

Patents Without (too much) Toil

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

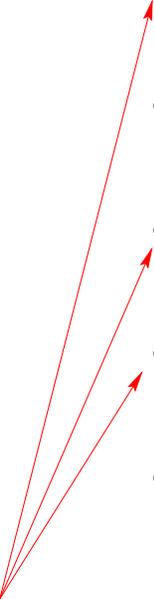
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Overview

- 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
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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

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- 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

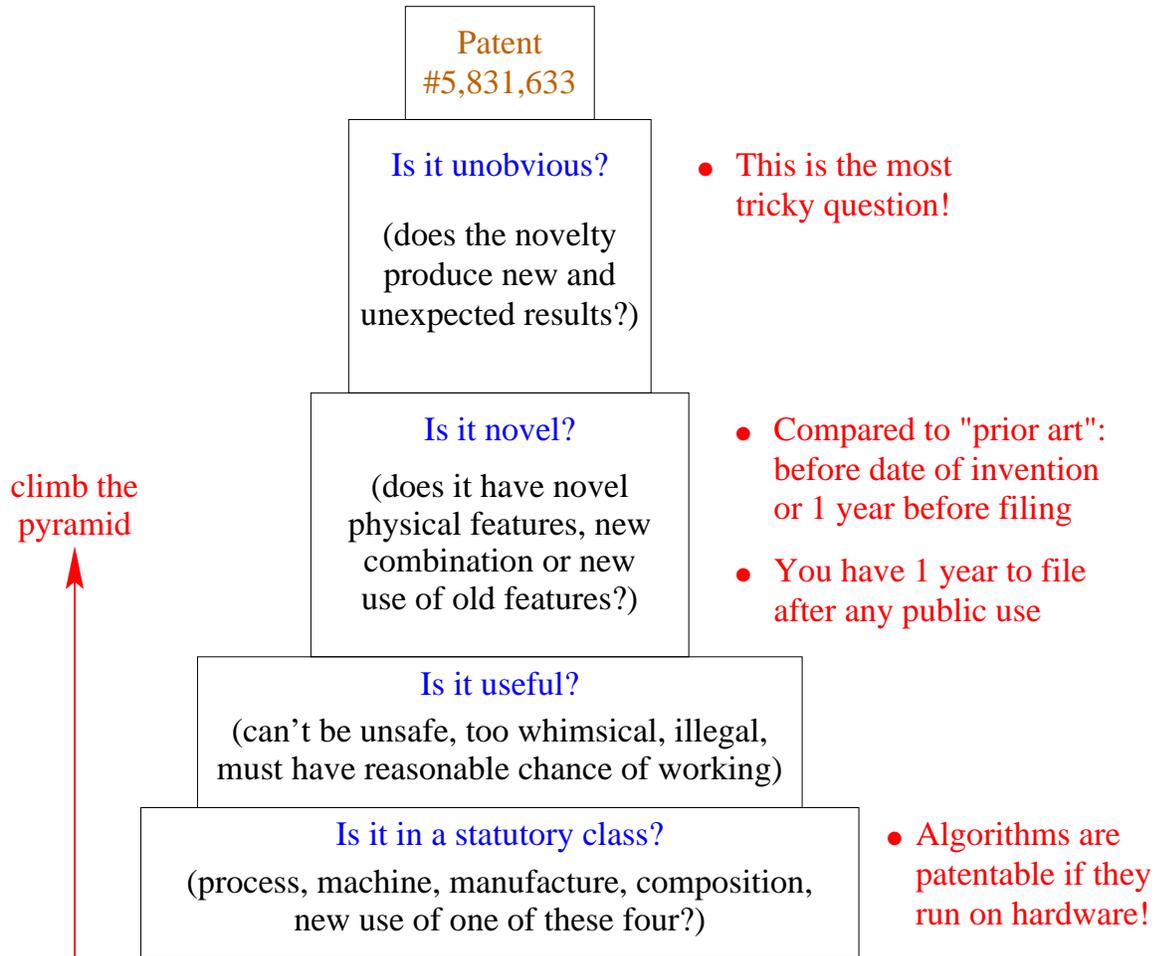
- Covers the unique, ornamental or visible shape or design
- Even computer screen icons can be patented
- If the shape is functional, then only a utility patent is proper!
(jet plane with constricted waist for improved supersonic travel)

- Plant patent

- Asexually or sexually reproducible plants

Patentability Pyramid

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



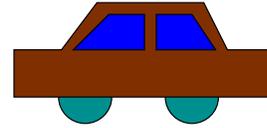
The Patent Application

- 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?



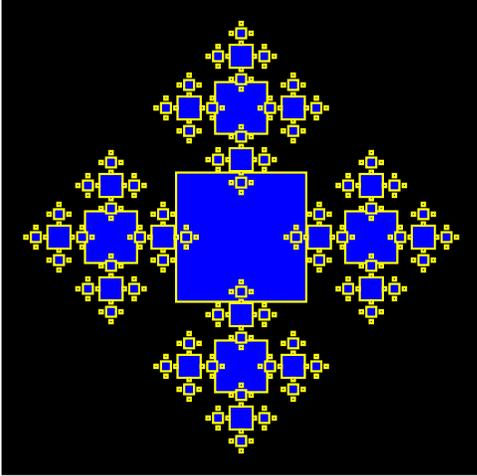
A self-propelled vehicle, comprising:

- 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:

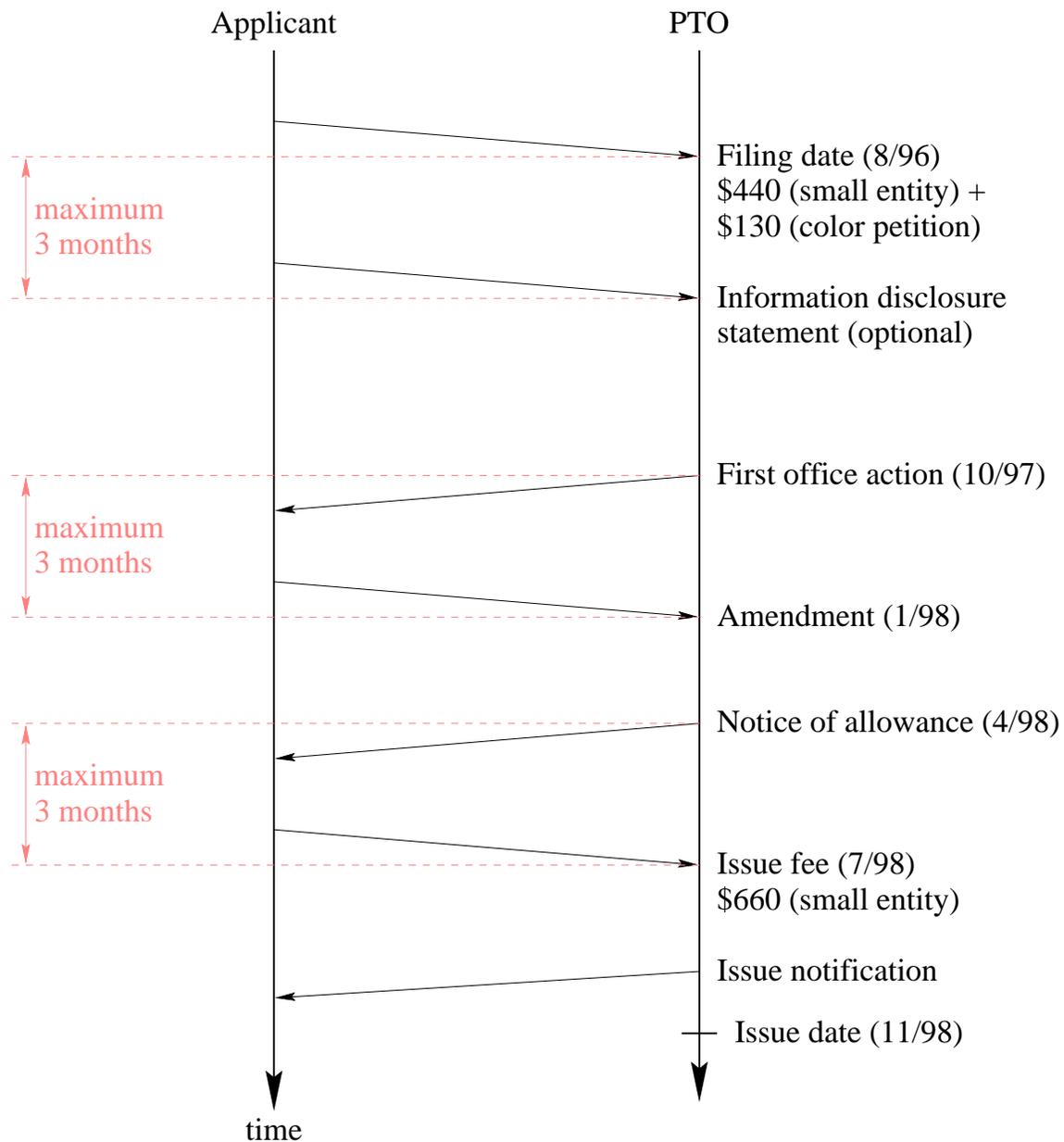
1. A method to draw a generated shape comprising:
(a) drawing a template of said generated shape;
(b) choosing a component of the drawing and a replacement template, both according to a predetermined choice function;
(c) replacing said component by a transformed copy of said replacement template; and
(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