

PATENT IT YOURSELF

by Patent Attorney
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Introduction to Patents and Other Intellectual Property

What is a Patent?



- It's a right granted by the government to an inventor
- It gives its owner the right to exclude others from making, using, or selling the invention “claimed” in the patent deed for approximately 17 to 18 years.
- It is a form of personal property and can be sold outright for a lump sum, or its owner can give anyone permission to use the invention covered (license it) in return for royalty payments.

The 3 Types of Patents

● UTILITY PATENT

- Covers inventions that function in a unique manner to produce a utilitarian result.
- New drugs, electronic circuits, software, semiconductor manufacturing process, new bacteria, newly discovered genes, new animals, and virtually anything under the sun that can be made by humans.
- Patent application must consist of detailed description telling how to make and use the invention, together with claims that define the invention, drawings of the invention, formal paperwork, etc.



The 3 Types of Patents

● Design Patent

- Covers the unique, ornamental, or visible shape or design of a non-natural object.
- The uniqueness of the shape must be purely ornamental or aesthetic; if it is functional, then only a utility patent is proper. A useful way to distinguish between a design and a utility invention is to ask, "Will removing or smoothing out the novel features substantially impair the function of the device?"
- The design patent application must consist primarily of drawings.

The 3 Types of Patents

- PLANT PATENT

- Covers asexually reproducible plants (through the use of graft and cutting), such as flowers..

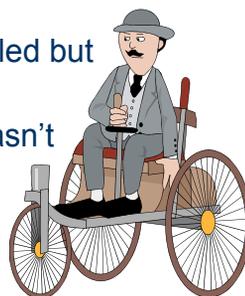
How Long Do Patent Rights Last?

- Utility and Plant Patents expire 20 years from the date of filing.
- Every patent is guaranteed an in-force period of at least 17 years.
- From the date of filing to issuance (termed “pendency period”) the inventor has no rights.



The Life of an Invention

1. Invention conceived but Not Yet Documented
2. Invention Documented but Patent Application Not Yet Filed.
3. Patent Pending-Patent Application Filed but Not Yet Issued
4. In-Force Patent-Patent Issued but Hasn't Yet Expired
5. Patent Expired



Patent Fees

Assuming that patent attorneys or agents, and not including costs of drawings, typing, photocopying, and postage, the only fees one would have to pay are government fees.

The amounts of these fees are listed on the PTO Fee Schedule in Appendix 4.

The large-entity fees are generally paid by corporations, while the small-entity fees are paid by independent inventors.

Patent Fees

- ❖ Utility Patent Application Filing Fee = \$750/375
- ❖ Utility Application Issue Fee = \$1,300/650
- ❖ Maintenance Fee 1 (3 years) = \$890/445
- ❖ Maintenance Fee 2 (7 years) = \$2,050/1,025
- ❖ Maintenance Fee 3 (11 years) = \$3,150/1,575



Patent Fees

- ❖ Design Patent Application Filing Fee = \$330/165
- ❖ Design Application Issue Fee = \$470/235
- ❖ No Maintenance Fees for Design Patents

- ❖ Plant Patent Application Filing Fee = \$520/260
- ❖ Plant Application Issue Fee = \$630/315
- ❖ No Maintenance Fees for Plant Patents

How Patent Rights Can Be Lost

- Maintenance fees aren't paid
- Proved that the patent fails adequately to teach how to make and use the invention, or improperly describes the invention
- One or more earlier patents or publications are uncovered which show that the invention of the patent wasn't new or wasn't different enough.
- Patent owner engages in certain types of illegal conduct.
- The patent applicant committed fraud on the Patent and Trademark Office by failing to disclose material information.

What Cannot Be Patented

- You can't patent any process that can be performed mentally.
- Same applies to abstract ideas, inventions that aren't reducible to hardware form, or inventions that don't involve the manipulation of hardware or symbols to produce a useful result.

Intellectual Property the BIG picture



Intellectual Property refers to any product of the human mind or intellect, such as an idea, invention, expression, unique name, business method, industrial process, or chemical formula which has some value in the marketplace and that ultimately can be reduced to a tangible form, such as a computer, a chemical, a software-based invention, a gadget, a process, etc.

Intellectual Property the BIG picture

Intellectual property law has fallen into several distinct categories, according to the type of property involved:

- **PATENT LAW** deals with the protection of the mental concepts or creations known as inventions (utility, design, and plant).
- **TRADEMARK LAW** deals with the degree to which the owner of a symbol used in marketing goods or services will be afforded a monopoly over the use of the symbol (*Coke*).
- **COPYRIGHT LAW** grants authors, composers, programmers, artists, and the like the right to prevent others from copying or using their original expression without permission and to recover damages from those who do.

Intellectual Property the BIG picture

- **TRADE SECRET LAW** deals with the acquisition of offensive rights on private knowledge that gives the owner a competitive business advantage (Coca Cola recipe).
- **UNFAIR COMPETITION LAW** affords offensive rights to owners of non-functional mental creations that do not fall within the rights offered by the four types of law just discussed (Kodak's yellow film package, Duracell's copper-top).

TRADEMARKS™



- A trademark is any word or other symbol that is consistently attached to, or forms part of, a product to identify and distinguish it from others in the marketplace.
- A clever trademark can be used with an invention to provide it with a unique aspect in the marketplace so that purchasers will tend to buy the trademarked product over a generic one.



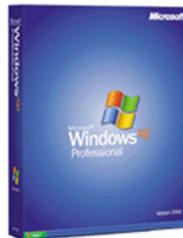
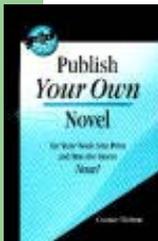
TRADEMARKS™

How Offensive Rights to Trademarks are Acquired

- a. Preserve Your Mark as a Trade Secret Until You Use it.
- b. Make Sure the Mark Isn't Generic or Descriptive.
- c. Make Sure Your Mark Isn't Already in Use.
- d. Use or Apply to Register Your Trademark.
- e. Use and Register Your Trademark.
- f. Use Your Trademark Properly.

COPYRIGHT ©

- A copyright is another offensive right given by law, this time to an author, artist, composer, or programmer, to exclude others from publishing or copying literary, dramatic, musical, artistic, or software works.



COPYRIGHT ©

Areas where Patent and Copyright Law Overlap:

- ❖ Computer Software – Why patent software opposed to simply registering a copyright on it?
 - ❖ 20 years of offensive rights, but
 - ❖ 2 years and \$\$\$ to obtain a patent
- ❖ Copyright compared to Design Patents – if the work is purely artistic, a design patent is improper
 - ❖ Design where the shape is inseparable from the object



Trade Secrets

It is any information, design, device, process, composition, technique or formula that is not known generally and that affords its owner a competitive business advantage.

Items considered as Trade Secrets:

- Chemical Formulas (\$\$ paper)
- Chemical Recipes (formulas & process)
- “Magic-type” Trade Secrets
- Manufacturing Process
- Business-information Type Trade Secrets

Relationship of Patents to Trade Secrets

- If your invention is maintained as a trade secret and you put it into commercial use, you must file a patent application within one year of the date the invention was used commercially.
- For the first 18 months of the application period, it is possible to apply for a patent and still maintain the underlying information as a trade secret.
- If you don't file a Nonpublication Request (NPR), your application will be printed verbatim after 18 months and all of your secret "know-how" becomes public.
- If your patent is refused, the competition will still not know about your invention and any competitive advantage.

Advantages of Trade Secrets Protection

- The possibility of perpetual protection; beyond the patent's 20 years, trade secrets will last indefinitely if not discovered.
- Can be maintained without the cost or effort involved in patenting.
- No need to disclose details of your invention to the public for Trade Secret Rights.
- No one can look at your Trade Secret and try to design around it.
- Can be established without naming any inventors.
- Obtained immediately, whereas patents takes a couple of years to obtain.



Disadvantages of Trade Secrets Protection

- They can't be maintained when the public is able to discover the information by inspecting, dissecting, or analyzing the product (reverse engineering).
- Strict precautions must always be taken and continually enforced to maintain the confidentiality of the trade secret.
- More difficult to sue on and enforce on than a patent; trade secrets must be proven to exist to the court before the suit may proceed.

UNFAIR COMPETITION

- The area of 'unfair competition' is the most difficult to explain.
- Can be used to cover such items as advertising symbols, methods of packaging, slogans, business names, trade dress.
- When the characteristics of a product or service aren't distinctive or defined enough to be considered a trademark.

If your Creation Relates to:	Acquire Offensive Rights By:
<p><i>The functional aspect of any machine, article composition, or process or new use of any of the foregoing-such as circuits, algorithms that affect some process or hardware, gadgets, business methods, apparatus, machinery, tools, devices, implements, chemical compositions, and industrial or other processes or techniques that one could discover from final product, toys, game apparatus, semiconductor devices, scientific apparatus, abrasives, hardware, plumbing, parts, alloys, laminates, protective coatings, drugs, sporting goods, kitchen implements, locks and safes, timekeeping apparatus, cleaning implements, filters refrigeration apparatus, environmental control apparatus, medical apparatus, new non-human animals, new bacteria, plant (sexually or asexually reproducible), or anything else made by humans where the novel aspects have a functional purpose.</i></p>	<p><u>UTILITY PATENT</u></p>

If your Creation Relates to:	Acquire Offensive Rights By:
<p><i>Any new design for any tangible thing where the design is nonfunctional and is part of and not removable from the thing, such as a bottle, a computer case, jewelry, a type of material weave, a tire tread design, a building or other structure, any article, item of apparel, furniture, tool, computer screen icon, etc.</i></p>	<p><u>Design Patent</u></p>
<p><i>Any asexually reproduced plant.</i></p>	<p><u>Plant Patent</u></p>

If your Creation Relates to:	Acquire Offensive Rights By:
<p><i>Any symbol, sign, word, sound, design, device, shape, smell, mark, etc., used as a brand name (trademark), service mark, certification mark, or collective mark, such as "AjaxTM tools." (The symbol cannot be generic or descriptive – e.g. "electric fork.")</i></p>	<p><u>Using it as a trademark with "TM" or "SM" superscript and then registering it in state and/or federal trademark offices.</u></p>
<p><i>Any book, poem, speech, recording, computer program, work of art (statue, painting, cartoon, label), musical work, dramatic work, pantomime and choreographic work, photograph, graphic work, motion picture, videotape, map, architectural drawing, artistic jewelry, gameboard, gameboard box and game instructions, etc.</i></p>	<p><u>Placing a correct copyright notice on the work, e.g., "© 1991 M. Smith"; apply for copyright registration, preferably within three months of publication.</u></p>

If your Creation Relates to:	Acquire Offensive Rights By:
<p><i>Any information whatever that isn't generally known that will give a business advantage or is commercially useful, such as formulae, ideas, techniques, know-how, designs, materials, processes, etc.</i></p>	<p><u>Identifying it as proprietary information or a trade secret, or put it on an invention-disclosure-type form and limit its dissemination using appropriate means.</u></p>
<p><i>Any distinctive design, slogan, title, shape, color, trade dress, package, business layout, etc.</i></p>	<p><u>Using it publicly as much as possible, in advertising, etc., so as to establish a "secondary meaning" to enable you to win an unfair competition lawsuit.</u></p>

The Science and Magic of Inventing and Documentation

What can small inventor do?

FACT:

- 73% of all inventions that have started new industries have come from individual inventors.
- “Everything that can be invented has been invented” (U.S. Patent Office Director urging President to abolish the Office in 1899)

Invention

- Is anything, process, or idea that isn't generally and currently known.
 - Must have some use or value to society.
 - Must be generally unknown anywhere in the world, and it must have been thought up or discovered by you or someone else.
- * This eliminates fantasies and wishes.

Inventing

- Inventing by Problem Recognition and Solution
 - Recognizing a problem & fashion a solution.
- Inventing by Magic (Accident and Flash of Genius)

Making Ramifications of Your Invention

1. Write down the problem and solution involved.
 2. Try to make it cheaper, faster, bigger or smaller, etc.
- * Make sure you record in writing any ramifications you do come up with.

Solving Creativity Problems

- Frame It differently
- Use Your Right Brain
- Let Go of Assumptions
- Meditation
- Dreams
- Computerize Creating

Solving Creativity Problems (cont)

- The Hot Tub Method
- Unstructured Fanaticism
- Group Brainstorming
- Increase Self-Confidence
- 20 Questions
- Idea Tools

Contact Other Inventors

- Minnesota Inventors congress
<http://www.invent1.org>
- Patent Café <http://www.patentcafe.com>
- IPC <http://www.heckel.org>
- Inventor's Digest Online
<http://www.inventorsdigest.com>

Beware of the Novice Inventor's “PGL Syndrome”

- Paranoia
- Greed/Overestimation
- Laziness

Documentation

Documents are Vital to the Invention Process

1. Good Engineering Practice
2. Psychological Stimulus
3. Analyzation Stimulus

Documentation Is Vital to Prove Invention

1. In Case of an Interference
2. Proof in Case of Theft
3. Proof in Case of Confusion of Inventorship
4. Antedate Reference
5. Supporting Tax Deductions
6. Avoidance of Ownership Disputes

Record the Building and Testing of Your Invention

1. Keep Good Records of Building and Testing Activity
2. Keep Your Building and Testing Activity Confidential

Inventor's Commandment #2

- To invent successfully, be aware of problems you encounter. Also, take the time to study and investigate the practicality of new phenomena that occur by accident or flash of insight. Persevere with any development you believe has commercial potential.

Inventor's Commandment #3

- After conceiving of an invention, you shouldn't proceed to develop, build, or test it, or reveal it to outsiders, until (1) make a clear description of your conception (using ink), (2) sign and date the same, and (3) have this document signed and dated by two trustworthy people who have "witnessed and understood" your creation.

Inventor's Commandment #4

- (1) Try to build and test your invention (if at all possible) as soon as you can, (2) keep full and true written, signed, and dated records of all the efforts, correspondence, and receipts concerning your invention, especially if you build and test it, and (3) have two others sign and date that they have "witnessed and understood" your building and testing.

Recording and Disclosing

- Notebook
- Invention Disclosure
- Disclosure Document Program
- Provisional Patent Application
- Post Office Patent

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Notebook

- Use a lab notebook
 - Provides evidence if inventorship is questioned
 - Should be permanently bound with numbered pages
 - Date, sign, and witness often
- Use notebook as technical journal
 - Include technical notes, ideas, observations
 - Be concise, clear, understandable
 - Use technical sketches liberally
 - Write in pen, noting mistakes

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Notebook 2

- Make the notebook easy to read
 - Use headings: title, purpose, description, conclusions, advantages, prior art references
 - Avoid unnecessary, ungrounded opinions
 - Make references between related entries
 - Attach large articles
 - Refer to attachments in print
 - Label, sign, date, witness attachments

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Notebook 3

- Use reliable witnesses
 - Should be impartial and competent
 - Should witness what is recorded, not signature
 - Notary is unnecessary
 - Ensure confidentiality
 - Use two witnesses if possible
- Keep notebook for proof of invention

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Invention Disclosure

- Use when notebook is inconvenient
- Is a complete record of invention
 - Title
 - Purpose
 - Advantages
 - Description
 - Features
- More formal than a journal
- Soft copy is insufficient

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Disclosure Document Program

- Instead of witnesses, send Invention Disclosure to PTO
- Must prepare papers, but no need to use witnesses
- Not a substitute for a patent application or building and testing
- Not recommended
 - Costs money
 - Witnesses are equally good or better
- Beware of scams

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Provisional Patent Application

- Short version of regular patent application
 - Detailed description of how to make and use invention
 - Drawings of how to make and use invention
 - Substitution for building and testing
- File as evidence of invention; file regular patent application within one year
- Is not a regular patent application
- Does not result in a patent
- Unread unless invention is challenged

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Provisional Patent Application

- Advantages
 - More time
 - building and testing
 - study market
 - raise money
 - +1 year patent
 - Witnesses not needed
 - Solid proof
 - “Patent pending”
- Disadvantages
 - More cost
 - More time
 - Incompatible with design patents
 - Details are necessary
 - RPA must be filed within a year
 - May encourage apathy

Source: <http://www.bpmlegal.com/provapp.html>

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Provisional Patent Application

- 5 steps in preparing a PPA
 - Prepare drawings
 - Prepare detailed description of invention structure and operation
 - Prepare cover letter and fee
 - Attach payment and postcard to PPA package
 - Mail papers to PTO
- Foreign filing
 - recognized by members of Paris Convention
 - unrecognized by non-members of Paris Convention

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Patentability versus Commercial Viability

- Is it likely to sell?
 - Evaluate for commercial potential
 - Factors affecting the marketability of your invention
- Is it patentable?
 - Make a patentability search

Legal Requirements for a Utility Patent

- Is it in a statutory class?
 - Five classes established by Congress
- Is it useful?
- Does it have any novelty?
- Is it unobvious?

Req. #1: The Statutory Classes

- Processes
 - Conventional Processes
 - Software Processes
 - Internet Business Methods
- Machines
 - Conventional Machines
 - Software Machines
- Manufactures
- Compositions of Matter
- New Uses of Any of the Above

Req. #2: Utility

- Unsafe New Drugs
- Whimsical Devices
- Inventions Useful Only for Illegal Purposes
- Immoral Inventions
- Non-Operable Inventions
- Nuclear Weapons
- Theoretical Phenomena
- Aesthetic Purpose

Req. #3: Novelty

- **Prior Art**
 - What Is Prior Art?
 - Date of Your Invention
 - The One-Year Rule
 - Specifics of Prior Art
 - Prior Printed Publications Anywhere
 - U.S. Patents Filed by Others Prior to Your Invention's Conception
 - Prior Publicly Available Knowledge or Use of the Invention in the U.S.
 - Your Prior Foreign Patents
 - Prior U.S. Inventor
 - Prior Sale or On-Sale Status in the U.S.
- **Any Physical Difference Will Satisfy**
 - Physical Differences
 - New Combinations
 - New Use

Req. #4: Unobviousness

- Unobvious to Whom?
- What Does “Obvious” Mean?
- Examples:
 - Obvious: Replacing vacuum tube with a transistor
 - Unobvious: Using aspirin as a growth stimulant

Req. #4: Unobviousness (cont.)

- Secondary Factors in Determining Unobviousness
 - Previous failure of others
 - Solves an unrecognized problem
 - Solves an insoluble problem
 - Commercial success
 - Crowded art
 - Omission of element
 - Unsuggested modification
 - Unappreciated advantage
 - Solves prior inoperability
 - Successful implementation of ancient idea where others failed
 - Solution of long-felt need
 - Contrary to prior art's teaching

Req. #4: Unobviousness (cont.)

- **Secondary Factors in Determining Unobviousness of Combination Inventions**

- Synergism ($2 + 2 = 5$)
- Combination unsuggested
- Impossible to combine
- Different combination
- Prior-art references would not operate in combination
- Over three prior-art references necessary to show your invention
- References teach away from combining
- Awkward, involved combination
- References from a different field

Patent Search

Reasons to Patent Search

- A small amount of work now may prevent a huge waste of time
- To give you a Feel for the Art
- To avoid having to draw objects previously drawn in other patents
- Information about Operability & Design
- Estimate Financial Gain through the failures of others

[Continued]

- Familiarize yourself with the prior art, and focus on the differences
- Learn your inventions “Novel” features
- Searches aid in selling a product to skeptical companies
- To find out “what you’ve really invented”
- To make your patent stronger
- To get your Patent examined ahead of turn

When NOT to search

- You're dealing in a new or arcane field
- A previous search has covered a new search you might perform

Ways to search for yourself

- PTO in Arlington, Virginia (best place)
- Local Patent and Trademark Depository Library
- If new technology, computer search

Useful Websites

PTO	www.uspto.gov
Delphion	www.delphion.com
MicroPatent	www.micropatent.com
Patent Miner	www.patentminer.com
LexPat	www.lexis-nexis.com
QPAT	www.qpat.com
Alternatiff	www.alternatiff.com

Paying someone to search

- Lay Patent Searchers
- Patent Agents
- Patent Attorneys

Preparing your Searcher

- Send a clear and complete description of your invention with easily understandable drawings
- Blank out all dates. This makes it difficult for potential invention thieves
- If using a layperson, ask them to sign a non-disclosure agreement form

How to do a search

1. Articulate the nature and essence of your invention, using as many terms as you can think of
2. Find the relevant classifications for your invention
3. Note relevant prior art under your classification
4. Review the prior art to see whether it renders your invention “obvious”

Finding the proper classification

Searcher's Tools:

- Index to the U.S. Patents Classification
- Manual of Classification
- Classification Definitions

Computer Searching

- Not recommended to replace a manual search if trying to patent low-tech devices
- Most basic computer search systems don't show the drawings of any prior patents
- Most computer search systems do not use PTO classification. Instead, it works like a search engine

Evaluating a Patent Attorney

- All patent agents and attorney's are listed in *Attorneys and Agents Registered to Practice Before the U.S. Patent and Trademark Office (A&ARTP)*
- Find one in the Washington area, not local
- Use personal referrals, if possible
- Local inventors' organization
- Ask about undergrad degree. Applicable?