Patents Without (too much) Toil

A Personal Journey Through the World of the Patent and Trademark Office

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Overview

- Intellectual Property
- Inventions and Patents
- The Patent Application and the Claims
- The FractaSketch Patent
- Timeline
- European Patents
- Conclusions

Intellectual Property

- Patent Law (flip-top can opener)
  - Gives offensive rights to protect inventions
- Trademark Law (Coca-Cola, the Mercedes Benz star)
  - Gives monopoly for use of symbols in marketing
- Copyright Law (copying books, works of art)
  - Gives offensive rights to protect original creations
- Trade Secret Law (biotech companies)
  - Must make big efforts to keep the secret, otherwise no rights
- Unfair Competition Law (Kodak's yellow film package)
  - Gives offensive rights to protect unfair copying

For software:

- Copyright is easy to get and lasts long but is much narrower than patent
- Trade secret is immediate but can be reverse-engineered
- Patent takes years to get: will software or algorithm be obsolete?

Life of an Invention

Rights

1994 1. Invention conceived but not yet documented

- No rights whatsoever

1995 2. Invention documented but patent application not yet filed

- Signed, dated, witnessed documentation gives valuable rights
- May be used as "trade secret": rights against those who steal it

1996 3. Patent Pending - Patent application filed but not yet issued

- Same rights as 2
- Takes 1 to 3 years (FractaSketch: 8/96 - 11/98)
- Can warn potential copiers that they may have to stop later

1998 4. In-force patent - Patent issued but hasn't yet expired

- Right to prosecute infringers (17-year period starts at issue date)
- Patent is "prior art" for others

2015 5. Expired patent

- Right to prosecute those who infringed during in-force period
- Patent is "prior art" for others

forever

What are Patents

Patent = The right to exclude others from making, using, or selling the invention "claimed" in the patent deed for 17 years

Three types of patents:

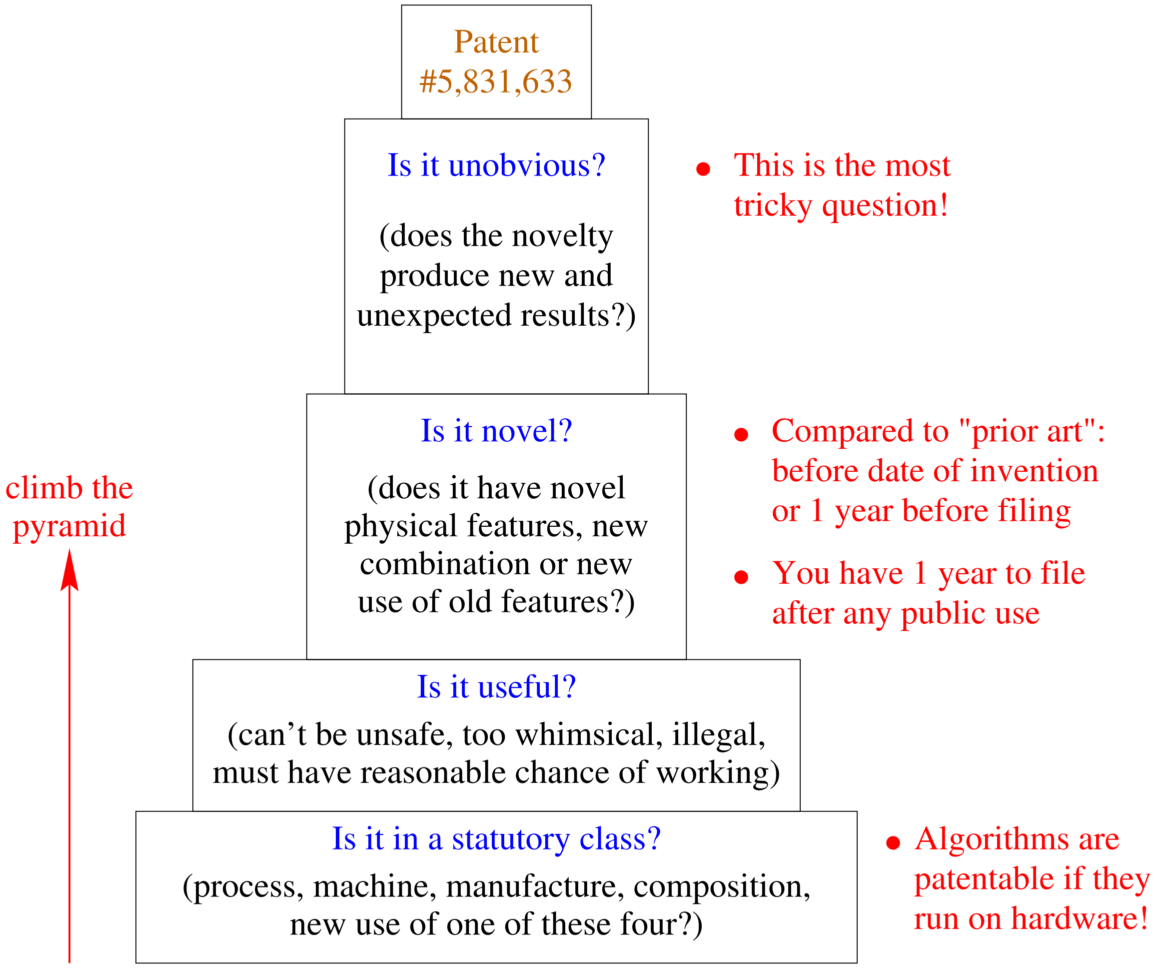
- Utility Patent
  - The most common kind!
  - Inventions that function in a unique manner to produce a utilitarian result
  - Velcro hook-and-loop fasteners, electronic circuits, new drugs, ...
  - Computer programs and algorithms can be patented provided they're associated with some hardware

- Design patent
  - Covers the unique, ornamental or visible shape or design
  - Even computer screen icons can be patented
  - If the shape is functional, then only a utility patent is proper! (jet plane with constricted waist for improved supersonic travel)

- Plant patent
  - Asexually or sexually reproducible plants

Patentability Pyramid

- Patent examiners formally ask the following questions to determine the patentability of your invention



The Patent Application

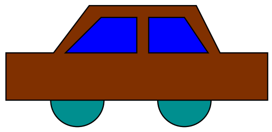
- A patent application is a document that follows precise rules of format and content. These rules are not complicated-you don’t need a lawyer!
- The document must:
  - Give enough information for someone "of ordinary skill in the art" to reconstruct the invention.
  - Discuss and criticize the "prior art" (previous relevant developments in the same area).
  - Give the "claims": precise sentence fragments that delimit exactly the nature of your invention.
- The document should be written clearly, without legalese and without formulas.

  > "If you can’t write your idea on the back of my calling card, you don’t have a clear conception of your idea."
  >
  > - theatrical producer David Belasco

- The claims are usually the hardest part to write. They’re also the most important: they define the legal limits of your patent.

An Example Claim

- I’ve just invented the automobile!
  How do I claim it?



A self-propelled vehicle, comprising:

a. a body carriage having rotatable wheels mounted thereunder for enabling said body carriage to roll along a surface,

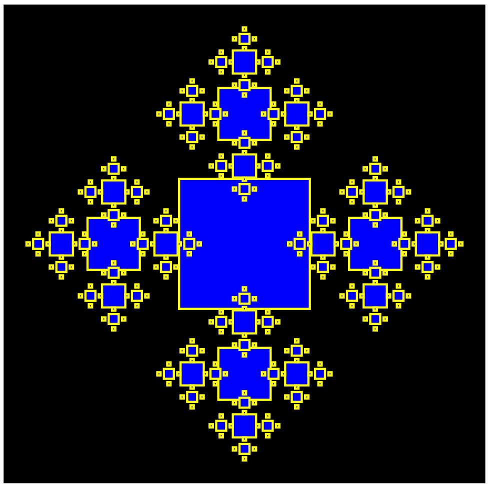
b. an engine mounted in said carriage for producing rotational energy, and

c. means for controllably coupling rotational energy from said engine to at least one of said wheels so as to propel said carriage along said surface.

- Many inventors first realize what their invention truly is when they write a claim for it.

"I have made this letter a little longer than usual because I lack the time to make it shorter."
- Blaise Pascal

The FractaSketch Patent



Claims:

– A method for specifying and drawing complex B & W designs

– A method for specifying and colorizing these designs that follows their structure

– A user interface to specify the design and its colorization by direct manipulation

Principal embodiment:

– FractaSketch 2.0: A Macintosh application that implements special cases of these claims

Claim 1 of FractaSketch

- Claims should be as broad as possible, while still being acceptable to the patent examiner.

- The original Claim 1 of FractaSketch was rejected because the examiner thought it was obvious:

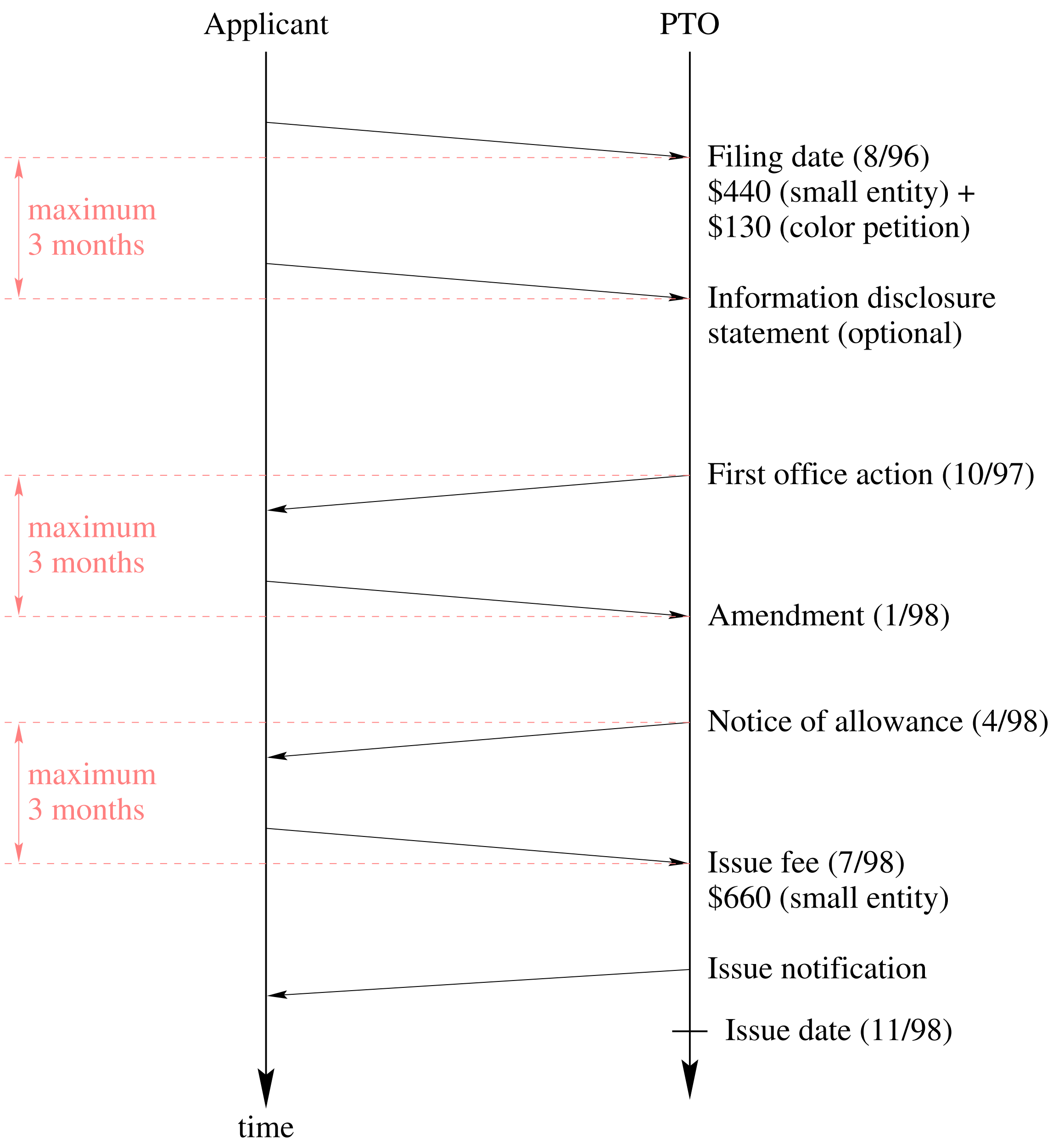
> 1. A method to draw a generated shape comprising:
> (a) drawing a template of said generated shape;
> (b) choosing a component of the drawing and a replacement template, both according to a predetermined choice function;
> (c) replacing said component by a transformed copy of said replacement template; and
> (d) repeating steps (b) and (c), together referred to as an iteration, until no further components are given by said choice function.

- My main purpose in the FractaSketch patent was to protect the colorization technique. However, I did not want to give up all rights on the black&white technique without a struggle. In my reply to the examiner's Office Action, I submitted the following new Claim 1:(added text in RED)

> 1. A method to draw a generated shape comprising:
> (a) drawing a template of said generated shape;
> (b) choosing a component of the drawing and a replacement template, both according to a predetermined choice function, where said choice function is used substantially to provide fine control over complexity, density, and texture of said drawing;
> (c) replacing said component by a transformed copy of said replacement template; and
> (d) repeating steps (b) and (c), together referred to as an iteration, until no further components are given by said choice function.

- This narrows the claim but made it sufficiently nonobvious for the examiner to accept it.

Timeline



- Then come the Maintenance Fees: I (3.0-3.5 years), II (7.0-7.5 years), III (11.0-11.5 years) to keep the patent in-force.

European Patents

- Paris Convention: (many, many countries)
    - If you file in one member jurisdiction, you have 1 year to file in any other member jurisdiction.
    - All applications will have the original filing date.

- European Patent Office (EPO): (14 countries)
    - One patent application suffices to cover all member countries.
    - EPO is member jurisdiction of Paris Convention.

Be Fruitful and Multiply!

- To write a patent, you need an idea, some money, and lots of patience
- Commercializing is the hard part:

- Where now for FractaSketch? The program exists and has made some (small) amount of money. The techniques are patented; we are looking to license them.
- Many thanks to the book:

  "Patent It Yourself", by David Pressman, Nolo Press

  Highly recommended to all "Pro Se" applicants