

Intellectual Property Overview

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Intellectual Property

- ◆ Inventions
- ◆ Brand Names
- ◆ Secret Formulas
- ◆ Content on Websites
- ◆ Movies

Types of Intellectual Property

- ◆ Patents
 - New and useful inventions
 - Examples: devices, circuits, chemicals, designs, plants
- ◆ Trademarks
 - Identification of source for product or service
 - Examples: brand names, logos
- ◆ Copyrights
 - Expressions of ideas
 - Examples: books, movies, photos
- ◆ Trade Secrets
 - Secret information with commercial value
 - Examples: manufacturing processes, formulas

What is a Patent?

- A patent is a property right given by the government to an inventor. The property right gives the inventor the right to exclude others from making, using, offering for sale, or selling the invention.
- Based on a quid pro quo. In return for the exclusive right for a certain period of time, the inventor must disclose the invention to the public.
- The patent does not give the inventor the right to practice the invention.

Types of Patents

- Utility Patents
 - Protect new and useful inventions
 - Protect the way an invention works
 - Term of Protection: 20 Years (measured from earliest effective U.S. filing date)
 - Provisional and Non-provisional applications
- Design Patents
 - Protect the ornamental appearance of a product
 - Term of Protection: 14 years from the issue date
 - For design patents issued on applications filed after May 13, 2015, the term will be 15 years
- Plant Patents
 - Protect new varieties of asexually produced plants

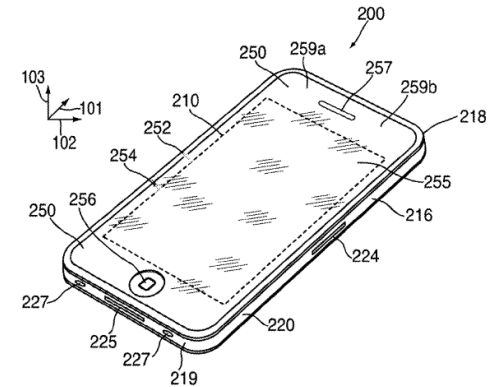


FIG. 2A

Apple U.S. Patent No. 8,551,283

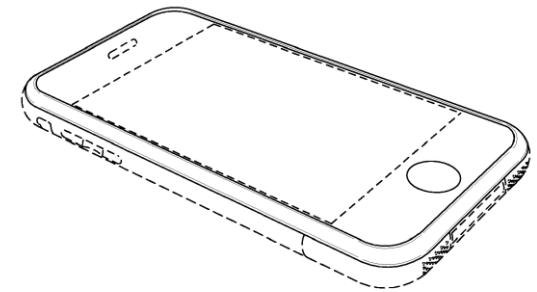


FIG. 1

Apple Design Patent No. D593,087

Provisional Patent Application

- Provides filing date
 - Act as a “placeholder”
 - Relatively inexpensive way to establish an early effective filing date (priority date) in a later-filed non-provisional patent application with fewer formalities
 - No claims required
- 12 month window to file a corresponding non-provisional patent application to benefit from the priority date of the provisional application
- Abandoned automatically after one year
- Protects public disclosures if a non-provisional application is filed
- Provides time to investigate market potential / make improvements. Caution: will lose priority date for any new matter filed in the non-provisional application
- No patent rights—not examined; Applicants can use “Patent pending”

Non-Provisional Patent Application

◆ Specification

- Invention must be described and enabled in the patent application (how to make and use the invention)
- Invention must be described in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention

◆ Claims

- Define the metes and bounds of the invention
- Only subject matter claimed is afforded protection

◆ Drawings

- Required if necessary to understand the invention

Patent Prosecution

- ◆ Restriction Requirement if more than one invention claimed
- ◆ Office Action (about 17 months from date of filing)
- ◆ Response to Office Action
- ◆ Examiner Interviews
- ◆ Appeals
- ◆ Notice of Allowance
- ◆ Pay Issue Fee

What Can Be Patented?

- ◆ Anything new and useful
- ◆ Methods (example: a method of using a medical device), Machines (example: a smartphone), Compositions of Matter (examples: chemicals, pharmaceuticals, assays), Manufacture
- ◆ Mathematical algorithms, laws of nature, and ideas?
 - No

Requirements for Patentability

- Novelty
 - Must be new (not previously known or used by others)
 - An invention lacks novelty only if each and every element of the claim is found either expressly or inherently in a single prior art reference
 - “A person shall be entitled to a patent unless
 - (1) the claimed invention was patented, described in a printed publication, or in public use, on sale, or otherwise available to the public before the effective filing date of the claimed invention; or
 - (2) the claimed invention was described in a patent . . . in which the patent or application, as the case may be, names another inventor and was effectively filed before the effective filing date of the claimed invention.” 35 U.S.C. 102(a)
- Utility
 - Invention must be useful
 - Generally an easy test to satisfy

Requirements for Patentability

- Non-Obvious

- Must not be obvious to a person of ordinary skill in the field of the invention at the time the invention was made
- More than a mere obvious modification of the prior art reference
- The teachings of multiple prior art references may be combined
- “A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed..., if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains.” 35 U.S.C. 103

Prior Art

- ◆ Any information available to the public before the filing date of the application that discloses the invention or renders it obvious
- ◆ Printed Publications
 - U.S. patents and published applications
 - foreign published patent documents
 - poster presentations
 - handouts at meetings
 - abstracts
 - material posted on the internet
 - articles, books
 - thesis or dissertation (once it is indexed and shelved in a library)

Prior Art

- ◆ “Otherwise Available to the Public”
 - Oral Presentation
 - Lecture or speech
 - Demonstration at a trade show

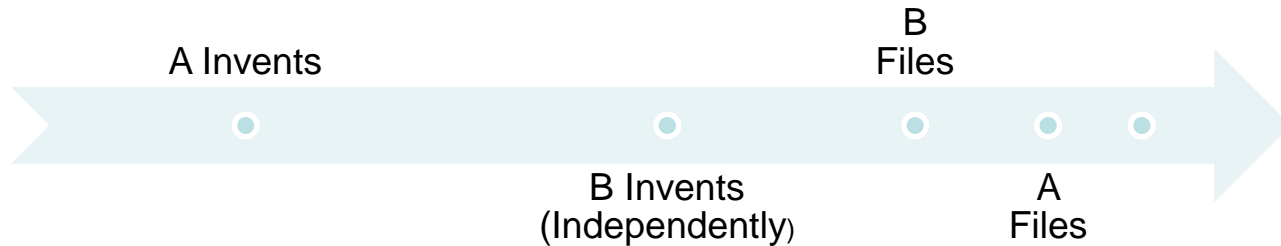
- ◆ The public disclosure must be enabling
 - Must describe the invention in sufficient detail to enable a person of ordinary skill in the art to carry out the invention
 - Huge risk of disclosing too much information
 - Prior art references are presumed to be sufficiently enabled

Exceptions / Grace Period

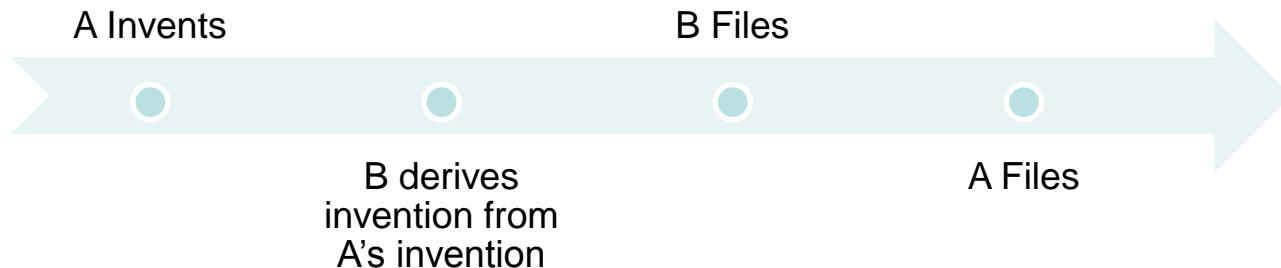
- ◆ Time period prior to filing during which a public disclosure or offer for sale by an inventor is not considered prior art
- ◆ United States
 - One year grace period (U.S. filings must take place within one year from any public disclosure or offer for sale)
- ◆ Most foreign countries/regions (for example: Europe)
 - Absolute novelty (Foreign filing must take place prior to any public disclosure or offer for sale)

Common Pitfalls

- ◆ U.S. is now a First to File country



- ◆ In the former First to Invent system, **A** receives the patent because **A** invented first; however, in a First to File system **B** receives the patent because **B** filed the invention first.



- ◆ A receives the patent if A can show that B obtained the invention from A.

Laboratory Notebooks

- ◆ Serve to document critical dates
- ◆ Establish rights in derivation proceedings
- ◆ Establish exceptions to prior art rules
- ◆ Story of invention in litigation

Common Pitfalls

- ◆ If the inventor allows other people to know about the invention before a patent application is filed, the inventor may lose his/her patent rights.
- ◆ Do not disclose the invention without an executed confidentiality or non-disclosure agreement.
- ◆ General rule: No public disclosure until a patent application is filed.

Inventorship

- Determining who is an inventor is a legal determination
- The inventor must contribute to the conception of the invention
- Inventors are not the same as co-authors of a paper, students in a lab, or supervisors
- Wrong inventorship can invalidate a patent

Why Protect Your Inventions

- Showcase your technology
 - ◆ Use as an asset when looking for funding
 - ◆ Key factor to bring your innovation to the market
 - ◆ NJIT's Undergraduate Research and Innovation Workshop- protecting your product is a critical factor in obtaining funds for angel investors; prevents reverse engineering
- Block your competition, creates a Barrier to Entry
- Protect an area of research while you identify a product
- Licensing revenue
- Source of recognition for the inventor
- Stimulates innovation and economic growth by protecting investment

Disclosure Form

- ◆ Report your inventions via the NJIT Inventor Portal

<https://njit-ip.ttoportal.com/Login.aspx>

Trade Secrets

- Information that is not generally known or discernible and if kept confidential provides an economic advantage
- Must be subject to a reasonable degree of protection
 - Physical security, limited access to material, need to know
- Examples include recipes or formulas, business plans, customer lists, manufacturing processes
 - The formula for CocaCola (secret for more than 125 years)
 - The recipe for KFC

Trade Secrets Versus Patents

- Available for as long as the information remains confidential
 - Patent protection generally lasts about 20 years
- Could be reverse engineered or independently discovered
 - A reason to pursue patent protection
- Cannot be disclosed to the public
 - Information is disclosed in a patent application

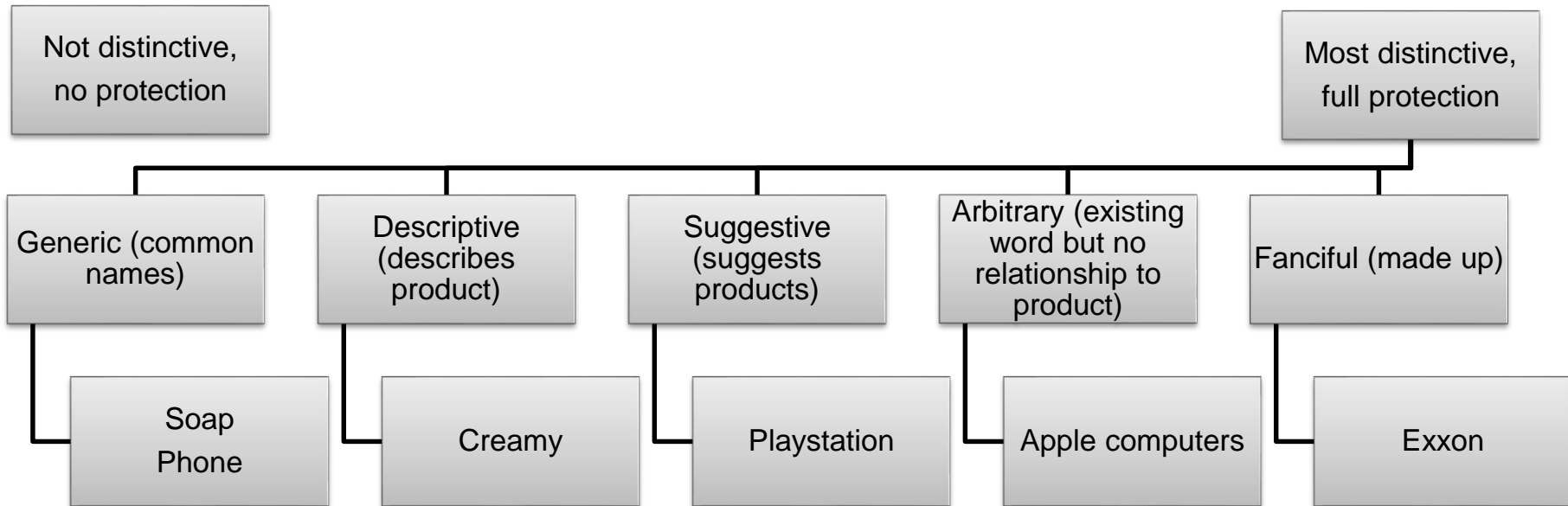
Trademarks

- Any word, name, symbol, design, sound, color, touch, smell, device



- Identify the source of the goods or services and distinguish those goods or services offered by others
- Assure consumers of the quality of the goods or services
- Trademarks are adjectives; not nouns or verbs
 - Ray-Ban sunglasses
- Trade name: company or business
 - Apple
- Trademark: identifies goods
 - iPhone

Selecting a Trademark



Trademark Rights

- Federal Registration: ®
- Common law rights exist upon use: TM or SM
- Could be indefinite as long as trademark does not become generic
- Advantages of Federal Registration
 - Evidence of validity and ownership
 - Nationwide
 - Right to sue in federal court
 - Incontestable after 5 years of continuous use
 - Damages for infringement

Copyright

- Protects original works of authorship (must be independently created by the author)
 - Literary
 - Musical
 - Artistic
- Exists upon fixation of work in any tangible medium
 - Considered fixed when the work is stored on some medium in which it can be perceived, reproduced, or otherwise communicated
 - No registration required

Copyright Rights

- What can you do with a copyright?
 - Reproduce
 - Derivative works
 - Distribute copies
 - Perform publicly
 - Display publicly
- Term
 - Generally life of author plus 70 years
 - If author is not a natural person, the term is 95 years from publication or 120 years from creation, whichever expires first

Copyright Registration

- Required to bring suit for infringement
- Statutory damages and attorney fees
- Actual or constructive notice

Overlapping IP Protection

- ◆ More than one form of IP protection may apply
- ◆ Patent
 - Design patent on the bottle shape
 - Utility patent on method of fortifying drinks with vitamins
- ◆ Trademark on bottle shape and Coke
- ◆ Copyright on advertising and promotion
- ◆ Trade Secret on the formula



Issues

- Contact us for any advice
 - IP@NJIT.edu
- For what types of IP protection does work quality?
- Who owns the IP?
 - Each IP can have a different owner
 - Review NJIT Patent Policy
 - Review your employment agreement
- Develop an overall strategy for IP from the start before the product is introduced



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