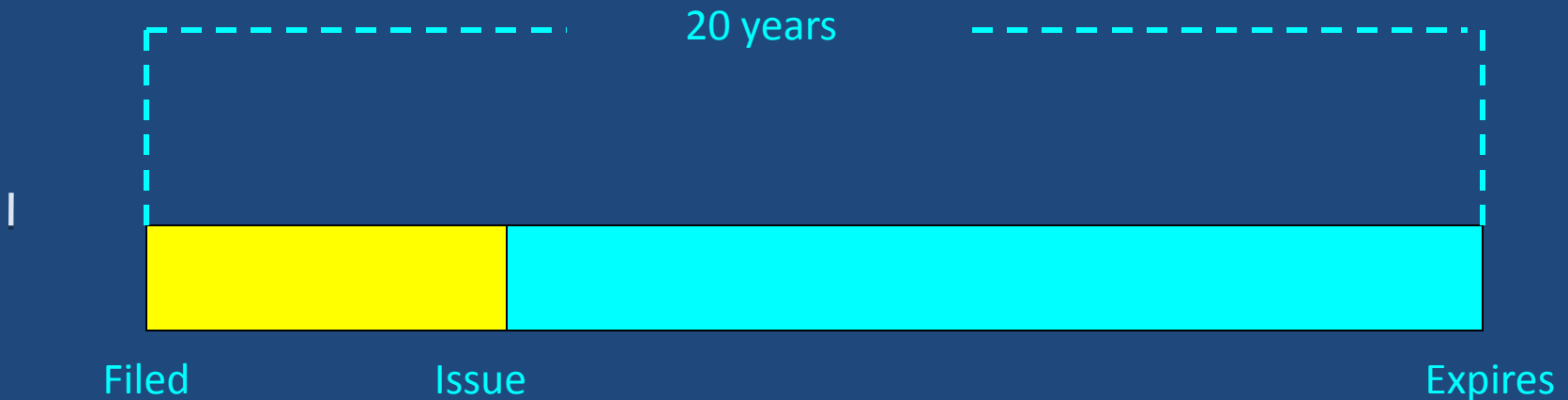
First-to-file: A has priority (assuming A is a true inventor)

# When?

- Must be able to reduce idea to practice
- Don't have to have actually built it
- Must be able to explain it in a way to enable a person in the field to practice the invention without undue experimentation

# When?

- Monopoly lasts for 20 years from date of filing



How does one get a patent?

# How?

Delphi: Fire Resistant Mat. –U.S. 6,809,129

Date	Transaction Description
05-27-2005	Correspondence Address Change
10-26-2004	Recordation of Patent Grant Mailed
10-07-2004	Issue Notification Mailed
10-26-2004	Patent Issue Date Used in PTA Calculation
09-28-2004	Receipt into Pubs
09-27-2004	Dispatch to FDC
09-27-2004	Application Is Considered Ready for Issue
03-30-2004	Issue Fee Payment Verified
09-10-2004	Receipt into Pubs
07-27-2004	Mail Miscellaneous Communication to Applicant
07-22-2004	Miscellaneous Communication to Applicant - No Action Count
05-18-2004	Mail Examiner's Amendment
05-06-2004	Examiner's Amendment Communication
03-30-2004	Issue Fee Payment Received
03-30-2004	Reverse Issue Fee
03-30-2004	Issue Fee Payment Received
02-26-2004	Receipt into Pubs
02-25-2004	Workflow - File Sent to Contractor
01-28-2004	Mail Notice of Allowance
01-24-2004	Notice of Allowance Data Verification Completed
01-05-2004	Reference capture on IDS
10-30-2003	Information Disclosure Statement (IDS) Filed
10-30-2003	Information Disclosure Statement (IDS) Filed
12-03-2003	IFW Amended case processing Complete
12-03-2003	Date Forwarded to Examiner
11-26-2003	Response after Non-Final Action
08-26-2003	Mail Non-Final Rejection
08-25-2003	Non-Final Rejection
07-09-2003	Information Disclosure Statement (IDS) Filed
07-09-2003	Information Disclosure Statement (IDS) Filed
07-14-2003	IFW TSS Processing by Tech Center Complete
06-13-2003	Information Disclosure Statement (IDS) Filed
06-13-2003	Information Disclosure Statement (IDS) Filed
10-03-2002	Information Disclosure Statement (IDS) Filed
10-03-2002	Information Disclosure Statement (IDS) Filed
01-09-2003	Case Docketed to Examiner in GAU
03-04-2002	Application Dispatched from OIPE
02-26-2002	Application Is Now Complete
02-04-2002	IFW Scan & PACR Auto Security Review
01-23-2002	Initial Exam Team nn

Issued

Allowed

Response

Rejected

Prior Art  
Submissions

Application On  
File



# How?

- Average time from filing to first response from PTO: 1.5-3 years
- Average time to obtain patent: 3-5 years
- Average cost of U.S. patent: 20-40k

# How?

Can file “continuations”



# PTO Backlog

- Problem:
  - End of 2006, over 700k applications awaiting first action
  - 1200 new examiners hired in last 2 years, but backlog is still growing
  - Patent pendency in section 2100 is 44 mos.

# PTO Backlog

Technology Center	Average 1 <sup>st</sup> Action Pendency (months) <sup>1</sup>	Average Total Pendency (months) <sup>2</sup>
1600 - Biotechnology and Organic Chemistry	23.3	33.5
1700 - Chemical and Materials Engineering	20.6	29.8
2100 - Computer Architecture Software and Information Security	33.1	44.8
2600 – Communications	31.2	43.9
2800 - Semiconductor, Electrical, Optical Systems	15.0	25.0
3600 - Transportation, Construction, Electronic Commerce	19.8	27.5
3700 - Mechanical Engineering, Manufacturing and Products	18.6	26.6
<b>UPR Total (as of 10/1/2005)</b>	<b>21.8</b>	<b>30.6</b>

<sup>1</sup> "Average 1<sup>st</sup> action pendency" is the average age from filing to first action for a newly filed application, completed during October-December 2005.

<sup>2</sup> "Average total pendency" is the average age from filing to issue or abandonment of a newly filed application, completed during October-December 2005.

Where does the patent monopoly  
extend?

# Where?

- U.S. territory
  - Making, using, selling, offering for sale in U.S.
  - Some exporting of substantial part of invention
- PCT allows for starting to pursue patents in multiple countries with a single application
  - Ex) Monitoring system for welding – WO/2008/070784

What does one get with a patent?

# What Do You Get?

- True or False: A patent gives you the right to practice a particular invention. (ex., lightweight armor group)

False

- A patent is a “negative right” – it gives the right to EXCLUDE others from practicing your invention
  - Making, using, selling, offering for sale, importing
- You may not be able to practice the invention
  - E.g. someone else may have a broader patent



# What Do You Get?

- Patent has (a) written disclosure (drawings & description); and (b) claims;
- Claims – word descriptions of the fundamental elements of your invention
  - Define the boundaries of your right to exclude
  - Most important part of patent

# What Do You Get?

## Prior Art

A vehicle with:  
A wheel,  
Two pedals, and  
A seat

## Your Claim:

A bicycle comprising:  
Two wheels,  
two pedals,  
a seat, and  
handlebars.

## Competitor A:

A bicycle with:  
two wheels,  
two pedals,  
a seat,  
handlebars, and  
a horn.

## Competitor B:

A bicycle with:  
two wheels,  
two pedals,  
a seat, and  
a steering wheel.

**Q1: Can you get a patent on your claimed invention?**

Yes – at least the handlebars are novel and probably non-obvious.

**Q2: Does Competitor A infringe your patent?**

Yes – Competitor A's bike includes each element of your patent claim (additional elements do not avoid infringement).

**Q3: Does Competitor B infringe your patent?**

Probably Not – depends on whether the steering wheel would meet your “handlebars” requirement.

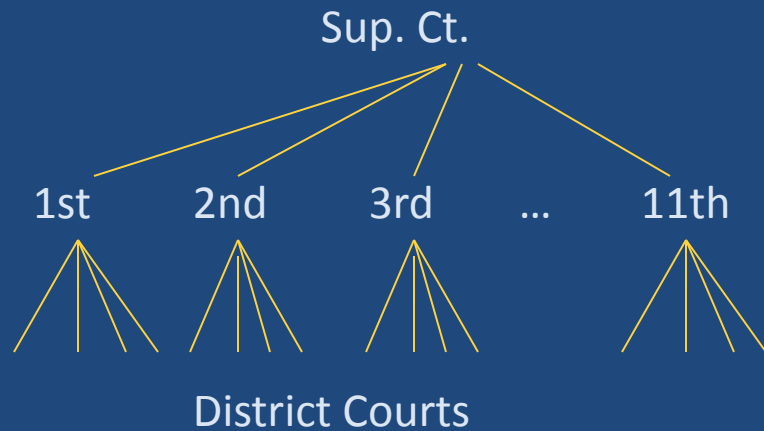
**Issue: Will you obtain claims with commercially significant coverage?**

# What Do You Get?

- If someone infringes your patent?
  - At least a reasonable royalty (what a court believes you would have agreed to); maybe lost profits
  - Up to 3x enhanced damages if infringement is willful
  - Injunction (if you practice your invention)
- Litigation: 1-4 years; average of \$6M in expenses
- Can license your patent rights for money or as a cross-license for rights under other's patents

# Consistent Legal Regime

Pre Fed.Cir.



Post Fed.Cir.



Who owns a patent?

# Who?

- Inventor initially
- Anyone contractually granted the rights
- No “work-for-hire” doctrine in patent law
  - Employers generally must have written assignments from employees
- Cases and funding can be lost due to failure to prove title to an asserted patent
  - E.g., Lucent’s \$1.5B verdict set aside because of failure to prove ownership of asserted patent.
  - Investors will look for “clean title.”

# Who?

- IP is changing hands more often
  - Terms / restrictions attached to IP are important
- Chain of title: A-B-C-D
  - Check rights passed on at each stage (right to practice, sublicense, field of use, exclusive v. non-exclusive, rights retained, obligations, etc.)
  - Must be in writing
- Rights can be retained by others who were involved in development
  - Employers
  - Corporate sponsors
  - Governmental rights
- Open source software?
  - Places severe restrictions on ability to license downstream

Avoiding others patents



# Freedom to Operate

- Remember: Your patent gives you no rights to actually use your invention
- Analysis: does your technology infringe a claim of another's valid patent
  - Degrees of risk

# Freedom to Operate

- Options for dealing with risky patents:
  - Design around (modify your technology so that it does not meet each element of any claim)
  - Determine risky patent is invalid (prior art search / opinion?)
  - See if your invention pre-dates that of the risky patent
  - Live with some risk
  - Cross license
  - Consider formal opinion of counsel (investors may value)
  - Challenge (reexamination or other opposition)

# Research Exception?

- *Duke v. Madey* (Fed. Cir. 2002)
  - Dr. Madey held two patents on laser; left Duke
  - Duke continued to use lasers
  - Madey sued for infringement; Duke claimed experimental research exception
- Court – exception exists only for acts solely for amusement, to satisfy idle curiosity, or for strictly philosophical inquiry
  - No exception for acts in furtherance of alleged infringer's legitimate business (whether or not business is commercial)
  - Duke's use of lasers was in furtherance of its business: promoted school's reputation, attracted grants, created patents, attracted students, etc.
- Sovereign Immunity might be available for a public university, but that is unclear

# Patent v. Copyright

Copyright	Patent
Protects expression not ideas	Protects ideas that have been reduced to practice
Life of author + 70 years	20 years from filing
Fair Use	No Fair Use No Research Exemption
Works for hire	Employee inventor owns
Protects against copying	Innocent infringement not a defense
Protection is automatic (registration is relatively simple)	Extensive examination process before any rights granted
Originality (low bars)	Novelty and Nonobvious (high bars)

# Software Considerations

- Copyright (automatic; covers the authorship in the source code) may be sufficient if:
  - Commercial life of software is less than time to get patent
  - Value is in the source code rather than in the method it performs
  - Method may not be patentable
  - Open source used
- Patentability standard for software patents is strict and uncertain (*Bilski* case pending)
  - Must be tied to a machine (possibly more than a general use computer) or result in a physical transformation