

# Intellectual Property and Entrepreneurship



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George Jakobsche

For additional information, see accompanying documents "IP Terms Glossary"  
and "Patent Basics"

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WINNING INTELLECTUAL PROPERTY

# Intellectual Property (IP)

★ **Patent, Copyright, Trademark, Trade Secret**

★ **Corporate asset**

- Need a long-term IP strategy
- Use to meet business objectives
- Need genuine buy-in from senior management
- Make selective investments in IP
  - Develop in-house*
  - Acquire outright*
  - License in as needed*
- Requires ongoing review and management
  - Patent Committee*

# **IP: A tool for achieving business goals**

- ★ **Attract investment, increase share-holder value**
- ★ **Provide market exclusivity, prevent second-sourcing, provide first-mover advantage**
- ★ **Generate royalty, directly to the bottom line**
- ★ **Recognize key contributors**
- ★ **Deter suits by others**
- ★ **Cross-license**
- ★ **Form/join license alliance, ex. MPEG**
- ★ **Provide other leverage, ex. DEC v. Intel**

# Trademark / Servicemark

**Protects: Mark that identifies source of good or service**

**Requirement: Distinctive (not descriptive)**

**Procedure: Examination w/r/t formalities & likelihood of confusion w/ prior marks**

**Duration: While used in trade**

**Marking: TM, SM or ® (optional)**

**Work-around: Not confusingly similar**

**Cost: \$**

# Copyright

**Protects: Expression of an idea**

**Requirement: Original (not necessarily novel)**

**Procedure: Registration (optional)**

**Duration: Author's life + 70; certain works:  
lesser of Publication + 95 or Creation + 120**

**Marking: Copyright ... or © ...**

**Work-around: Independent authorship, fair  
use**

**Cost: ¢**

# Trade Secret

**Protects: Confidential information (data, formula, process, customer list, etc.)**

**Requirements: Economic advantage + keep secret**

**Procedure: (none)**

**Duration: While requirements met**

**Marking: Confidential ... (optional)**

**Work-around: Independent development; reverse engineering**

**Cost: ¢**

# Patent

**Protects: Invention (apparatus, method, composition of matter)**

**Requirements: New, useful, non-obvious**

**Procedure: Examination w/r/t prior art**

**Duration: 20 years from filing**

**Marking: Patent or Pat. + patent number (required)**

**Work-around: Avoid claim element(s)**

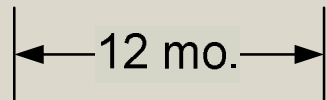
**Cost: \$\$\$**

# Invention

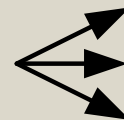
- ★ **An apparatus, method or composition of matter**
- ★ **Defined (“claimed”) in a patent application as:**
  - A combination of interconnected elements or
  - A combination of steps to be performed
- ★ **Examples:**
  - Electronics, software, mechanics, image processing
- ★ **Patentability depends on novelty and non-obviousness of the structure, not the function, of the combination**
- ★ **A patent application must teach how to make and use the invention**
- ★ **Infringement: To make, use, sell, offer to sell or import a device that includes all elements recited in a claim, or a method that actually performs all steps recited in a claim**

# Patent Timeline

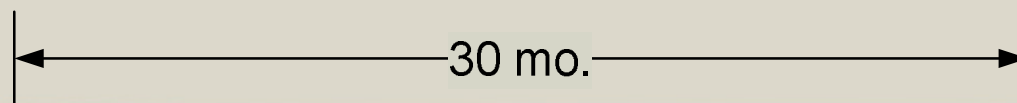
- Provisional patent application (optional)
- Foreign priority patent application (optional)



- US non-provisional (“regular”) patent application
- Foreign patent application
- International (PCT) patent application

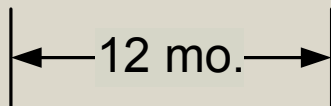


- National phase applications in selected countries

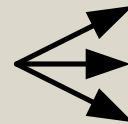


# Patent Timeline

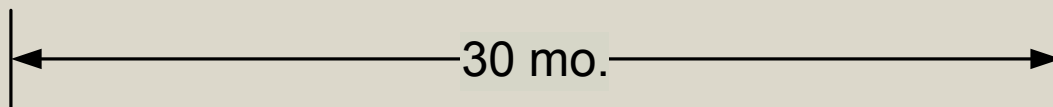
- US non-provisional patent application



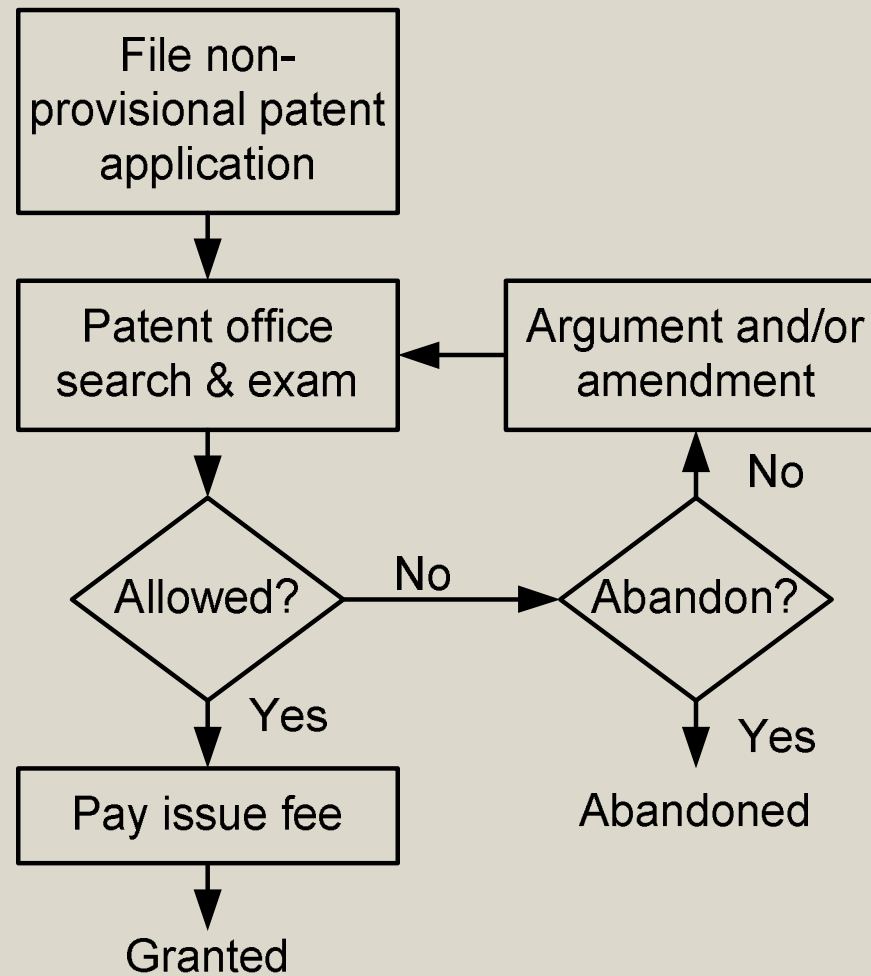
- Foreign patent application
- International (PCT) patent application



- National phase applications in selected countries



# Patent Prosecution



# Intellectual Property and Entrepreneurship



George Jakobsche  
Sunstein Kann Murphy & Timbers LLP  
125 Summer Street, Boston, MA 02110  
[GJakobsche@SunsteinLaw.com](mailto:GJakobsche@SunsteinLaw.com)  
617-443-9292  
[www.sunsteinlaw.com](http://www.sunsteinlaw.com)

**SUNSTEIN**  
SUNSTEIN KANN MURPHY & TIMBERS LLP

WINNING INTELLECTUAL PROPERTY

## Glossary of Selected Intellectual Property Terms<sup>12</sup>

Intellectual property (IP) – An intangible property (i.e., similar to stocks) based on a discovery or a creative idea or expression of a human mind; typically has commercial value. (See: patent, copyright, trademark and trade secret).

Intellectual property right (IPR) – A right to exclude others from intellectual property; for patents, a right to exclude others from making, using, selling, offering to sell or importing a patented invention; for trademarks, a right to exclude others from using confusingly similar marks in the sale of goods or services; for copyrights, unauthorized use of a protected work that violates one of the copyright owner’s exclusive rights.

Law of nature – An inherent relationship between or among physical quantities, such as  $F=ma$ ; not protectable as such; however, apparatus or methods of using a law of nature may be patentable.

Idea – A mental concept; not protectable as such; however, an *invention* based on the idea may be patented and an *expression* of an idea may be copyrighted.

Trade secret – Information, formula, practice, process, design, instrument, pattern or compilation of information that is not generally known or reasonably ascertainable, by which a business can obtain an economic advantage over competitors or customers who do not have the trade secret, and where the business takes steps to maintain the trade secret confidential. Sometimes referred to as “confidential information.”

Copyright – A set of exclusive rights (such as copying and displaying publicly), with respect to a “work of authorship” fixed in a tangible medium of expression, such as a story, painting, building (architecture), song, movie or computer source code. Unlike patents and trademarks, a copyright is obtained automatically the moment the work is fixed in a tangible medium, including storage in a computer.

Trademark – A mark, word, symbol, design, color, smell, etc. that indicates a source of a good; often also used to mean servicemark.

Servicemark – Same as a trademark, except to indicates a source of a service (see

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<sup>1</sup> This material has been prepared by Sunstein Kann Murphy & Timbers LLP for informational purposes only and is not legal advice. Consult with an attorney for legal advice pertinent to your circumstances before relying on any information contained herein or obtained from any other source. Transmission of this information is not intended to create, and its receipt does not constitute, an attorney-client relationship. This material may be considered advertising under the rules of the Supreme Judicial Court of Massachusetts. This information is subject to change as a result of legislative changes, court rulings, agency interpretations, etc. June 2, 2011.

<sup>2</sup> Glossary entries are organized along a continuum, from broad concepts to progressively narrower and more specific topics. The glossary is structured as a table. To alphabetize the entries, place cursor at top of first glossary entry; when cursor becomes a down arrow, click to select the entire table, and then click Table → Sort...

“trademark”).

Patent (utility) – IP that covers an invention that has practical application, i.e., an apparatus, method or composition of matter (i.e., a chemical) that is new, useful and not obvious.

Patent (design) – IP that covers an ornamental industrial design (not the underlying apparatus, method or composition of matter) that is new, not obvious and ornamental.

Patent (plant) – IP that covers certain types of new and distinct plants (not discussed in detail here).

United States Patent and Trademark Office (“US PTO”) – A Federal agency for granting US patents and registering trademarks, fulfilling mandates of the US Constitution, Article I, Section 8, Clause 8 (“to promote the progress of science and the useful arts, by securing for limited times to ... inventors the exclusive right to their ... discoveries”) and Article I, Section 8, Clause 3 (the “Commerce Clause”); part of the Department of Commerce; [www.uspto.gov](http://www.uspto.gov).

United States Copyright Office – Part of the Library of Congress ([www.loc.gov](http://www.loc.gov)); among other things, registers copyrighted works in support of the US Constitution, Article I, Section 8, Clause 8 (“to promote the progress of science and the useful arts, by securing for limited times to authors ... the exclusive right to their ... writings”); [www.copyright.gov](http://www.copyright.gov).

Provisional patent application – A patent application that: expires one year from filing; can not issue as a patent; but whose filing date may be used as an effective filing date by a subsequent non-provisional patent application that is filed before the provisional application expires and that claims subject matter disclosed in the provisional application.

Non-provisional patent application – A patent application that may issue as a patent, if the claimed subject matter is new, useful and not obvious.

Continuation patent application – A patent application that is filed after an earlier (“ancestor”) patent application and that contains no new teachings beyond the contents of the parent, but that is treated (with respect to prior art) as though the continuation application had been filed on the same day as the ancestor application (known as a “priority date”).

Continuation-in-part patent application (“CIP”) – A continuation patent application that *does include* new matter, i.e., some teaching beyond that of the ancestor application; treated as having two different filing dates, i.e., the priority date (for the earlier-disclosed matter) and the actual filing date of the CIP (for the added matter).

Restriction requirement – A finding by a patent office that a patent application claims more than one invention and requiring an applicant to elect only one of the inventions to prosecute in the pending application; the unelected inventions may be prosecuted in one or more “divisional applications;” a similar concept, referred to as a “lack of unity of invention,” is applied by many non-US patent offices

Divisional patent application – A continuation patent application filed in response to a restriction requirement. An applicant is not required to file any divisional applications. However, any divisional applications must be filed while at least one application in the

family is pending, i.e., before the last member of the family issues as a patent or is abandoned.

Intent-to-use trademark application – A trademark application based on an applicant’s *bona fide* intent to use a mark in commerce in the United States. If such an application is filed, applicant must file a Statement of Use within 36 months of a Notice of Allowance from the US PTO, otherwise the application will abandon.

Trademark application based on current use in the United States – A trademark application that alleges *current use* of a mark *in commerce* in the United States; filed with a *specimen* showing use of the mark.

Trademark application based on foreign registration – A trademark application claiming, as its basis for registration in the United States, an existing and valid registration for the mark in a foreign country.

Copyright registration – An optional procedure; necessary prior to suing for infringement; early registration (within three months of publication or prior to an infringement) can provide procedural advantages in a law suit, such as “statutory damages” and attorney’s fees, without having to prove actual damages or lost profits.

Claim – Text that defines the metes and bounds of an invention in a patent or patent application; recited as a combination of elements and/or method steps; it is the recited *combination* (*not* the individual recited elements or steps) that must meet the legal requirements for patentability.

Apparatus – A thing that may be defined by a claim; includes mechanical devices, software, systems, etc.

Method – A set of steps performed to accomplish a stated objective; may be a *new use* for a known device or chemical compound.

Independent claim – A claim that does not refer to any other claim; a patent includes one or more independent claims

Dependent claim – A claim that includes all the recitations of another identified claim, as well as an additional recitation or limitation, as in “The automobile of claim 1, further including a retractable roof.” The claim from which a claim depends is called its “parent” claim. The parent claim may be an independent or a dependent claim. Because a dependent claim includes more recitation or limitation than its parent claim, the dependent claim is necessarily *narrower in scope* than the claim from which it depends. (See “infringement (patent).”) Dependent claims form a hierarchical (tree) structure rooted at their independent claim.

Invention – An apparatus, method, composition of matter, plant or design defined by a claim.

Inventor – A person who contributed at least one of the elements, limitations or steps in at least one claim in a patent application; a claim or patent may have multiple co-inventors.

Prior art – Publicly-available information that is known (not necessarily by an inventor) before the conception of an invention by the inventor; includes printed publications

(issued patents, published patent applications, books, product descriptions, trade journal articles, products, cataloged theses, etc.). A claim of a patent application is judged against the prior art.

Novelty – A requirement for patentability that a claimed *combination* is not disclosed in any *single* prior art reference.

Non-obviousness – A requirement for patentability that a claimed *combination* could not be readily deduced by a person of ordinary skill in the relevant art from the prior art. A rejection of a claim for obviousness typically includes a citation to a combination of references that, collectively, discloses the claimed combination, i.e., all the claimed elements, limitations and/or steps recited in the claim.

Ordinary skill in the art – The amount of training, knowledge and experience possessed by a typical person working in the field of an invention.

Utility – A requirement for patentability that a claimed combination has some practical use (a low threshold).

Conception – The formation in the mind of an inventor of a definite and permanent idea of a complete and operative invention, as it is thereafter to be applied in practice; requires sufficient detail to enable one of ordinary skill in the art to reduce the invention to practice, without extensive experimentation and without the exercise of inventive skill; must include all the features and limitations ultimately included in patent claims; requires *contemporaneous* recognition and appreciation of the invention by the inventor; *corroborated* evidence is required to prove a date of conception.

Reduction to practice (actual) – Construction of an embodiment or performance of a process that meets every element of a claim, where the embodiment or the process operates for its intended purpose (but need not be ready for commercialization) and the inventor recognizes and appreciates the invention; may be done by another on behalf of the inventor.

Reduction to practice (constructive) – Filing a patent application that teaches how to make and use the invention and demonstrates that the applicant recognizes and appreciates the invention; filing a patent application can also be deemed a conception, if no other proof of a conception date is available.

First to invent – Where multiple patent applications filed by different inventors cover overlapping subject matter, a system in which the first inventor(s) in time to invent, not necessarily the first to file a patent application, may be issued a patent. (Contrast with “first to file.”) Evidence of date of *conception* and *diligence* toward actually reducing the invention to practice or filing a patent application are necessary. (See “inventor notebook.”) The diligence must extend from before the second reducer-to-practice enters the field to when the first conceiver actually or constructively reduces to practice. Unique to the US.

Inventor notebook – Documentation of ideas, experiments, descriptions, etc., relative to an invention; may be written or electronic; may be a collection of documents; must show *conception* and be *corroborated* by a non-inventor (corroboration means dated and read and understood by one of ordinary skill in the art); to win a first-to-invent fight, may be

used to show *diligence* toward actual or constructive reduction to practice

First to file – Where multiple patent applications by different inventors cover overlapping subject matter, a system in which the first inventor(s) in time to file a patent application may be issued a patent. (Contrast with “first to invent.”); in connection with trademarks, “first to file” jurisdictions grant trademark registrations and priority to applicants who file applications first, regardless of who the first user of the mark is (Contrast with “first to use”).

First to Use – Where different parties use similar trademarks in the United States, priority is given to the first user of the mark in a relevant geographic area (unregistered trademarks may be effective in limited geographic areas within the US).

Use in Commerce – Placing a trademark on goods, their containers or their associated displays, where the goods are sold or transported in commerce; using or displaying a servicemark in the sale or advertising of services, where the services are rendered in commerce or are rendered in more than one state; meets a threshold test for trademark or servicemark registration.

Public disclosure – A disclosure of an invention, with enough detail so one of ordinary skill in the art could make and use the invention, where the disclosure is not covered by a non-disclosure agreement (NDA); a US patent application filed more than one year after such a disclosure is invalid; most other countries require “absolute novelty,” i.e., they grant no such one-year grace period.

On-sale bar (offer to sell) – A sale or offer (that can be accepted in the contract sense of the word) to sell an invention that is ready for patenting (i.e., for which enough information is known to prepare a patent application); a US patent application filed more than one year after such a sale or offer is invalid; most other countries require “absolute novelty,” i.e., they grant no such one-year grace period; *delivery* or otherwise *making the invention available* to the public bars filing a patent application in these countries, however mere *offers* to sell may not necessarily bar patent applications.

Duty of disclosure (Rule 56) – A duty by everyone involved with a patent application (inventor, patent attorney, in-house counsel, etc.) to disclose to certain patent offices (including the US PTO) *known* prior art that may be relevant to examining the application; there is no duty to *search* for prior art, but if prior art is *known or learned* while a patent application is pending (i.e., until the application is granted or abandoned), it must be disclosed. As a rule of thumb, if a reasonable examiner would want to know about the art, it should be disclosed, even if the art does not, by itself, anticipate the invention or render it obvious.

Information Disclosure Statement (IDS) – A form by which an applicant discloses known prior art to a patent office (see “duty of disclosure”).

Prosecute (patent application) – File papers with a patent office, amend the application and argue with the patent office for allowance of the application.

File History – A set of documents maintained by a patent office as part of examining a patent application; includes all communications between the patent office and the applicant.

Published patent application – Typically, a patent application is published by a patent office 18 months after its earliest priority date. An applicant can request the US PTO not to publish a patent application, if no foreign counterpart patent application has been filed and none will be filed.

Published trademark application – After the US PTO has examined a trademark application and corrected material that does not meet a legal requirement, the mark is published in an Official Gazette. A third party who believes its rights will be affected by the published mark has thirty days in which to oppose the registration of the mark by filing a Notice of Opposition.

Patent Application Information Retrieval (PAIR) – On-line system maintained by the US PTO; stores information about pending US patent applications and issued patents, including file histories; information about older patents and applications is limited; information about unpublished applications is accessible only by the prosecuting patent attorney (“private PAIR”); information about published applications and granted patents is publicly accessible (“public PAIR,” <http://portal.uspto.gov/external/portal/pair>).

Trademark Electronic Search System (TESS) – On-line system maintained by the US PTO; stores information about pending US trademark applications and registered marks; information about older trademark applications and registrations is limited (<http://tess2.uspto.gov>).

Office Action – A communication from a patent or trademark office either allowing a patent or trademark application or rejecting the application because the application does not meet a legal requirement (see “amendment”); in the case of a rejection, includes prior art references in support of the rejection or other reason for the rejection (such as unmet formal requirements).

Amendment – A change to a patent or a trademark application, usually in response to a rejection (see “office action”) to overcome the rejection; often accompanied by an argument relative to the rejection; in connection with a patent application, typically makes a change to its claims, but sometimes to its description or drawings (collectively its “specification”); an amendment to a patent application may not add new teachings (“new matter”) to the application; rejections and amendments related to trademark applications usually involve the goods and services listing of the application.

Interference – A process carried out by the US PTO when two or more pending patent applications claim overlapping subject matter; used to determine which application to allow (see “first to invent”).

Patent term (and patent term extension) – The lifetime of a patent; a patent generally expires 20 years from its priority date (not including an early priority date provided by a provisional patent application), although if the US PTO takes longer than certain prescribed amounts of time to examine an application, additional time may be added to the life of a resulting patent, assuming the applicant responds to Office Actions within prescribed timeframes; certain events or statements may make a patent expire early (see “terminal disclaimer” and “maintenance fee”).

Terminal Disclaimer – A statement made by a patent applicant that causes a patent to expire earlier than its normal expiration date; used to overcome certain rejections of a

patent application, where the rejected application covers subject matter similar or identical to subject matter covered by another patent or patent application by the same inventor(s); the terminal disclaimer causes the later-expiring patent to expire on the same day as the earlier-expiring patent.

Maintenance Fee – A progressively larger fee due 3 ½, 7 ½ and 11 ½ years after a patent is granted; failure to pay the fee causes the patent to expire.

Renewed Patent – No such thing; after a patent expires, it may not be renewed.

Patent Cooperation Treaty (PCT) patent application – A single international patent application that preserves an applicant’s right to later file national/regional patent applications in many jurisdictions, thus deferring costs (filing fees, translations and foreign patent lawyer fees), generally until after the applicant has received a list of found prior art and a written opinion regarding patentability issued by an International Searching Authority (ISA).

International Search Report (ISR) – List of prior art found by an International Searching Authority (ISA) in relation to a PCT patent application; prepared during the “international phase” of an international (PCT) patent application.

Written Opinion (WO) – Reasoned opinion regarding patentability of each claim of a PCT patent application; prepared during the international phase. The applicant has *one* opportunity to respond to the Written Opinion with arguments and/or amendments to the application (an “Article 34 Amendment”) and to request reconsideration (“demand examination”) based on the arguments and amendments.

International phase – Time period during which an international (PCT) patent application is handled by an international authority.

International Preliminary Report on Patentability (IPRP) – Findings of the International Preliminary Examining Authority; prepared during the international phase in response to applicant’s Article 34 Amendment, if any; otherwise, typically a copy of the Written Opinion; available to national phase patent offices, but may be ignored.

National phase – Time period during which an international (PCT) patent application is examined by a country/regional patent office for purpose of possibly granting a patent; generally, must be entered within 30 months of the earliest priority date; may involve zero or more office actions and corresponding responses.

National patent – A patent granted by a country patent office; effective in only that country.

Regional patent – A patent granted by a regional patent office, such as the European Patent Office, the Gulf Cooperation Council or the African Regional Intellectual Property Organization; regional patents may be recognized by member states of the region.

European patent – A patent granted by the European Patent Office on a single application; must be validated in individual European countries, which may involve filing translations and paying fees to the individual countries.

International patent – No such thing (see “national patent” and “regional patent”).

Infringement (patent) – Making, using, selling, offering to sell or importing an apparatus

that includes all the elements and limitations of an apparatus claim, or performing all the steps recited in a method claim. Patents are country-specific, so all acts must be performed in the country in which a patent was granted to be an infringement. Inducing another to infringe, or contributing to the infringement by another, is considered infringement.

Contributory infringement – Selling, offering to sell or importing a *component* of a patented *device* or *composition*, or a *material* or *apparatus* for use in *practicing a patented process*, where the provided item is a *material part* of the invention and does not have a *substantial noninfringing use*, knowing the item is especially made or adapted for use in infringement.

Inducing infringement – Acting in a way that causes actual infringement by another, while knowing and intending that the other will infringe. For example, providing a non-infringing device to the other with instructions to alter the device in a way that will make the device infringe, while knowing the alteration will cause infringement. A *bona fide* belief (see “opinion of counsel”) that the actions of the other will not infringe defeats a charge of inducing infringement.

Invalid – A claim that does not meet the legal requirements for patentability; an allowed claim in an issued patent that is later shown not to meet the legal requirements for patentability, such as because the examiner was not aware of relevant prior art.

Unenforceable – A claim or patent that may not be enforced, such as because a person breached his/her duty to disclose known prior art to the US PTO (see “duty of disclosure”).

Opinion of counsel – A reasoned opinion by independent, competent patent counsel regarding whether a device or an action would infringe a valid patent; may include a reasoned opinion that the claim(s) at issue is (are) invalid and/or that the patent is unenforceable.

Damages – An amount of money awarded by a court to a patent owner as a result of infringement and to be paid by an infringer; not less than a reasonable royalty; may include lost profits; “regular damages” sometimes tripled by the court and may include patentee’s legal costs (collectively “enhanced damages”) when infringement was willful, i.e., the infringer knew he/she was infringing; enhanced damages can usually be avoided if a favorable opinion of counsel is obtained *before* the infringement occurs.

Injunction – An order by a court to stop infringing, such as by removing a product from the market.

Design around – Purposefully designing a product or method to avoid infringing a claim by omitting a recited element, limitation or step.

Patent marking – “Patent” or “Pat.” followed by patent number on, or attached to, patented goods or, if impractical, on packaging of the patented goods; absent a mark, no damages for infringement, unless infringer was notified of the infringement and continued to infringe

Work (copyright) – Writing, music, sculpture, visual art, etc. embodying at least some creativity, selection, arrangement, or the like, and fixed in a tangible medium.

Infringement (copyright) – Unauthorized reproduction, preparation of derivative work (such as a translation), distribution of copies or phonorecords to the public, public performance (of literary, musical, dramatic works, etc.) or public display (of literary, dramatic, choreographic works, etc.).

Fair use – A defense against copyright infringement that permits some use of copyrighted material, such as for parody; factors include: the scope of infringement (i.e., how much of the work is copied), the effect of the infringement on the copyright owner’s rights (his or her ability to sell the work), the amount of the work copied and the purpose of the infringement.

Copyright notice – © or “Copyright” or “Copr.” followed by the year of first publication followed by the name of the copyright owner; not required, but provides procedural advantages.

Copyright term – For works originally created on or after January 1, 1978: life of author (or last surviving co-author) plus 70 years; anonymous, pseudonymous and certain other works’ copyrights expire 95 years from publication or 120 years from creation, whichever is shorter.

Trademark / Servicemark notice – TM or SM; ® only for registered marks; not required

Infringement (trademark or servicemark) – Use of a mark in a way that is likely to cause consumer confusion as to the source of a good or a service, relative to a trademark or servicemark of another; considerations include: similarities in the marks, similarities in the good or service on which the trademark or servicemark is used, channels of trade in which the good or service travels, conditions under which the product or service bearing the mark is purchased and sophistication of the likely consumer.

Misappropriation (trade secret) – Unlawfully obtaining a trade secret, such as by breaking into an enterprise and making copies of confidential documents.

Patent agent – A person registered with the US Patent and Trademark Office (US PTO) to file and prosecute a patent application on behalf of an inventor; not necessarily a lawyer; required to have an appropriate technical degree, such as engineering, physics, chemistry, biology, etc.

Patent attorney – A lawyer who is also a patent agent; required to have an appropriate technical degree, such as engineering, physics, chemistry, biology, etc.

Declaration – A document signed by an inventor to state under oath that the inventor believes himself/herself to be an original and first (co)inventor of the subject matter claimed in a patent application; required for filing with, or shortly after filing; the patent application. However, procedures allow for filing a patent application without a signed declaration, if an inventor is dead, unavailable or refuses to sign a declaration.

Power of attorney – A document signed by an inventor granting a patent attorney or agent authority to file and prosecute a patent application on behalf of the inventor; usually combined with a declaration.

Assignment – A document signed by an inventor transferring ownership of a patent application (and usually any foreign counterpart applications, follow-on applications and patents that may issue therefrom) to another person or company, usually an employer;

usually notarized.

Employment agreement – A contract between an employer and an employee specifying terms of employment; may include an *explicit obligation* to assign intellectual property developed by the employee to the employer; depending on the job description, may *imply* an obligation to assign such intellectual property; presumptions regarding ownership of intellectual property and obligations to assign vary by state and country.

Small entity – A company with no more than 500 employees, a nonprofit organization or an individual, and that or who does not have an obligation to assign a patent application to a non-small entity; eligible for reduced government fees at the US PTO.

## **Selected Intellectual Property Web Sites**

<http://www.google.com/patents> (Google patent search)

<http://patft.uspto.gov/> (US PTO patent and application search)

<http://portal.uspto.gov/external/portal/pair> (Public PAIR)

<http://www.uspto.gov/main/faq/> (US PTO FAQ)

<http://www.uspto.gov/faq/trademarks.jsp> (Trademark FAQ)

<http://www.copyright.gov/circs/circ1.pdf> (Copyright Basics)

<http://www.copyright.gov/help/faq/> (Copyright FAQ)

[http://gb.espacenet.com/search97cgi/s97\\_cgi.exe?Action=FormGen&Template=gb/en/qu  
ick.hts](http://gb.espacenet.com/search97cgi/s97_cgi.exe?Action=FormGen&Template=gb/en/qu<br/>ick.hts) (Search foreign and international patents and applications)

<http://tess2.uspto.gov/> (US PTO Trademark Search System)

George Jakobsche  
Sunstein Kann Murphy & Timbers LLP  
125 Summer St., Boston, MA 02110  
[GJakobsche@SunsteinLaw.com](mailto:GJakobsche@SunsteinLaw.com)  
617-443-9292  
[www.sunsteinlaw.com](http://www.sunsteinlaw.com)

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## Patent Basics<sup>1</sup>

A patent enables its owner to prevent others from making, using, selling, offering to sell or importing a patented invention in the jurisdiction (country or region) that issued the patent. Once a patent application is filed with a patent office, the invention may be referred to as “patent pending.” Once a patent is issued (granted), a patent infringement suit may be brought by the patent owner (“patentee”) to recover money damages and seek an injunction against future infringement. It is up to the patentee (not the Government) to identify infringers and enforce a patent. A patent is intangible personal property and may be sold, licensed, donated, inherited, jointly owed, etc.

Various strategies motivate companies to acquire patents, including:

- obtaining market exclusivity
- licensing and collecting royalties
- deterring suits brought by others
- attracting investors
- applying pressure on, or bargaining with, adversaries, even in non-patent disputes
- rewarding innovative employees
- marketing (product differentiation)

A patent is analogous to a deed to real estate, in that both define the outer boundaries of property that is owned. A patented invention can be an apparatus, a method of doing something or a composition of matter (*i.e.*, a chemical compound). These types of inventions are covered by “utility” patents. Other types of patents cover ornamental designs (“design patents”) and plants, but these two types are not discussed here.

A patent must describe an invention with enough detail so that one of ordinary skill in the art can make and use the invention, without undue experimentation. One need not have made, or even have an intention to make or market, an invention to file a patent application, as long as the inventor can describe how to make and use the invention. The limited monopoly granted by a patent is given in return for this disclosure. A granted patent is a public document. Generally, a patent application is published 18 months after filing.

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A patent application is a written document, not merely a filled-in form. The effort required to prepare and file a patent application can be substantial, often involving legal fees, US Patent Office fees and formal drawing costs. Once filed, patent applications are not automatically granted. Many patent applications are never granted. A not insubstantial amount of work is typically required to obtain allowance of a patent application (see “patent prosecution,” below), which may involve additional legal fees, often spread over several years.

### Patent Claims

In addition to teaching how to make and use an invention, a patent defines the invention, for infringement purpose, by reciting one or more claims. A claim defines an invention as a combination of interrelated elements (things) or steps to be performed. For example, a claim to a pencil may recite, “1. A writing implement comprising: (a) an elongated piece of graphite, (b) attached along its length to a structural member.”

A claim specifies the minimum requirements to infringe a patent. Anything that meets all these requirements infringes the claim, even if the accused device or method includes additional elements or steps that are not recited in the claim, and even if the accused device or method is also covered by another patent. Broader claims provide greater scope of ownership. Thus, well-written claims are often abstract. Claims need not necessarily include every feature of an invention. Infringing one claim is sufficient to infringe an entire patent.

It is common to include a set of claims of progressively narrower scope in a patent application, in case the claims are granted but one or more of the broader claims are subsequently invalidated, such as during litigation. For example, a narrower pencil claim might recite, “2. A writing implement according to claim 1, wherein the structural member comprises wood.” This is an example of a dependent claim, *i.e.*, it includes all the elements/steps of at least one other referenced claim. A dependent claim is necessarily more specific (narrower) than the claim from which it depends, because the dependent claim adds one or more requirements to infringe. Therefore, potentially fewer devices/methods infringe a dependent claim, but it is less subject to attack with “prior art.” (See below.)

Claims are the most important part of a patent, because they determine the scope of the patent, *i.e.*, what the patentee owns. Claims have been described by a Supreme Court Justice as constituting one of the most difficult legal instruments to draw with accuracy.

An inventor is a person who contributed at least one element, limitation or step to at least one claim in a patent. In the US, only inventors may file patent applications, although one or more of the inventors may assign (*i.e.*, transfer ownership of) his/her portion of a patent or patent application to another person or to a company, or to license his/her portion of a patent.

Inventors often execute (*i.e.*, sign) assignment documents to transfer their ownership to their employers or other assignees. Assignments are recorded in the US Patent Office, much the way deeds to real estate are recorded in registries of deeds.

Inventors also execute declarations, in which they state under oath that they believe themselves to be the first inventors of the claimed inventions. Declarations typically

include powers of attorney from the inventors to patent attorneys who file the applications and thereafter respond to correspondence from the Patent Office regarding the applications (“prosecute” the patent application.)

### Requirements for Patentability

Prior art includes documents, publications, patents, products, product literature, etc. that were publicly available before the filing date of a patent application or, in some cases, before the invention. A US patent or a published US patent application is prior art (as used against other US patent applications) for all that it discloses, as of its filing date.

To be patentable, an invention must be new (novel), useful and not obvious. The patentability of each claim of an application is judged individually.

“New” means no single prior art reference discloses (“anticipates”) all the elements/steps of a claim.

“Not obvious” means the difference between a claimed invention and one or more prior art references would not have been obvious to one of ordinary skill in the art at the time of the invention. Obviousness is often indicated by a combination of prior art references that would have been considered by an inventor in the field of the invention and that discloses all the elements/steps of a claim.

“Useful” means the invention has some practical applicability. This is a low threshold.

An inventor has no duty to search for prior art. However, the inventor and all other people related to preparing and prosecuting a patent application have a duty to disclose prior art of which they are aware or become aware and that an examiner would consider to be *material* (not necessarily patentability-defeating) to examination of the application. It is best to err on the side of disclosing art, rather than withholding it. This duty continues until the patent application is finally granted or abandoned. Thus, an inventor who learns of prior art while a patent application is pending has a duty to disclose the art, even if the inventor is no longer employed by a former employer or by an assignee or licensee.

### Patentable Subject Matter

#### Types of Patent Applications

US law recognizes two types of patent applications: provisional and non-provisional. A US provisional patent application:

- has no formal requirements
- is never examined
- cannot become a patent
- expires exactly one year after its filing date
- can be used to establish a priority date for a future US non-provisional patent application or a foreign patent or international application

If an unexpired original provisional application adequately teaches how to make and use an invention, a non-provisional or foreign patent application that claims priority to the

provisional application is treated (for purposes of comparing it to prior art) as though the non-provisional or foreign application was filed on the same date as the provisional application was filed. A provisional application is optional.

A US non-provisional patent application:

- has formal requirements (including format, margins, font size, claims and drawings)
- is examined
- can be issued (granted) as a patent
- can be used to establish a priority date for a future US, foreign or international patent application. (Foreign and international applications must be filed within one year of the earliest available priority date.)

A US non-provisional application can claim priority to an unexpired provisional or international application or to a pending (*i.e.*, not abandoned and not yet granted) non-provisional or foreign application. The non-provisional application claiming priority is treated as though it was filed on the priority date, to the extent the earlier application discloses how to make and use the invention claimed in the non-provisional application.

A US non-provisional patent application must be filed (if ever) within one year of:

- selling or offering to sell an invention that the inventor knows how to make and use, or
- publicly disclosing or using the invention

Provisional applications are often filed before (sometimes just before) either of these types of events (for example, product announcements, trade shows, “beta” tests, etc.) to give the inventor one year to prepare and file a corresponding non-provisional application.

A sale or offer to sell includes a license or an offer to license. To start the one-year clock, an offer must be capable of being accepted, so as to create a contract (a “meeting of the minds”), but the offer need not be in writing.

#### Bars to Patentability

A public disclosure reveals how to make and use an invention, to as few as one person, without an obligation of confidentiality, such as a (preferably written) non-disclosure agreement (NDA). A public use makes use of the invention without an obligation of confidentiality by the users or observers of the use, even if information about how to make the invention is not disclosed. A demonstration of an invention to a non-inventor (sometimes even to a co-worker), without an NDA, can be a public disclosure. A test of an invention, particularly a test conducted by a potential customer to determine suitability for the customer’s purpose, (as distinct from testing to determine if the claimed invention works) can be a public use if not protected by an NDA. A public disclosure or public use starts the one-year time bar clock.

A test or evaluation unit given or sold to a customer, even at a deep discount, can start the one-year on-sale clock. An NDA cannot prevent an offer to sell or a sale from starting the one-year on-sale clock.

In a court proceeding, such as a patent infringement suit, a patent may be invalidated if it is shown the patent should not have been issued due to: prior art (known or unknown to the examiner), public use or sale more than one year prior to the filing, or failing to meet any other requirement for patentability. In a court proceeding, a patent may be found unenforceable due to misconduct while the patent's application was being examined, ex. failure to disclose known prior art. In addition, a patentee or a third party may request the Patent Office to re-examine an issued patent by submitting prior art and, in the case of a third party, a "substantial new question regarding patentability" that was not originally considered by the examiner.

### Process

Patent applications are examined by patent examiners in the order the applications are filed. Examiners are specialists in their respective technical fields. Queue lengths (wait times) vary greatly by technical area. Backlogs can be three or more years long in the software and some other arts. "Special" applications (due to inventor's advanced age or high priority subject matter) may be taken out of turn.

Once taken up, a patent examiner searches for prior art (not limited to issued patents) and determines if the patent application meets the requirements for patentability. If not, the examiner issues an Office Action rejecting the claim(s) and giving reasons for the rejection. Some claims may be rejected while other claims are allowed. An Office Action typically specifies a three-month due date for a response, extendable by up to three one-month extensions-of-time with payment of progressively larger fees.

Responding to rejections with arguments and/or amending claim(s) to overcome the rejections is collectively referred to as "patent prosecution." Prosecution usually involves several rounds of Office Actions and responses. Responding to an Office Action is generally less expensive than preparing a patent application. Legal costs for prosecuting an application are generally estimated separately from costs for preparing and filing the patent application.

A "maintenance fee" is due 3-1/2, 7-1/2 and 11-1/2 years after a US non-provisional patent is granted. A US non-provisional patent generally expires 20 years from its earliest filing date, assuming the maintenance fees have been timely paid. Failing to pay a maintenance fee causes the patent to expire early.

If the Patent Office exceeds prescribed time limits in examining a patent application, a patent term may be extended by a corresponding amount of time, less prosecution delays caused by a patent applicant. Once a published patent application is abandoned, or a patent expires, another person cannot file an application for the same invention, because the other person would not be the first to invent the invention, and the published application or the expired patent would be prior art. A patent cannot be "renewed."

Certain US Patent Office fees are reduced by half for "small entities," such as individuals, non-profit organizations and corporations with no more than 500 employees, where the patent or application owner is not under an obligation to assign ownership to a non-small entity.

## Patents Outside the United States

Patents are country specific, although some parts of the world (most notably, Europe) also have regional patents. A European patent must be validated in individual countries to be enforceable in those countries. Validation involves paying a fee and may involve translating the patent.

Most countries outside the US do not provide a one-year grace period for sales or public disclosures of inventions. Thus, filing a US provisional or non-provisional application before a public announcement, demonstration, test or sale may be necessary to preserve foreign filing rights.

A foreign (*i.e.*, non-US) patent application generally must be filed (if ever) within one year of the earliest available priority date. Foreign patents typically expire 20 years from their earliest effective filing date.

Most countries use a “first to file” rule, where the first applicant to file a patent application has priority over a later applicant for a patent on the same invention, regardless of which applicant actually invented first. On the other hand, the US uses a “first to invent” rule, where a later applicant may prove he/she: (a) invented earlier than an earlier filer and (b) worked diligently to perfect the invention and file the application. Laboratory notebooks and other documentation can be key to this proof. (“Proof” means a preponderance of the evidence, not a mathematical proof.) This and other differences in patent laws among countries can mean different inventors may be granted patents in different countries on the same invention. Furthermore, some subject matter is patentable in only certain countries. Differences in the definitions of “prior art” can also lead to different results in different countries.

Translation costs, foreign patent office filing fees, annual/recurring foreign patent office “annuities” or “maintenance fees” on applications or granted patents, and foreign patent associate attorney fees can make foreign patents expensive. It may be adequate to file in economically important countries (such as only major markets) or strategic countries (such as where competitors are likely to manufacture products), rather than filing in a large number of countries.

Foreign applications may be filed directly in each country or region (for example, Europe) of interest.

An international (“Patent Cooperation Treaty” or “PCT”) patent application may be filed in addition to, or instead of, individual country/regional applications, including instead of a US non-provisional application. A PCT application may result in the eventual grant of one or more national or regional patents, with the notable exception of Taiwan. (For political reasons, Taiwan is not a “contracting state” under the Patent Cooperation Treaty, whereas China is a contracting state.) A PCT application is examined once by an international searching authority (typically the US Patent Office, the European Patent Office or the Korean Patent Office) chosen by the applicant. The international searching authority produces a prior art search report and a written patentability opinion during an “international phase.”

A PCT application never directly issues as a patent. Instead, the PCT application must enter a “national phase” (typically within 30 months of its priority date) and be further

examined by patent offices in individual countries/regions of interest. The national phase patent offices generally give some deference to the patentability opinion of the international searching authority, but they are not bound by the patentability opinion.

A PCT application can provide the following benefits:

- It can be filed in English, thus deferring translation costs.
- It can defer national patent office fees and foreign attorney fees until after a search report and patentability opinion is obtained from the international searching authority.
- An applicant has some opportunity to amend the PCT application and make arguments to obtain a favorable patentability opinion during the international phase, before committing to national phase entry.
- There may be efficiencies in prosecuting the application in individual national phase patent offices after resolving some or all the patentability issues raised during the international phase.
- It provides time for an applicant to evaluate marketability of an invention, before committing to national phase entry. An applicant may abandon a PCT application without incurring national phase costs if, for example, patentability or product marketability seems unlikely.

A foreign or PCT application must generally be filed within one year of the earliest available priority date.

George Jakobsche  
Sunstein Kann Murphy & Timbers LLP  
125 Summer St., Boston, MA 02110  
[GJakobsche@SunsteinLaw.com](mailto:GJakobsche@SunsteinLaw.com)  
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[www.sunsteinlaw.com](http://www.sunsteinlaw.com)

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