Intellectual Property:
A Primer on Patents, Trademarks, Copyrights and Trade Secrets

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Intellectual Property

Patents
Copyrights
Marks
Trade Dress
Trade Secrets
Trademarks – The Oldest Form of Intellectual Property

- Use of marks to identify ownership dates to 5000 years B.C.
Trademarks

- Indication of source or origin of goods or services
- Rights flow from *use*
  - Registration is confirmation of rights
  - Gives various advantages
- Rights are tied to specific type or types of products in a specific market
- No rights in the absence of actual use of mark in the relevant market
Trademarks

- Duty to Police Marks
  - Scope of right will lessen if competitors allowed to use similar marks
  - Rights may be lost if mark allowed to become generic term
    - Aspirin
    - Cellophane
    - Nylon
    - Thermos
    - Escalator
Trademarks

- Less descriptive mark is stronger, more descriptive mark is weaker
  - Strongest marks are coined or arbitrary
    - “Apple” for computers
  - Suggestive marks are more difficult to protect
    - Netscape
    - Silicon Graphics
    - Microsoft
Trademarks

- Examples of descriptive marks
  - International Business Machines
  - Windows
  - Sharp
  - Kentucky Fried Chicken
Trade Dress

“The visual image by which the product or service is presented to the relevant consuming public. It can include shape, appearance, and color of the product itself or packaging which is distinctive enough to identify the source of the goods or services.”


Limited in scope
- Closely related to trademark
- Must indicate source of goods to the consumer
Trade Dress

Can the appearance of a restaurant be protected as intellectual property?
History of Trade Secrets

- General Definition:
  1. a secret which gives its owner an actual or potential advantage in business, and
  2. which the owner exercises reasonable measures to maintain as a secret

- Believed to originate in ancient China

  Penalty for disclosing method of making silk to outsiders:

  *Death by Torture!!*
History of Copyright

Concept of Copyright dates to Ancient Greece. Economic rights arose from invention of printing in the 15th century. The First Copyright Law, the “Statute of Anne,” was passed in 1710. It granted the author ownership of the copyright, fixed term of rights, and deposit requirement. Copyright Law is still dynamic with architectural works given copyright protection in the U.S. in 1990.
Copyright

- Right attaches to a creative work fixed in a tangible medium
  - Book, plans, drawings, sculpture, musical work, etc.
- Copyright attaches
  - Regardless of presence or lack of copyright notice
  - Regardless of whether or not copyright is registered
- Still good practice to include copyright notice
  - Use © or the word, “copyright”, and the year
History of Patents

- Exact Origins of Patents Unknown
- Britain – longest known history
  - First patent granted to John of Utynam in 1449 by Henry VI
  - Method of fabricating stained glass windows used for Eton College
Intellectual Property

Engine of our economy
Stimulates investment in:
Technology
Literature
Art
Music
Architecture
THE PATENT BARGAIN

- INVENTOR GETS THE EXCLUSIVE RIGHT FOR LIMITED TIME
- PUBLIC GETS FULL DISCLOSURE OF THE TECHNOLOGY; RIGHT TO USE WHEN PATENT EXPIRES
  - Facilitates sharing of research
Generational Contribution of Technology

- Our Parents’ technology is now free to us
- We pay extra to encourage innovation that will result in free technology for our children
Patent Trolls: The scourge of free enterprise???

- **Definition?**
  - Someone who obtains patents for the purpose of making money with no intention of making products
    - Thomas Edison
    - MIT

- **New Term: “NPE”**
  - Non-producing entity
Current Backlash Against Patents

- Anti-patent feeling in courts and on Capital Hill
- Harder to get patents
  - Obviousness standard raised
  - New procedural rules
- Harder to get injunctions
- Easier to challenge licenses
- Comprehensive changes proposed on the Hill

\[ y(t) = x(t): \text{angular position [rad]} \]
\[ x_v(t): \text{angular velocity [rad/s]} \]
BENEFITS OF PATENTS TO **YOU**

- **RIGHT TO Exclude OTHERS**
- ASSET – CReATES VALUE
- ENCOURAGE INNOVATION WITHIN THE COMPANY
- INCREASE COMPANY’S STANDING IN THE INDUSTRY
- RECOGNITION OF PERSONAL ACHIEVEMENT
The right to exclude others

A telephone system allowing voice communication between remote users, comprising:

- at least two telephones each comprising a speaker and a microphone; and
- an electrical transmission path between the at least two telephones for transmitting electrical signals representing the voice communication.

A wireless telephone, comprising:

- a base station configured to communicate with a POTS line; and
- a hand set comprising a speaker, a microphone, and a dial pad;

wherein the base station and the hand set each comprise radio communication means for wireless transmission therebetween.
Improvement patents and the right to exclude

- Person A can exclude anyone else from making, using, selling, or importing any telephone
  - Person A can make, use, sell or import any wired telephone
- Person B can exclude anyone from making, using, selling, or importing any wireless telephone
  - Cannot make, use, sell, or import wireless telephone without license from Person A
Strategic Patenting

- Offensive
  - Exclusivity/Competitive Advantage
  - Licensing
  - Litigation

- Defensive
  - Cross-licensing
  - Create “prior art”
Types of Patents

- **Utility Patent**
  - Protects functional aspects of products and methods
    - the way something works, is used, or is made
  - Usually what is meant by “a patent”
- **Design Patent**
  - Protects the ornamental design of an article
- **Plant Patent**
  - Protects asexual reproduction of new plant variety
- In some countries: Utility Model
Types of Utility Patent Applications

- **Provisional**
  - “Foot-in-the-door” application
  - Minimal formal requirements
  - Low cost
  - Preserves filing date
  - Not examined

- **Non-Provisional**
  - “Real” patent application
  - Must meet all formal requirements
  - Proceeds to examination/issuance
“Patent Bargain” places emphasis on the patent document itself

- Patent rights flow from patent application
  - Written disclosure or “specification”
  - Drawings when appropriate
  - “Claims”
    - Claims define the scope of patent monopoly
    - Each claim stands independently
    - Validity of each claim determined separately
THE BETTER THE DISCLOSURE…

- THE STRONGER THE PATENT
- THIS IS THE OPPOSITE OF WHAT MANY PEOPLE THINK
  - More detailed patent specification supports broader claims!
Requirements for the Patent Specification

- Enablement
  - Teach how to make and use invention without undue experimentation
- Written description of invention
  - Explains what the applicant believes the scope of the invention to be
- “Best mode”
  - Duty to describe the best mode of carrying out the invention known to the inventor at the date of filing
FOR WHOM DO WE WRITE
THE PATENT DISCLOSURE?

Make it UNDERSTANDABLE
FIGURE 1A (Actual)
FIGURE 1A (As seen by Jury)
A thing with a gear
The Point:

- Include introductory / basic explanation to help explain to judge/jury
- Include detailed description to comply with
  - Enablement
  - Written description
  - Best mode
Patent Claims

- Series of numbered paragraphs that define scope of invention
  - Typically arranged from broadest to narrowest
  - May include apparatus, method of making, method using, etc.
  - Design patent has only one claim, referencing the figures

- Obtaining allowance of claims is process of negotiation
  - Most applications are initially rejected
Anatomy of a Claim

- **Preamble**
  - Introduces what is being claimed
  - Indicates method or apparatus

- **Transition**
  - "comprising" or "including"
    - "open" language
  - "consisting of"
    - "closed" language

- **Body**
  - details
Claiming Scissors….

1. A cutting tool, comprising:
   - a first member having a first cutting edge;
   - a second member having a second cutting edge; and
   - a fastener for coupling the first member to the second member.

2. The cutting tool of claim 1 wherein the fastener comprises a pivot pin.

3. The cutting tool of claim 1 or claim 2 wherein the first cutting edge and the second cutting edge are serrated.
A chair comprising:
- a seating surface;
- a first leg extending downwardly from the seating surface;
- a second leg extending downwardly from the seating surface;
- a third leg extending downwardly from the seating surface; and
- a back support extending upwardly from the seating surface.
Do they infringe?
What is Patentable?

- Two-Step question
  - Is the subject matter patentable
  - Does the invention distinguish over prior art
- U.S. Version of 1st step:
  "Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor…."
  - Broad relative to other countries
  - Excludes
    - Laws of Nature
    - Naturally Occurring Phenomena
    - Printed Matter
LOOK BEYOND « TYPICAL »
INVENTIVE SUBJECT MATTER

- New products – of course!
- Don’t forget methods
  - Methods of making
  - Methods of using
- Don’t forget intermediates and components of products
- Don’t forget improvements
Second Step of the Patentability Question

- Invention must be
  - Novel
  - Non-obvious to a skilled person at the time the invention was made
- International standards differ by country
  - Europe uses “inventive step”
DESIGNS CAN BE PATENTS, TOO

- Scope of design patent coverage more narrow than utility patent
- BUT, wide variety of things may be subject of design patent
SHAPE OF A FOUNTAIN
DESIGN OF A SNEAKER
A LEECH LOCKER!!!
Design Patents

- Cheap, quick, effective narrow scope of protection
- Underused in most cases
- Overlooked in “non-design” industries
How to File a Patent?

- U.S. is a “first to invent” system
- Rest of the world is a “first to file” system
- Much like driving on right or left
  - Either is OK until the roads meet
U.S. System – Filing and Bar Dates

- “Priority” given as of date of invention
  - Patent application may be later filed so long as invention not abandoned
- Public disclosure, sale, or offer to sale starts one-year clock ticking
  - If patent application not filed within one year, rights are lost
Disclosure Events

Examples:
- Publication or presentation of a technical paper or other description
- Display at trade shows
- Postings on the Internet
- Outsourcing prototype manufacture without a non-disclosure agreement
- Sale or offer to sell
- Use of the invention in public (no trade secret protection enforced)
U.S. System – Filing and Bar Dates

- **Date of Invention**: > 1 year OK if no abandonment
- **Filing Date**: Typically 2-3 years
- **Issue Date**: Term 20 years from date of filing
- **Expiration**:

  - Public disclosure OK if < 1 year before filing
Outside the U.S.

- No “grace period”
  - Public disclosure forfeits rights in most cases
- Priority based on date of filing application
- Date of invention irrelevant
Outside the U.S.

- **Date of Invention**: Invention date of no importance.
- **Filing Date**: Pendency varies by country.
- **Issue Date**: Term 15-20 years from date of filing.
- **Expiration**: Public disclosure will destroy the filing.
International Protection?

- No such thing as international patent
- Each country must be covered individually
- Treaties and regional groups exist to make this easier
- Europe moving (slowly) toward Community Patent
Paris Convention of 1883

- If patent or trademark filed in any member country is later filed in one or more other member countries
  - Treated as if filed on earlier date if subsequent filing within
    - 1 year for utility patents
    - 6 months for designs and marks
U.S. System – Filing and Bar Dates

Invention Date
> 1 year OK if no abandonment, no disclosure

Filing Date
Typically 2-3 years

Issue Date
Term 20 years from date of filing

Expiration

U.S.

Japan

Japanese national filing within 1 year

Issue Date

Expiration
Patent Cooperation Treaty

- Paris Convention tough to comply with in many countries at the same time
  - Cost of translations high
  - Uncertainty about commercial merit of invention in first 12 months
- PCT provides international preliminary examination
  - A non-binding opinion on patentability
  - Delays decision on foreign national filings to 30 months from first filing date
U.S. System – Filing and Bar Dates

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<th>Filing Date</th>
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U.S.

PCT

Japan & other countries

Japanese national filing by 30 month deadline

Issue Date

Expiration
Treaty Members

- 173 Paris Convention Members
- 144 PCT Members
- Regional Phase Groups
  - African Regional Industrial Property Organization (ARIPO)
  - Eurasian Patent Office (EAPO)
  - European Patent Office (EPO)
  - African Intellectual Property Organization (OAPI)
  - Andean Pact
  - Gulf Cooperation Council
DATE OF INVENTION

- For the U.S., we MUST be able to prove date of invention
- Lab notebooks are extremely important!
Laboratory Notebook

- The goal is to maintain records in a provable form that may be admitted in a court of law
- Detailed and accurate
- Primary record of the achievements of an individual
- A source for preparation of invention disclosures
Laboratory Notebook

- Notebook of Original Entry
  - Make all entries in the notebook FIRST
  - First notes about anything (ideas for future work, sketches, diagrams, or graphs)
  - References to Patents should include patent number
  - References to Literature should include complete references (Author, Volume, Page, Date)
  - After discussions, formal or informal, note what it was about and who was present
Notebook Etiquette

- Colleague qualified to understand the data should witness each page with his/her signature and date
- No blank spaces or pages
- Blank area on any page should be filled in by a large “Z” or a series of “X’s”
- Pages should not be removed
- Loose-leaf books are not suitable
Invention Disclosure / What to Disclose

- A complete written disclosure of the invention
- Attach drawings or sketches
- Disclose various embodiments, when possible
- ALWAYS include the “best mode”
- Inventor and two witnesses sign and date
Invention Disclosure/
What to Disclose

- Materials
  - Test Data
  - Marketing Literature/Brochure
  - SPE Papers, Technical Journal Articles, etc.
- Important Dates
- Important People
- Distinctions/Advantages over Prior Art
When to Disclose

- Promptly after the inventor has determined how to achieve the results desired
- Not necessary to wait for construction of a working embodiment to disclose or patent
How to Disclose

- Forward the invention disclosure and supporting documents to designated individual
- Disclosure and supporting documents should be clear/simple enough that prior art search can be performed (FLOWCHARTS!)
Who is an Inventor?

- An inventor must make a **patentable contribution** to the conception of **at least one claim**. Inventors may apply for a patent jointly even though
  - they did not physically work together or at the same time,
  - each did not make the same type or amount of contribution, or
  - each did not make a contribution to every claim.

- There is a difference between an inventor and someone who may have worked on the project but did not contribute to the conception of the invention.
What Happens after the Application is Filed?

- Application is:
  - Assigned to examining group based on class/subclass
  - Assigned to appropriate examiner within group
  - Examined in order of date assigned, unless special case

- Timing for U.S. PTO action (Roughly):
  - 14 - 18 months for initial examination
  - 4 months for responsive examination
  - 4 months for issuance
  - 2.5 - 3 years filing to issue
Conclusion

- Must manage inventions proactively
  - Educate company personnel on importance of patents
  - Effective lab notebook policy
  - Effective procedures to encourage disclosures from engineers
  - Effective procedures to review disclosures
    - Involve sales and marketing – not just legal or technical
- Identify and protect trade secrets
- Choose strong marks and enforce them
- Protect copyrights
THANK YOU!

THE END