Introduction to Patents (and other Intellectual Property)
The Constitutional Basis for Intellectual Property Law

“Congress shall have the power …

to regulate commerce … among the several states …

U.S. Const., Article I, Section 8, Clause 3

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 inventions and discoveries.”

U.S. Const., Article I, Section 8, Clause 8

Intellectual Property can represent a significant financial opportunity if it is properly protected
### Protectable Subject Matter

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<td>Device, Composition, or Process</td>
<td>Expression, not ideas</td>
<td>Sourceindicating word, symbol</td>
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<td>Criteria for protection?</td>
<td>Novelty, Utility, and Non-obviousness</td>
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<td>To obtain protection...</td>
<td>Review by USPTO; grant of patent</td>
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<td>Protects Against...</td>
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<td>Life of author + 70 years or 120 years</td>
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### Public Policies Underlying Patent Law

Benefit the public by providing the **prompt disclosure** of new inventions to the public vs.

Provide inventors and businesses with an incentive to innovate, by creating a legal **right to exclude** others from making, using or selling an invention **for a limited time**.
What Is A Patent?

The legal right to exclude others from “making, using, selling, or offering to sell” a patented “invention” (35 U.S.C. § 271)

• a patent is not a grant of an affirmative right to make, use, or sell the invention

Three types of patents:
• Utility patents (including “provisional” patents)
• Design patents
• Plant patents

Utility Patent

The most common type of patent.

Protects utilitarian structure, function, method, or composition.

Term: 20 years from effective filing date.

Uses word **claims** to identify the invention (the numbered paragraphs at the end).
Claims

What is claimed is:

1. A motor vehicle comprising:
   a) a frame;
   b) a body mounted on the frame;
   b) a plurality of wheels under the body, supporting the frame;
   b) a transmission mounted on the frame and coupled to at least one of the plurality of wheels; and
   c) a motor mounted on the frame, having a fluid input and an output coupled to the transmission.

Claims

What is claimed is Element 95.
(US patent #3,156,523 for the chemical element Americium).

Element 95.
The Requirements for a Patent

The invention must be a:

- **Useful**; (35 U.S.C. § 101)
- **New**; and (35 U.S.C. § 102)
- **Nonobvious** (35 U.S.C. § 103)

- Process, machine, article of manufacture, composition of matter, or any new and useful improvement thereof.

Patentable Subject Matter

What Is **Not** Patentable?

A mere idea (e.g. law of nature or principle) without application.

Pure mathematical algorithms (e.g., $E = MC^2$).

An inoperable device (e.g., perpetual motion machine).

An **obvious** improvement of an old device.
Usefulness (Utility)

The invention must have utility, that is, it must have a practical application. Without utility, there would be no contribution to society, a foundational requirement of the patent system.

Novelty (known prior to invention)

For one year before the patent application is filed in the US, the invention must NOT have been:
- been known or used by others;
- described in a printed publication
- Used in public
- on sale
International Standard for Novelty

Most foreign countries adhere to an “absolute novelty” requirement for patentability.

Under this standard, the invention must not have been disclosed to the public or used commercially at any time prior to the filing of the patent application.

Obviousness

A patent may not be obtained … 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 a person having ordinary skill in the art to which the subject matter pertains.
The Patent Process I

- **Invention**

- **Disclosure** (critical event)
- Draft and file a *provisional application*
- Prior art search and analysis
- Further invention and subsequent disclosures and/or provisional applications
- Draft and file a *non-provisional application* within one year of the filing of the provisional application

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Patent Process II

- Execute and file formality papers
- File information disclosure statement(s)
- Office action(s) (i.e., examination reports)
- Amendment(s) and response(s) by applicant
- Allowance and issuance
- Pay maintenance fees
The Patent Application MUST:

be “enabling”
disclose the best mode (“preferred embodiment”) known to the inventor(s) at the time of filing
particularly point out and distinctly claim the subject matter of the invention patent (protection is given only to that which is claimed)

(35 U.S.C. § 112)

Who Is an Inventor?

An invention is conceptualized when it is sufficiently formed in the mind of the inventor so that he or she can describe, to those skilled in the art, how to make and use the invention.

If two or more each shared in the ideas forming the invention, they are joint inventors and the patent issues to them jointly.

Contribution to the reduction of the invention to practice does not constitute inventorship.

Improper inventorship may result in a patent being declared invalid.

Not the same as authorship.
Factors to Consider
Before Pursuing a Patent

Costs of the patent
- Monetary costs to obtain and maintain the patent
- Opportunity costs: time required of inventors, others
- Disclosure of the invention to competitors (Would it be better to maintain invention as a trade secret?)

Objectives of the patent
Enforcement of the patent
Commercial life of the patented product

Strategic Objectives of Patents

Protect investment in an invention
Provide unique, superior, or cost-effective product
Make licensing possible (e.g., royalty income)
Defensive purposes
Advertising and Marketing (e.g., patented product may be perceived as being better than another’s non-patented product)
Copyright

A copyright is an exclusive right in an original work of authorship that is fixed in a tangible form to:

1. reproduce the work;
2. prepare derivative works of work;
3. distribute copies of the work;
4. publicly perform the work; and
5. publicly display the work.

See 17 U.S.C. 106

Copyright subject matter

- Literary works
- Musical works
- Dramatic works
- Choreographic works
- Pantomimes
- Pictorial
- Graphic
- Sculptural
- Individual images of a motion picture
- Audiovisual works
- Recordings (including digital audio transmissions)

See 17 U.S.C. 106
Copyright and Software

Copyright Ownership
• Each creator owns their creations unless:
  • The creation was a Work for Hire
    (Scholarly work is generally not a work for hire)
  • The rights to the creation were transferred through a contract

Joint Authorship
• Authors intend contributions to be merged
• Each contribution is itself copyrightable

Computer Software

Literal copying (source or object code)
• Protectable (considered literary works)
  • Source code
  • Object code
• Possibly Protectable (Idea’s or Expressions?)
  • Program structure
  • Modules
  • Algorithms & data structure
• Not protectable
  • Purpose of the software
Open Source Issues

• All Open Source Software licenses are NOT the same
• Each license carries with it a different set of requirements for using the software and outlines a different set of requirements for modifying the source code…among other terms
• A major difference between Open Source licenses is whether the license is considered “copyleft” or not
  • Derivative works must be free
  • Copyleft software cannot be combined with proprietary software

Open Source: additional requirements

• Include warranty disclaimers
• Include copyright and attribution notices
• provide a copy of the license to a downstream licensee
• include a description of any changes made to the code by the licensee prior to redistribution
• include an offer to provide the source code
• include source code to non-standard software that is required in order for the program to run properly
• include a file listing any known intellectual property disputes involving the software
Trademark (Service Mark)

Trademarks (or Service Marks) includes:
- Words,
- Names
- Symbols, or
- Device, or
- any combination thereof used by a person in commerce,

to identify and distinguish his or her goods (and services) … from those of others and to indicate the source of the goods (or services), even if that source is unknown.

See 15 U.S.C. § 1127

Establishing Trademark Rights

Use the mark in connection with goods/services.

Trademarks need not be registered to be protectable as a property right).
Life of a Trademark (Service Mark)

- Trademark rights may continue indefinitely as long as the mark continues to be used with the goods (or services).
- Federal registration: term is 10 years and may be renewed by filing declarations verifying continued use of mark.

Trade Secret

- any type of formula, process, financial, business, scientific, technical, economic or engineering information;
- the owner must take reasonable measures to ensure that the trade secret remains closely held;
- the trade secret is not generally known or readily ascertainable upon inspection (e.g., the "Coca Cola" formula); and
- derives independent economic value from not being generally known.
Life of a Trade Secret

• The real question is: How well can you keep a secret.
• In theory, the life of a trade secret can be indefinite.
• Trade Secrets can be legally lost by:
  • accidental disclosure
  • reverse engineering, derived from a legitimate source of the underlying secret.

Thank You

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