Obtaining a Patent:
Conditions for Patentability

CSE490T/590T

Conditions for Patentability

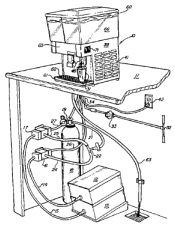
- Several distinct inquiries:
  - Is my invention useful – does it have utility?
  - Is my invention patent eligible subject matter?
  - Is my invention actually new? (Did someone else invent it first?)
  - Did I file my patent application on time?
  - Is my invention non-obvious?
  - Is my invention clearly defined?
  - Is my invention properly described/disclosed by the patent document
- The answer to each of these questions must be YES

Conditions: Utility

- Utility threshold is quite low
- Invention must be have some beneficial use and must be capable of use
- Examples
  - Perpetual motion machine
  - Juicy Whip machine
  - Chemical compounds

Juicy Whip v. Orange Bang

- US Patent No. 5,575,405



We find no basis in section 101 to hold that inventions can be ruled unpatentable for lack of utility simply because they have the capacity to fool some members of the public.

Conditions: Subject Matter

- Invention must be directed to exactly one class of patentable subject matter:
  - Process
  - Machine
  - Articles of manufacture
  - Composition of matter
- Exceptions
  - Laws of nature
  - Abstract ideas
  - Natural phenomena

Subject Matter

- Patent eligible? If so, what category applies:
  - A solar powered lawn mower
  - A waterproof breathable membrane
  - A recipe for cooking beans
  - The formula for Coca Cola
  - Chocolate milk
  - The quicksort algorithm
  - A program implementing above algorithm
  - A computer configured to perform quicksort

Conditions: Novelty

- Invention must be new
- An invention (as defined by a claim) is not new if each and every element of the claim is contained in a single prior art reference
- New verb: "read on"
  - If a claim "reads on" a prior art reference it is not novel
  - If a claim "reads on" some device (or process, etc.), then that device infringes the claim

Conditions: Novelty

- In the US, the first inventor gets the patent:
  - A person shall be entitled to a patent unless (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent. 35 USC 102(a)
- *Lesson: Record keeping is critical to prove invention date: emails, inventor notebooks, source code, etc.*

Novelty

Invention: 3/1/2011

Util. App 4/15/2011

Describes A, B, C, D

Claims A, B, C

What can the applicant do?

Ref. Dated 1/1/2011

Describes A, B, C

First to Invent

Invention: 1/1/2011

Util. App 4/15/2011

Describes A, B, C, D

Claims A, B, C

What can the applicant do?

Ref. Dated 4/1/2011

Describes A, B, C

Conditions: Not too late

- In the US, you have one year from public disclosure to file a patent:
  - A person shall be entitled to a patent unless (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States
- Even if you were the first to invent, you will lose your rights if you wait too long after the invention goes public

The One-Year Grace Period

Invention: 1/1/2010

Util. App 4/15/2011

Describes A, B, C, D

Claims A, B, C

Can the applicant claim A, B, C?

Ref. Dated 4/1/2010

Describes A, B, C

Printed Publications as Prior Art

- What is a printed publication? When a document becomes generally accessible:
  - Mailing date of journal
  - Indexing date of dissertation
  - Publication date of patent application
  - Electronic documents are printed publications (when they are generally accessible)!

Public Use

- What is a public use in this country?
  - Experimental use exception
  - A public use of a hidden invention (e.g., software) is still public use...
- *Lesson: Use non-disclosure agreements when beta-testing…*

On Sale

- What is a sale or offer for sale in this country?
  - Invention must be "ready for patenting ... and be subject of a commercial offer for sale"
  - Offer/Sale need not be public!
  - Offer to license patent rights is not "on sale"
- *Lesson: Don't offer for sale without filing first!*

Conditions: Non-obviousness

- Invention must be non-obvious to a PHOSITA (person having ordinary skill in the art) at the time of the invention
- Example: An apparatus comprising A, B, and C.
- Reference 1 describes a machine comprising A and B.
- Reference 2 describes C.
- Novel?
- Obvious?

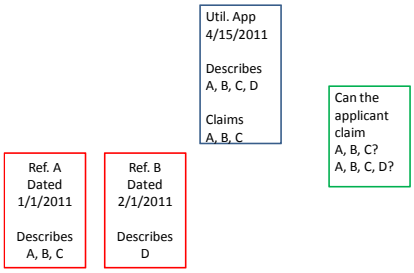
Obviousness Analysis

- Obviousness analysis is typically framed: would it have been obvious to modify the prior art (in some way) to reach the claimed invention
- Manner of modification:
  - Combining known elements to yield predictable results
  - Substituting elements to yield predictable results
  - Modifying one prior art reference with teachings from another
- Cannot use hindsight…

Non-obviousness Factors/Evidence

- Evidence of non-obviousness, in decreasing order of "effectiveness/weight"
  - Level of ordinary skill in the art: the higher the skill level, the more combinations/variations are obvious (everything was obvious to Einstein)
  - Skepticism of others
  - Long felt need
  - Prior failures
  - Unexpected results
  - Copying by others
  - Commercial success

Obviousness



The Specification

- The specification must describe the invention – to show "possession of the invention"
- The specification must enable one skilled in the art to make and use the invention, w/o undue experimentation
- The specification must set out the "best mode" of practicing the invention

Examples

- An invention that is described but not enabled:
  - Application describes and claims a perpetual motion machine
  - Application describes and claims a time travel machine
- An invention that is enabled but not described:
  - An application describes a genus of compounds and instructions for making species A, B, and C thereof; claims species D
  - An application describes a computer that uses a "memory" and describes RAM and ROM; claims a Flash memory

Patent Prosecution

- Switching gears to patent prosecution now…
- We'll revisit some of the above doctrines in the context of patent examination
- And we'll introduce the concept of priority

Enablement & W.D. In Examination

- The specification is "frozen" after filing, with the exception of the claims, which can and do morph during examination.
- Enablement and written description requirements limit applicant's ability to amend claims during examination
- *From a policy perspective, why is this a good thing?*

Amending Claims During Examination

- Typical examination:
  1. Application discloses A, B, C, and D
  2. Claim to "A device comprising: A, B, and C."
  3. Examiner rejects claim: Reference X shows a device comprising A, B, and C.
  4. Applicant narrows claim:
     - YES: "A device comprising: A, B, C, and D."
     - NO: "A device comprising: A, B, C, and E."
     - NO: "A device comprising: A, B, and C, wherein C is yellow."

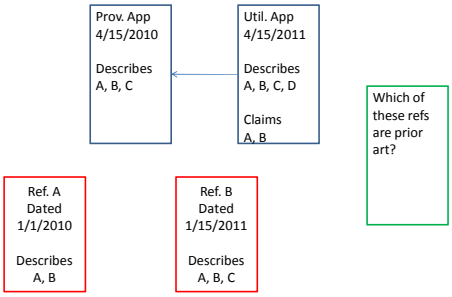
Examination

- You can freely change claims during examination to, *e.g.*, narrow claims to define the invention over the prior art
- But, claims can only be modified within the scope of the specification!
- *Lesson: make sure all variations and refinements are well disclosed, even if they are not initially claimed!*

The Provisional Application

- A provisional application is not really an application:
  - No claims required
  - It is just a placeholder that lasts for a year, no examination
  - Low cost ($110/220)
  - Useful to get idea on file quickly
- Once an application is filed, you are "patent pending," and free to disclose information that is covered by your filing
- You have one year to file a "regular" (non-provisional) application that claims priority to the provisional application

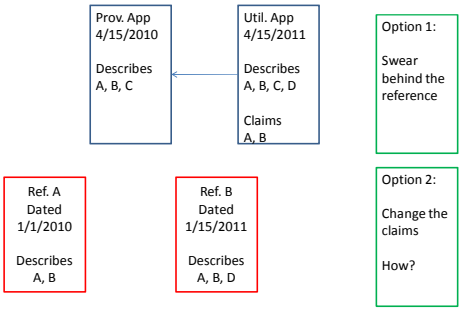
Priority



Provisional Pitfalls

- The same rules for written description and enablement apply to provisional patent applications
  - We can and do file PowerPoint presentations, brochures, technical manuals, etc.
  - These materials sometimes do not enable the invention!
- The fact that a provisional applications do not require a claim does not mean they should not have one!

Priority



International Considerations

- The US is first-to-invent, everyone else is first-to-file
- The US provides a one-year grace period, (almost) no other country provides a grace period – **public disclosure prior to filing will result in a loss of rights**
- *Lesson: If you hope to obtain rights in foreign countries, make sure you are on file before you disclose your invention*

Patents: Foreign Rights

- In general, you have one year from filing in country A to file in country B, provided both are signatories to the Paris Convention (most countries)
- It is painful and expensive to file in dozens of countries, so...
- The Patent Cooperation Treaty allows:
  - The filing of a "placeholder" application within 12 months of first filing
  - Then an 18 month grace period before entering foreign countries

Inventorship

- An inventor is one who conceived of the invention as defined by at least one claim
- Conception = formation in the mind of a definite and permanent idea of the complete and operative invention
- Invention is NOT reduction to practice
- Inventorship can and does change during patent prosecution (because the claims change)