

Basic concepts in the patents field

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What is a patent?

- A patent is a legal agreement between the inventor and the government, by which the government
 - confers on the owner of the patent (the proprietor) the right to exclude others for a certain period of time from the manufacture, use or sale of the invention which is the subject of the application
 - publishes the invention in return for conferring this monopoly right.
- In addition to the patent, the intellectual property is protected by the utility model on the technical side, and by the registered design, the author's copyright, and by the trademark on the non-technical side.

Technical inventions (Germany)

	Patent	Utility model
Subject of protection	Inventions (devices, substances, methods and processes of manufacture)	Inventions (no methods and processes)
Preliminaries	Novelty Inventivity Industrial usability Substantial examination	Utility model is registered without substantial examination
Term of protection	Up to 20 years	3 years (may be extended up to 10 years)

Novelty

- The subject matter of a patent is considered novel if it is not within the scope of the state-of-the-art, i.e. at the time of application there must not be any publication (oral or written) worldwide where the invention is described.

Inventivity, level of invention

- The invention is based on an inventive step if it is **not** obvious to an average expert in the technical field and thus surpasses the skills of an average expert.
- The inventive step may vary considerably depending on the technology field.

Industrial usability

- The invention must be usable in industry.
- Patent applications incur costs (application fees, patent attorney, annual fees).

Unity of invention

- Only one invention may be described in a patent. Several applications must be made if the scope of the claimed invention is not homogeneous.

What cannot be patented (Germany)

- Discoveries (of something already existing), scientific theories and mathematical methods
- Aesthetic creations
- Plans, rules and methods for intellectual activities or games, in particular computer software (no technical teaching)
but:
If software is part of or combined with a technical invention (e.g. a particular device or hardware) a patent can be granted.
- Computer software is a subject of copyright law.

The process of obtaining a patent

- An application is filed in writing and the Patent Office assigns a number to the application (the Application Number)
- Preliminary check that documents are complete; allocation to a technical field (International Patent Classification)
- Publication of application: In a number of countries the application is published with a publication number (the Patent Number) 18 months after filing (= fast publishing countries). (In Germany this is the 'Offenlegungsschrift'.)
- Examination: the prerequisites for a patent to be granted on the invention are closely examined: appropriateness and innovativeness. This often has to be applied for (e. g. Germany), but is sometimes automatic (e.g. USA)
- Patent granted and published: publication in the Patents Gazette with a publication number (the Patent Number)
- Rejection: it is possible for the application to be rejected rather than granted
- Objections: anybody can make an objection and if they do there must be a further examination (period for entering an opposition against DE patents: 3 months; EP patents: 9 months)
- It is always necessary to distinguish between publications, which are of the application filed (but not yet examined) and those, which are of the patent as granted after the examination. For this purpose publication codes are appended to the Patent Number.
- Publication codes (Germany):

Kind of publication	Publication code	Number of publications
Unexamined laid-open patent application (Offenlegungsschrift)	A	1
Examined laid-open patent application (Auslegeschrift) – only up to 1976	(B)	
Patent publication	C	1 (if no previous laid-open application); 2; 3; 4
Publication of international or European applications in German translation	T	1; 2; 3; 4
Utility model	U	1

How applications are filed and patents granted in different countries

- An invention is only protected by patent in the country that has granted the patent. To achieve patent rights in different countries,
 - application must be made to each individual Patent Office (a new Application Number is assigned by each Patent Office) or
 - application must be made for a European or PCT patent, naming the countries in which protection is sought. A European or International application number is given.
- There is a distinction to be made between
 - Fast Publishing Countries: these publish the application (unexamined) after 18 months and
 - Slow Publishing Countries: these are the countries where there is no publication before the patent has been granted.

Fast Publishing Countries		Slow Publishing Countries
Australia	Japan	Austria
Belgium	Luxemburg	Hungary
Brazil	Netherlands	Israel
Canada	Norway	Romania
China	Portugal	Switzerland
Denmark	South Africa	USA*
EPO	South Korea	
Finland	Spain	
France	Sweden	
Germany	WIPO (PCT)	
Great Britain		

* From March 2001 unexamined applications are published voluntarily in the USA.

- It is important to distinguish whether a publication is the patent application as filed, not yet examined, or the patent as granted after examination. For this purpose publication codes are appended to the Patent Number.
- In the patents field it is customary to work with country codes rather than the full names of countries. This code is allocated by the WIPO (the World Intellectual Property Organisation). See [Country codes and country coverage of CA, INPADOC, WPIINDEX](#)

Composition of a patent

- The first sheet contains the bibliographical details:
 - Title
 - Abstract
 - Numbers (e.g. application number, priority number, publication number)
 - Names (e.g. inventor, applicant, patent agent)
 - Dates (e.g. application date, priority dates, publication dates)
 - Drawing (not in every case)

Standardisation: Numbers (INID codes) are used to identify bibliographical details. By these numbers it is possible to identify the details given on a title page of a patent publication without actually knowing the language or national patent law.

- The body of the text contains:
 - Background information
 - A detailed description of the invention
 - The claims

- From a legal point of view the claims are the most important thing, because they contain the exact description of the invention.

Important concepts

Priority

- The earliest filing of a patent application for an invention.
- Priority is claimed when an application for a patent is lodged abroad.
- This is valid for all countries, which have contracted into the Paris Convention (all the main industrial countries).
- Within 12 months patent applications can be filed abroad and the priority of the first application (the original priority) can be claimed.

Patent family

- All patents that relate to the same invention, lodged in different countries, belong to the so-called Patent Family
- The members of this family all have the same priority date.

European Patents

- Based on the European Patent Convention (EPC) introduced in 1978
- Filing, search and publication procedures at the European Patent Office (EPO):
 - Applications must be filed at the EPO and the countries designated in which patent protection is sought (Designated States).
 - States contracted into the EPC: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE
 - The EPO publishes the unexamined applications 18 months after filing of the first application (priority date), then does an in-depth examination and publishes the patent once it is granted.
- After grant of patent: conversion into a bundle of national patents in the designated states.

PCT applications

- International application to achieve patent protection in more than one country (standardised)
- Based on the Patent Co-operation Treaty (PCT), an international treaty in the field
- An international application in which the designated states are named is filed at the national Patent Office, or the EPO, who then forward it to the World Intellectual Property Organisation (WIPO) in Geneva.
- The WIPO publishes the application 18 months after the priority date.
- The national phase: between 20 and 36 months after filing (or after the priority date), the application is sent to the designated Patent offices who take it through the national procedures. (There is no international procedure for the granting of patents.)

Example of a patent procedure

03 July 1997	German patent application
23 June 1998	European application based on the priority of the German application
07 January 1999	Unexamined application laid open in Germany (Offenlegungsschrift)
07 January 1999	Unexamined application laid open by the European Patent Office
18 November 1999	German Patent
24 November 1999	European Patent