

Intellectual Property Introduction & Strategies

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Intellectual Property

➤ **Intellectual property includes:**

❖ Patents

* Utility: machines, manufactures, processes, compositions of matter

Provisional/Nonprovisional

* Plant: distinctive new varieties of asexually reproduced plants

* Design: original form and ornamental aspects (not their utility)

❖ Copyrights: the right to copy, distribute, or sell creative works

❖ Trademarks: symbols, slogans, etc., that identify the source of goods and services

❖ Trade secrets

❖ Know how

Origin of Our Patent System

- Article 1, Section 8, Clause 8:
Congress shall have power...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
- Patent Act of 1836, revised in 1952 and most recently in 2011 - Leahy-Smith America Invents Act
- Inventors secure exclusive rights in exchange for disclosure to the public
- Trade secrets may have to be disclosed

Patentability

Defined by 35 USC § 102

“A person shall be entitled to a patent unless...”

- ❖ Known or used by others in this country
- ❖ Patented or described in a printed publication anywhere in the world
- ❖ Publicly used, offered for sale
- ❖ Abandoned by the inventor
- ❖ Not invented by inventor

U.S. Patent Law

- Patents are only granted by the Federal Government
- State laws are preempted
- Each country has its own patent system
- No “worldwide” patent is currently available, although PCT application is a common first step
- The United States is changing from a “first-to-invent” to a “first-to-file” system (March 16, 2013)
- Most other countries are “first-to-file”

U.S. Patent Law (cont.)

➤ Length of protection

- ❖ 20 years from filing date for Utility and Plant patents
- ❖ 14 years from issue for Design patents

➤ Eligible for a term adjustment for Patent Office delays

- Pharmaceutical patents may be extended for delays related to regulatory approval processes

What Can Be Patented

- **Machines** (apparatus)
- **Articles of Manufacture** (products)
- **Processes** (methods, including business methods)
- **Compositions of matter**
- **Improvements on any of the above**

What Cannot Be Patented

- Laws of Nature are not eligible for protection, but their applications may be
- Natural Products and naturally occurring organisms are not patentable, but use and method for extraction may be
- Abstract Ideas
- Mathematical Formulas

What You Get

- A patent is an exclusionary right
 - ❖ Granted by the national government
 - ❖ Prevents others from making, using, selling, importing, or offering to sell the invention in that country, or authorizing others to do the same
- Obtaining a patent does not ensure that the patent owner can practice the invention
 - ❖ Even with your own patent, infringement of another patent is possible
 - ❖ Counterintuitive, but true
 - ❖ Arises when the scope of the patents overlap.
- Intellectual property may be licensed or assigned (sold)

Bars to Patentability

- An otherwise patentable invention may be barred from patent protection under several circumstances
- A patent application cannot be filed in the U.S. if:
 - ❖ The invention was offered for sale more than one year prior to filing the application
 - ❖ Actual sale not required (product does not have to be on hand)
 - ❖ Standard is “ready for patenting,” not reduced to practice
 - ❖ The offer does not have to be received by potential customer
 - ❖ Sale of rights in invention is not a sale

Bars to Patentability (cont.)

- The invention was used in public more than one year prior to filing the application
 - ❖ Secret or hidden use of any invention qualifies as 'public use'
 - ❖ A tour of a laboratory may be a 'public use'
 - ❖ Experimental use is not a 'public use'

Bars to Patentability (cont.)?

- The invention was publicly disclosed more than one year prior to filing the application
 - ❖ Public disclosure occurs when previously undisclosed (i.e., secret) information is made available to individuals not having an obligation of confidentiality in an enabling form
 - ❖ Someone having ordinary skill can make and/or use the invention from the disclosure
 - ❖ It is not necessary that the public actually receives the information; it must simply be available to the public
 - ❖ Dissertations in library, poster session on campus
 - ❖ Sale, offer for sale, or public use will bar patent even if not enabling

What is Public Disclosure (cont.) ?

➤ **Most foreign countries do not allow a grace period**

❖ United States, Canada, Australia and the Philippines

❖ Patent applications must be filed prior to a public disclosure
or most foreign rights are lost

How Can Public Disclosure Issues Be Avoided?

- KEEP INVENTION SECRET
 - ❖ Until a patent application (Provisional, Nonprovisional, International) is filed
- Use confidentiality or nondisclosure agreements
 - ❖ Material Transfer Agreements
- Unauthorized Disclosure

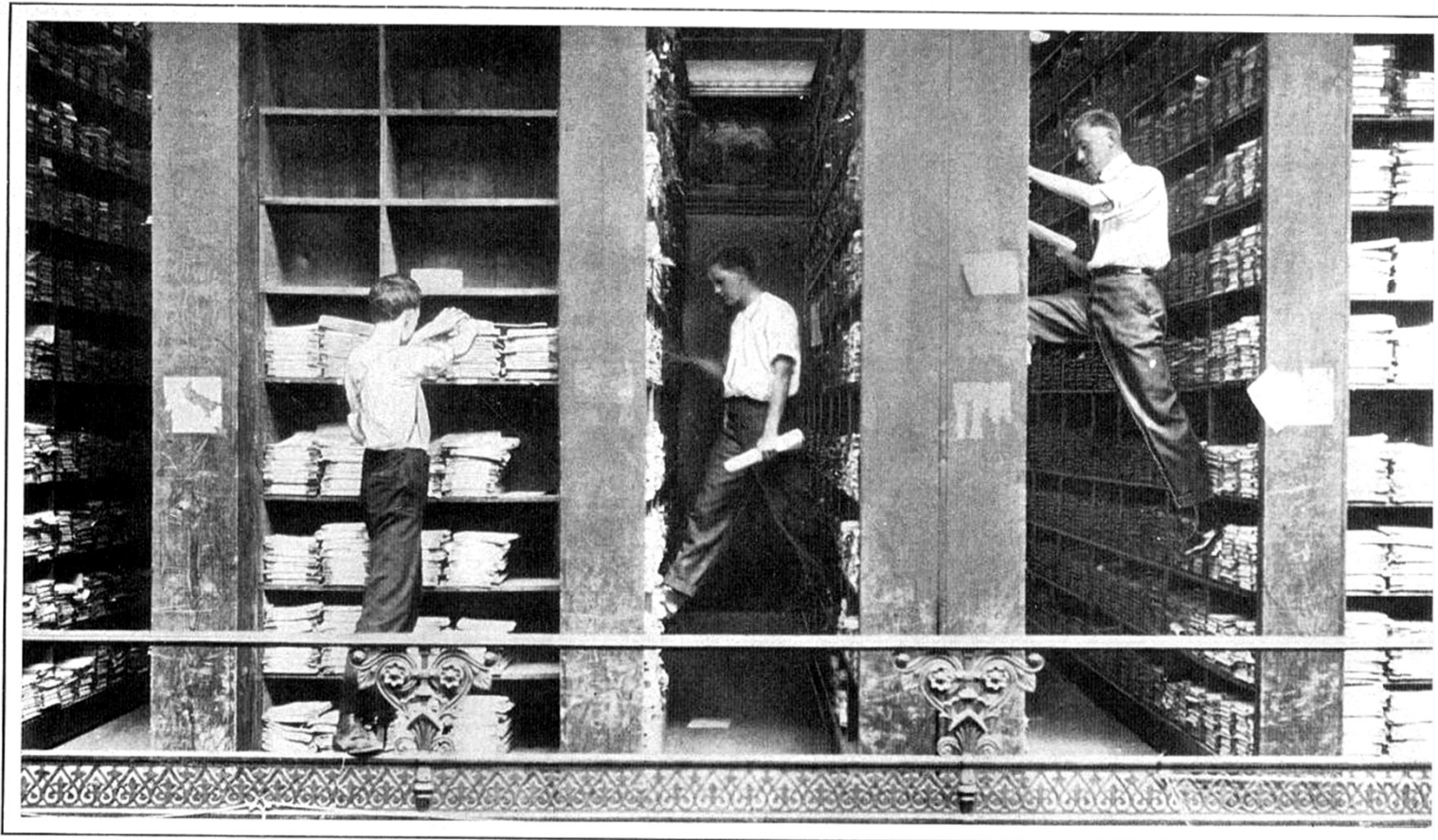
Requirements for Patentability

- New (Novel)
- Useful (Utility)
- Non-obvious to one of ordinary skill in the art
- Statutory Subject Matter
- The invention does not have to be reduced to practice, but often requires more complete disclosure

The Patent Process



The Patent Process (cont.)



SEARCHING THE FILES IN THE PATENT OFFICE.

The Patent Process (cont.)

Nonprovisional Patent Application:

A. Disclosure (35 U.S.C. 112)

- ❖ Enabling
- ❖ Written Description
- ❖ Best mode

B. At least one claim

- ❖ Determines Scope of Invention
- ❖ Difficult to Understand

C. Drawings (If Needed)

The Patent Process (cont.)

D. Declarations From Inventors

- ❖ Inventorship is NOT the same as authorship
- ❖ Inventors must have contributed to the conception of the idea as recited in the claims. Contribution to only one claim leads to joint invention. (Legal Matter)
- ❖ Those that reduce the invention to practice may not be the inventors if only following instructions
- ❖ Errors in Inventorship may invalidate the resulting patent

➤ Inventorship versus ownership:

- ❖ Inventors: persons that conceived the invention
- ❖ Owners: persons (or an entity) that own rights to the invention. By law, inventors own their invention.
- ❖ Ownership may change, inventorship cannot be changed

The Patent Process (cont.)

- USPTO Fees
- Attorney's Fees
- Foreign Patent Applications
- Search

The Patent Process (cont.)

- File Patent Application (Pro se or registered attorney/agent)

Electronic Filing

- WAIT Patiently for Examination Process

- ❖ Office Action
- ❖ Allowance/Rejection
- ❖ Response/Amendment
- ❖ Appeal
- ❖ Issue as Patent

Enforceable at this stage

Alternatives to Patenting

➤ Trade Secrets

- ❖ Coke, Listerine

- ❖ No waiting

- ❖ Limits of Use:

 - Theft

 - Independent Discovery

 - Reverse Engineering

- ❖ After one year of use, cannot patent

- ❖ Can license or assign

Alternatives to Patenting (cont.)

➤ Trademarks:

- ❖ Does not protect the invention
- ❖ But, surprising how often there is also trademark infringement
- ❖ No waiting
- ❖ Registration with Bureau of Customs and Border Protection to prevent importation of infringing foreign goods.

Alternatives to Patenting (cont.)

➤ Market invention without protection:

- ❖ Pet Rock, Hoola hoop
- ❖ Be careful about infringement

Defensive Publication

- ❖ Disengage when competition increases and/or market is saturated
- ❖ No enforcement

Should I File a Patent Application?

➤ Weighing the options

❖ Cost

Preparation/Prosecution

Enforcement:

It is not illegal to infringe issued patents or registered trademarks

Enforcement is at the will of the owner

Law Suit (Federal Court System)

❖ Time

Product Life Cycle

Time to Market

Patent Issuance (2-4 years for utility application)

❖ Necessity

❖ Enforceability

Should I File a Patent Application (cont.)?

➤ **Deterrent:**

- ❖ Maintain Exclusive Control
- ❖ Prevent Competitors from Market Entry
- ❖ Protect large research, development and marketing efforts

➤ **Defensive:**

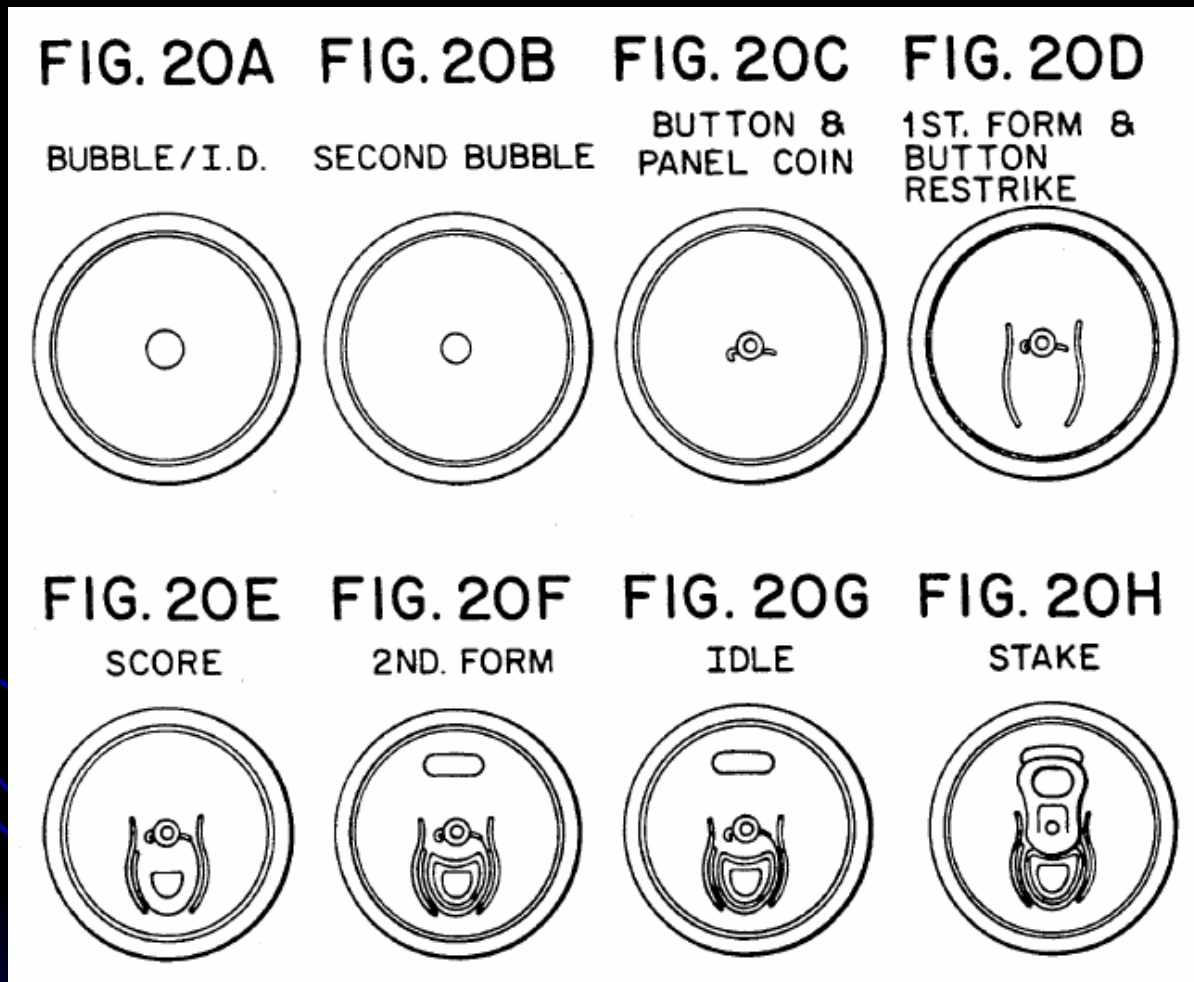
- ❖ Prevent Competitors from Obtaining Patents

➤ **Licensing:**

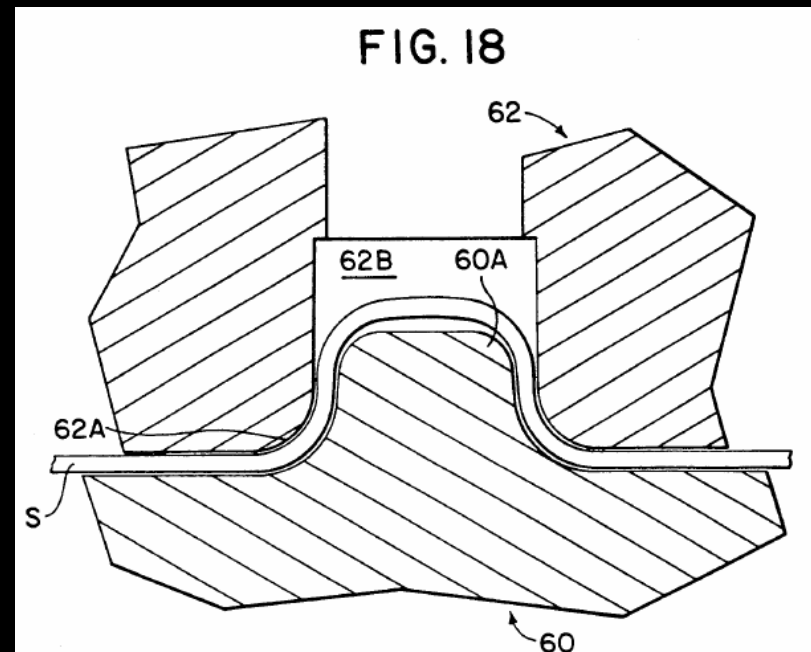
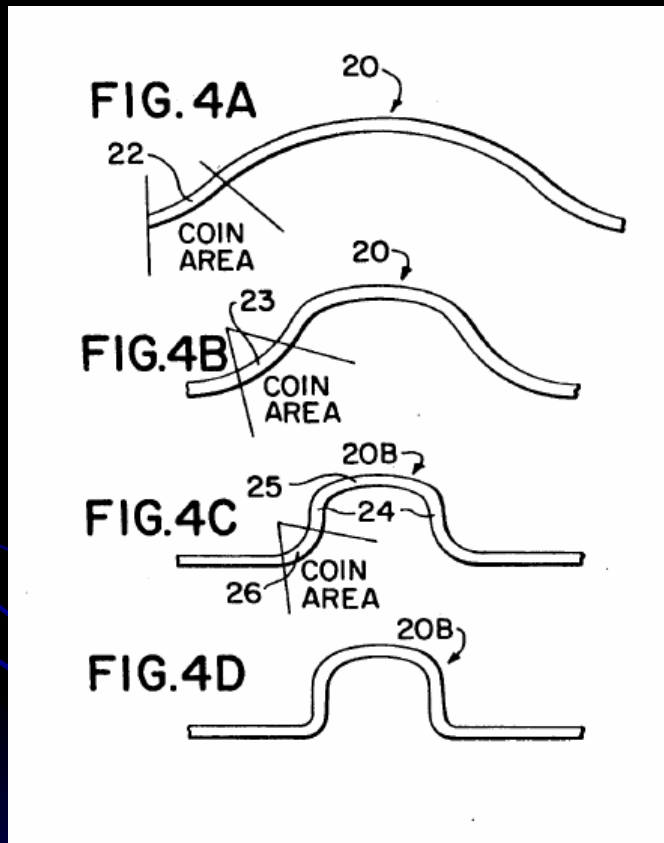
- ❖ Licensing Fees and Royalty Income

➤ **Marketing**

Why Do I Want a Patent?



Why Do I Want a Patent?





(12) **United States Design Patent** (10) Patent No.: **US D447,436 S**
Park (45) Date of Patent: ** **Sep. 4, 2001**

(54) BRACELET

Fig 2



**“The Q-Ray® Bracelet is so unique.
It carries a U.S. Government patent”**

Lab Notebooks

- **May be needed in patent litigation**

U.S. is first-to-invent system

- **Aside from experimental details, also include:**

Ideas (when conceived and by whom),

In-line deletions only (no whiteout);

Signature of co-worker's/advisor (every so often)

- **Also a good idea to keep:**

E-mails and other correspondence (with dates)

Original draft of grant proposals, source code, etc.

Napkins, scratch paper, computer files, etc.

Patenting In The University Setting

- **Why Would Public University Seek to Exclude the Public from Using Knowledge Created There?**
 - ❖ University and its research often funded by tax payers; and
 - ❖ University requires publication of research results
 - ❖ But, majority of University inventions require significant further development before they are ready to be used; and
 - ❖ Universities are not well-suited for commercial activities
 - ❖ Corporations need a reason to take the risk
- **Patents (IP) Often Greatly Increases The Impact of University Research on the Public**

Patenting In The University Setting (cont.)

- **Universities obtain The Rights To IP Generated Through University Activities:**

- (a) by Employment Agreements with Inventors; and

- (b) by Bayh-Dole Act for federally funded research

- **Unlike in Industry, University Inventors Are Entitled To Receive Royalties**

- **IP May Attract Industrial Interest/Sponsorship**

- **Universities do not have special status regarding Freedom To Operate**

- ❖ Ability to use materials, methods, etc. without infringement of another's intellectual property

Bayh–Dole Act

(35 U.S.C. §200-212)

Patent and Trademark Law Amendments Act

- Intellectual property arising from Federal Government-funded research
- Gives U.S. Universities, small businesses and non-profits intellectual property control of their inventions and other intellectual property that resulted from such funding
- Bayh-Dole permits a University, small business, or non-profit institution to elect to pursue ownership of an invention in preference to the government.

Bayh–Dole Act (cont.)

- Report each disclosed invention to the funding agency
- Elect to retain title in writing within a statutorily prescribed timeframe
- File for patent protection
- Grant the Federal Government a non-exclusive, non-transferable, irrevocable, paid-up license to practice or have practiced on its behalf throughout the world
- Actively promote and attempt to commercialize the invention
- Not assign the rights to the technology, with a few exceptions
- Share royalties with the inventor
- Use any remaining income for education and research
- Give preference to U.S. industry and small business

Leahy-Smith America Invents Act

Public Law 112-29 Sept 16, 2011 (H.R. 1249)

- **Switches the U.S. patent system from “First to Invent” to “First to File”**
 - ❖ Prior user rights
 - ❖ Confidential Sale
- **Eliminates interference proceedings**
- **Develops post-grant opposition**
 - ❖ Ex parte reexamination
 - ❖ Third parties submissions
 - ❖ Expanded *Inter partes* reexamination (*Inter partes* review)
 - ❖ Post-grant review
- **Establishment of a “Micro-Entity”**
 - ❖ University or Inventor under an obligation to assign to a University

Resources

United States Patent & Trademark Office

<http://www.uspto.gov>

World Intellectual Property Organization

<http://www.wipo.int>

European Patent Office

<http://ep.espacenet.com>

Japan Patent Office

<http://www.jpo.go.jp/>

Questions

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