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## The Structure of a Patent

Which information can be found in patent documents

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### Requirements to a patentable invention

- A **technical solution** to a **technical problem**  
the invention must have **technical character**
- **New** – Never been made available to the public in any way, anywhere in the world, before the date on which the application for a patent is filed
- **Inventive step** – having regard to the state of the art the invention must not be obvious to the person skilled in the art
- **Industrially applicable** within any field of technology - US: Useful

In Europe diagnostic methods and methods for treatment by surgery or therapy practised on the human or animal body are excluded from patentability

### Patentable inventions include

- Products (tool, shoe, toy, building material etc)
- Compositions (chemical compound, alloy etc)
- Machines, apparatuses
- Processes, methods

### An invention is NOT patentable if it **lacks technical character**, in particular if it is

- A discovery
- A scientific theory or a mathematical method
- An aesthetic creation, literary, dramatic or artistic work
- A scheme or method for performing a mental act, playing a game or *doing business*
- A presentation of information
- A computer program

But only to the extent the invention relates to such subject-matter or activities **as such**

The exclusions have a *narrow definition*

## Patents and patent applications are

- **Technical documents** disclosing a technical invention
- **Legal documents** defining **intellectual property rights** associated with the invention. The owner may enforce his rights against unlawful acts by others
- **Assets** representing a value that can be traded and licensed
- A source of **technical information**

## Information in a patent or patent application

- **Bibliographic data** (title, inventor, owner, filing date etc.)
- Relevant **background art**. A problem in the prior art may be identified
- **Disclosure of the invention** must be *clear* and *complete* and in such terms that the technical *problem* and its *solution* can be understood. The disclosure includes a written **description** and **drawings**, if relevant.
- **Claims** defining what is (sought to be) protected
- **Abstract** giving a brief overview of the invention
- **Prior art** of relevance to the invention

## Information in a patent or patent application

- Front page with useful bibliographic details
- See [Anatomy of a US patent.pdf](#)

## Claims

- The claims define, in technical terms,
  - the protection conferred by the patent, or
  - the protection sought in the patent application
- A patent gives its owner a right to *preclude others* from **making, using, selling or offering for sale** the subject matter defined by the claims, but only in countries where the patent is in force
- The claims in a granted patent have been carefully examined by one or more examiners in the patent office before grant of the patent in order to ensure that the claimed invention meets the criteria for patentability, in particular novelty and inventive step

## Claims

- **Independent** claims, which stand on their own. Independent claims define the **broadest protection** and are also called **main claims**
- **Dependent** claims (sub-claims), which depend on one or more claims and generally express particular and more specific embodiments of the invention

## Is it a **patent** or a patent **application**

### **Patents**

- Have been examined and represent a right that can be enforced
- Have limited geographical coverage, i.e. one or more countries
- Patents in a patent family may have different claims in different countries
- Relevant prior art may exist that has not been cited in the prosecution of the application. If so:
  - In some countries *opposition* may be filed within a limited period after grant
  - In some countries *re-examination* after grant is possible with no time limit

## Is it a **patent** or a patent **application**

### Pending patent applications

- Represent *potential* rights applied for
- Claims may be amended and limited during prosecution
- Give provisional protection
- Can (usually) *not* be enforced until after grant
- Should be **watched** if a conflict of interest can be foreseen, and relevant prior art should be identified for use in a possible attack

## A **patent** does NOT contain any of the following information

- The life of the patent after grant
- Is the patent in force, i.e. have renewal/maintenance fees been paid
- Has the patent been re-assigned/transferred
- Are other patents dominating, i.e. is working of the invention disclosed in the patent dependent on other patents
- Will a license be available
- Have licenses been given
- Is the invention being worked – is the invention available on the market
- Has the patent been litigated
- Are there patent family members in other countries

A **published patent application** does NOT contain any of the following information

- Status of the application:
  - Is the application pending
  - Has the application been examined
  - Has a patent been granted
  - Has the application been withdrawn or refused
  - Are there patent family members in other countries
  - Have divisional applications been filed
- Status information can be obtained through (online) file inspection

### Duration of patents

A patent will expire

- 20 years after its filing date at the latest, or
- If renewal/maintenance fees are not paid, or
- If revoked in opposition/re-examination proceedings, or
- If revoked by the court in invalidity proceedings

Expired/revoked patents no longer represent any right that can be enforced

## Business use of patent information

- Patent information is interesting not only because of its *legal* and *technical* relevance, but increasingly because of its importance in a **business context**.
- Patent information provides a wealth of information for many people involved in business, especially corporate decision makers, investors, managers and innovators working in research and development

## Business use of patent information

Patent information can help you to:

- Monitor *trends in technology* which may influence your products and business,
- See which *markets* your competitors are active in,
- Identify *business opportunities*, and
- Co-ordinate your *business decisions*

### Business use of patent information

Patent information can be analysed to show

- Changes in patent activity in certain technical fields
- Areas in which your competitors' patents are clustered
- The geographical distribution of patents over time

### How can a patent or patent application influence my activities?

1. Is the invention and the technology of the patent *relevant* to me?
2. Will the patent restrict my *freedom to operate*?
  - If so, is a license desirable?
  - Is a license available?
  - Can I design around the patent?
  - Can I attack the patent and have it restricted or revoked?

### How can a patent or patent application influence my activities?

- An inspiration and a starting point for further development
  - Will my further development be covered by the patent?
    - If so, see the previous slide
  - Will the patent owner be interested in my further development?
- Inspiration from patent literature may prevent duplication of work

### When a **dominating granted patent** has been identified

If in force:

- Perform prior art search
- Obtain opinion on validity and infringement
- Design around if possible
- Obtain license
- Attack the patent

## When a (potentially) dominating **patent application** has been identified

If still pending:

- Establish a watch of the application
- Study search report
- Perform prior art search
- Obtain opinion on strength of prior art
- Design around if possible
- Attack application or prepare attack on patent if/when granted

## Useful links

- <http://www.dkpto.dk> Danish Patent and Trademark Office, DKPTO
- <http://www.epo.org> The European Patent Office, EPO
- <https://register.epoline.org/espacenet/regviewer> EPO file inspection
- <http://patft.uspto.gov> USPTO search
- <http://www.google.com/patents> Google patents (US patents only)
- <http://ep.espacenet.com> Esp@cenet
- <http://www.jpo.go.jp> Japan Patent Office
- [http://www.sipo.gov.cn/sipo\\_English](http://www.sipo.gov.cn/sipo_English) Chinese Patent Office
- <http://www.wipo.int/portal/index.html.en> WIPO