

Intellectual property and patents

Intellectual Property: What is intellectual property (IP)?

- IP includes all products of the human mind
- Inventions and patents are IP
- Trade secrets are IP
- Copyrighted materials are IP

Patents

- What are the requirements for a patent application to get granted?
 - Novelty (the invention must be new)
 - Non-obviousness (the invention must be non-obvious)
 - Improvement of the state of the art (the invention must improve the state of the art)
- Normal sequence of steps from an invention to a patent
 - An **invention** is made.
 - An **Invention Disclosure** is filed with the employer.
 - A **provisional patent application** is filed shortly after the Invention Disclosure was filed. The provisional patent application is filed with the patent office (in the US, the United States Patent and Trademark Office, USPTO).
 - Since the one who first files a patent owns the rights to that patent, a patent must be filed soon after an invention is made. Provisional patent applications take a short time to prepare, eliminating the problem of the long preparation time for a regular patent application.
 - Within one year, a **regular patent application** is filed with the USPTO.
 - After the patent application has been filed, the patent application is **examined**. The patent application is examined by a patent examiner at the USPTO (in the US).
 - If the examination comes to a positive conclusion, the patent will be **granted**, i.e., issued.
 - The lifetime of US patents is 20 years starting with the USPTO first filing date (or priority date).
- What are the typical sections in a patent application?
 - Title of invention
 - Reference cited
 - Abstract
 - Detailed description of the invention, including

- Technical field of invention
 - Description of *prior art*
 - Summary of the invention
 - Brief description of drawings
 - Detailed description and description of the embodiments
 - Patent *claims*
- What are the rights afforded to the owner of a patent?
 - The right to exclude other entities from practicing the invention.
- Who owns the patent?
 - Patents are usually owned by the employer of the inventor(s) (usually a company or university).
- Sequence of names of inventor names on a patent (when there are multiple inventors):
 - In legal sense, all inventors are equal.
 - In the past, the inventors were arranged in an alphabetic order. More recently, inventors are arranged as they would be for a technical article.
- What is the difference between the inventor and the owner of a patent?
 - As a matter of principle, the owner (usually the employer of the inventor) owns the rights to the patent.
 - The inventor is credited with the honor of being an inventor of a patent. Also, an employer may issue a reward for the inventors of a patent.
- What is *exclusive licensing* and *non-exclusive licensing*?
 - *Exclusive* licensing allows the patent owner to license the right to practice the patent to *only one* entity.
 - *Non-exclusive* licensing allows the patent owner to license the right to practice the patent to *multiple* entities.

Other IP

- Some signs indicate intellectual property
 - © stands for “copyrighted”
 - ™ stands for “trade mark”
 - ® stands for “registered”

- Copyrighted materials
 - No one may reproduce copyrighted materials without permission of the author and copyright holder.
 - The **fair use** clause allows everyone to make fair use of copyrighted materials. For example, a student may copy a figure from a book and reproduce the figure in a thesis without receiving explicit permission from the author copyright holder of the book. However, despite the fair use clause, it is always required that the source of copyrighted materials is **properly cited and credited**.

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