# Anatomy of a Patent

## A quick guide to understanding patents

Types of patents:

2. Design Patents

Numbers in brackets comply

inventor must be one or more

with an international

Inventor: In the US, the

people. It cannot be a

company or organization.

indexing system.

3. Plant Patents

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To qualify for a patent, an invention must be new, useful and not obvious. The patent office decides which inventions to approve and which to reject. The US currently receives more than 600,000 patent applications each year, approximately half of which are granted.

Article 1, section 8 of the United States Constitution states that "Congress shall have power .... to promote the progress of science and useful' arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries.

Florence, Italy was the site of the first known patent, filed in 1421. Samuel Winslow received the first patent in North America in 1641, when Massachusetts granted him rights to a new method of processing salt.

On June 8, 1995, the patent office initiated the "provisional patent." It entails a simple, quick and inexpensive application (the fee ranges from \$70 to \$280). A provisional patent is good for one year, and is intended to protect inventors who want to make their inventions public (e.g. researchers who want to publish their work) but are not yet ready to file a complete patent.

Since March 19, 2013, independent inventors can qualify as "Micro Entities" and file patents at a discount. To qualify, applicants cannot be named on more than four previously filed applications, cannot have a gross income more than three times the median household income, and cannot be under an obligation to assign, grant, or convey a license or ownership to a non-qualifying entity.

Utility Patents are more coveted by inventors. Design Patents protect the appearance of a product, not its structure or utilitarian features, and protection is not as strong.

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"Patent" comes from the Latin word "patere" - "to be opened."

1. Utility Patents Manufactured Articles Processes (mainly industrial or technical processes) **Date of Patent:** Machines Composition of Matter

Title: The title should be descriptive.

but it does not legally define or limit

the scope of the patent.

#### This is the date the patent was (chemical compositions) granted, not filed.

• Title · References Cited

- Abstract
- Drawings
- Background of the Invention Field of the Invention Prior Art

All patents follow a basic outline:

- Summary of the Invention
- Brief Description of the Drawings
- · Detailed Description of Invention
- Claims

Patent Number: Patents are numbered consecutively. This patent number must appear on the patented device. You can also use this number to download a copy from the patent office.

4,973,332 Patent Number 27, 1990 Date of Patent: [11] 128/92 Y [45]

FOREIGN PATELYI DOCUMENTS

3/1984 Kyle ..... 3/1985 Anaplioti 1/1986 Streli .... 3/1986 Lower ... 3/1986 Medolf 12/1986 Medolf 4/3/1987 Berentu 2/9/1988 Asher

8,923 1,724

The Primary Examiner and Assistant Examiner are from the US Patent Office. The attorney, agent or firm is hired by the inventor or assignee. Abstract: This

is a simple, non-technical description of the patent. Like the title, it does not legally define or limit the scope of the

United States Patent [19] [54] ATTACHMENT FOR FEMUR SLIDIN SCREW PLATE [75] Inven [21] Appl. No.: 242,650

,545 ,882 ,765 9,870

Sep. 12, [22] Filed: Int. Cl.5 U.S. Cl. [51] [52] 92 ZW 128/92 Z, 92 YZ, 92 YE 92 YF, 92 Z, 92 YZ, 92 YE 411/461, 463, 462, 544, 545, 606/65-68, 72-73, 59, 53, Field o 104 [58]

nces Cited U.S. PATENT DOCUMENTS

128/92 YV 128/83 128/92 YK 128/92 YF 4/1946 Harding 4/1946 Langfel 5 5/1948 Hopkin 5 5/1948 Hopkin 13 2/1955 Pugh 13 2/1955 Pugh 13 8/1957 Charr 14 10/1961 Deve 253 3/1962 Mass 143 1/1970 Hall 143 1/1974 Wal 2/1955 8/1957 10/1961 3/1962 1/1970 10/1974 2/1976 1/1977 5 7/1978

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which this invention falls. The first two numbers, in bold type and separated by a slash, indicate the classification of the patent and the subclass. Subsequent numbers indicate cross references. Field of Search: Lists the

classifications of patents where the examiners from the US Patent Office searched.

References Cited: Lists the relevant patents that the examiners from the US Patent Office found.

Patent drawings are best left to patent illustrators. The patent office regulates things such as numbering of the design elements, line weights and cross-hatching. Shading, for instance, must portray light coming in at 45° from the upper left hand corner.

Thomas Edison received more than 1,000 patents.

A US patent will only provide patent protection in the US.

An improvement on someone else's patent can be patented. but unless the original patent has expired the new design may still infringe on the original patent.

"Plant Pat. 1," the first plant patent, was granted in 1931 to Henry Bosenberg for the New Dawn rose. Jackson & Perkins, the mail order company, holds a large number of patents on roses. Notice to potato farmers: you cannot get a patent on Irish potatoes, Jerusalem artichokes or other tubers that are "propagated by the same part of the plant that is sold as food."

In the 1960s, an inventor tried to patent the use of popped corn as

packaging material, an ecological

Examiners at the US Patent Office

businessman F. W. Rueckheim had

the idea of including a toy surprise

inside boxes of Cracker Jack,

essentially "protecting" it with

popcorn in the same way.

denied the patent citing the existence

version of Styrofoam peanuts.

of "prior art." Back in 1912

patent. 128/92 YV

2090745 7/1982 United Kingdom 2090745 7/1982 Unifee Kung 2090745 7/1982 Unifee Kung ary Examiner—Robert A. Hafer ant Examiner—Michael Brown crint Examiner\_Birm—Stephen F. Feldman ABSTRACT ' Strain Sereev plate is improved by adding through one either side of a central portion, the internality, the langes are provided integral to a certrality, the langes are provided integral to a certrality, the langes are provided integral to a sereev plate. Serew holes in the basic sereev plate in stretches the langes are built and the sereev plate is attached to the basic sereev plate is stretched to the femust by a sereev plate is attached to the femust by a sereev. The langes each have sereew holes 1571 flanges e shaft. Pr trally ofab ting screw Juin-and each screw plate is attached as screw non-and each screw holes in the centralloy raised and screws. The langes each the langes to out-the from the screw holes in the order to more fully non, screws being used to scoure the flanges to portions of ements of the fractured femure. Alterna-g rotions of cents of the fractured with integral flanges offset inc. portion, screws bein lying portions of the portions of the portion of f the femur shaft in order gments of the fractured fe plate is provided with in the leg of the screw plat tively a

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Assignee: This is the owner of the patent, often the company or organization that paid for the development. Int. Cl. and U.S. Cl.: International and U.S. Classifications. These identify the categories under

### Anatomy of a Patent

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> In 1895 George B. Selden received a patent covering, in general, gasoline-powered automobiles. Although European manufacturers complied, Henry Ford refused to pay royalties and won a patent fight in 1911.

#### Background of the Invention

(on the first inside page of text, not shown here): A short description that provides a wide-angle view of the field in which the patent was developed. It also refers to prior art, discussing any similar devices, pointing out how this current invention differs, and why this current invention is useful and patentable.

On July 31, 1790, three months after George Washington signed the first US patent law, Samuel Hopkins of Vermont received the first US patent. It was not patent number 1- the numbering system came later.

Some other countries employ a "Design Registration" system instead of a Design Patent, a quicker and more convenient system for that type of patent.

Some companies avoid filing for patents too early, or even at all, since a patent can make millions of dollars of research and proprietary information available to anyone. Don't, for example, bother to look for a patent on the formula for Coca-Cola-it's a secret.

US patents must be filed within one year of public disclosure. Most foreign patent offices do not allow a grace period-foreign patents must be filed prior to any public disclosure, or (in most cases) within one year of filing in the US.

> Patents provide the right to forbid not only the manufacture but also the sale and use of the patented item by any unauthorized person or group.

No column or line numbers? That indicates the patent application was published but not granted. In that case numbers in brackets will appear at the beginning of each paragraph.

**Columns are numbered** consecutively, two to a page. The lines of text are also numbered.

> The patent number appears at the top of every page.

been numbered with identical or similar callook num bers. FIG 5 illustrates an alternate structure of the invest-tion where flange 4 structure of the invest-structure flange 4 is a structure of the invest-structure flange 4 is illustrated if is apparent to an advert flange estands from the is a structure and the scree on the screev plate in FIG 5 are integral to a structure flange estands from the invest-tion with the scree on the screev plate in FIG 5 are integral to the scree on the screev plate in FIG 5 are integral to the scree on the screev plate in FIG 5 are integral to a screev plate. The integral structure is a screev structure in FIG 5 are integral to a screev structure in the flag 5 are integral to a such as represented to the structure is a structure in FIG 5 are integral to the integral structure of a flange to the surface two related flags screevs are association with plates attached formut shaft with a structure association with plates attached formut shaft with as a screevs in the apparent that impaction rail plates on a screevs in the apparent that impaction structure association with plates attached and instituted a rail association with plates attached and instituted and association with plates attached and instituted and association with apparent that impaction and plates on a screevs in the apparent that impaction and instituted and association with apparent that impaction and and institute of a structure and and on the components mbered with identical or similar

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In the 1800s a medical clinic in France pioneered the use of forceps during childbirth, a procedure that proved very successful. They decided to keep it a trade secret rather than file a patent and let others find out about their technique.

> In 1954 Jerome H. Lemelson applied for a patent related to bar-code reading systems. The patent was granted in 1992, 38 years later. Since 1992 Mr. Lemelson collected more than \$500 million in back royalties.

"Submarine patents" are banned – a scheme of filing a patent on an anticipated technology then waiting, sometimes decades, for that technology to come to fruition.

Design Patents filed after May 14, 2015 are valid for 15 years from the grant date. Prior to that the term was 14 years.

> Thomas Jefferson administered the first patent laws in the US. He granted Eli Whitney's patent for the cotton gin.

> > Distinctions between patents, trademarks and copyrights:

- Patents provide a right of ownership of useful inventions.
- Trademarks identify a product or service. Usually a name or symbol, trademarks may also be obtained for distinctive shapes, packaging and colors
- Copyrights, as the name suggests, bestow the right to copy and the right to control copying. Copyrights cover intellectual or artistic property such as books, movies, plays, music, software, paintings, sculpture and other work fixed on a medium.

Patents are "granted." Trademarks and copyrights are "registered."

Claims: Cut to the chase - claims are what legally define the patent. Beginning with "What I claim is:" they are found at the end of the patent and are numbered. The number of claims is unimportant - it's the content that counts.

Claims fall into two categories:

- · Independent Claims are the most significant. They stand alone and do not refer to previous claims in the list.
- · Dependent Claims build on the descriptions of Independent Claims, using words like "A modification of claim 2 in which ....," and include limitations of the claim.

IBM received the most patents in 2018 with 9,100. It's the 26th year in a row that IBM has topped the list.

George Beauchamp, working with Adolph Rickenbacker, spent five years patenting the "Frying Pan," the first electric guitar. The examiner from the patent office didn't believe it would work-until musician Sol Hoopii went to the patent office and performed 15 minutes of Hawaiian music. The patent was granted in 1937.

Patents are valid from the date of issue. Terms were revised over time.

- 1790: Patents cannot exceed 14 years.
- 1836: A 7-year extension allowed for a total of 21 years.
- 1861: The extension was eliminated, the term was set at 17 years.
- Patent term revised to 20 years from the earliest filing date, or 1978: 17 years from the issue date, whichever is longer.
- 1995: Patents term revised to 20 years from the earliest filing date.
- 1999: The patent office must respond to an application within 3 years.

Patents are available from the Patent and Trademark Office in Washington, DC, at uspto.gov, or from Google Patents at patents.google.com.