

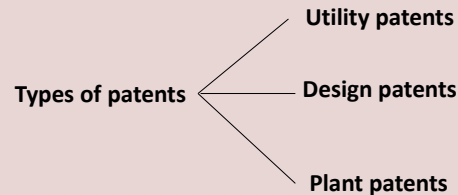
Chapter 4 Notes: Intellectual Property Basics

Intellectual property

- **“Intellectual property”**: commercially valuable rights
- Result from formally codified inventions, literary or artistic works, or other representations of creative thought or particular symbols of commerce.
- **Includes:**
 - **Patents**
 - **Trademarks**
 - **Copyrights**
 - **Trade secrets**
- Intellectual property or “IP” has value only when the underlying work is being developed and commercialized
- Origin of the word “patent” is the latin patere, which means “to lay open” (for public viewing)

Types of patents

- In exchange for disclosing an invention to the public, the inventor or patent holder receives protection for the invention, for a limited period of time(usually 20 years)
- The patent holder can exclusively block others from making, using or selling the invention
- **The advantage:** dissemination to the public of the detailed methods, further development of new technology based on this invention
- patent is NOT an exclusive right to make, use, and sell the invention, but only a right to block others.

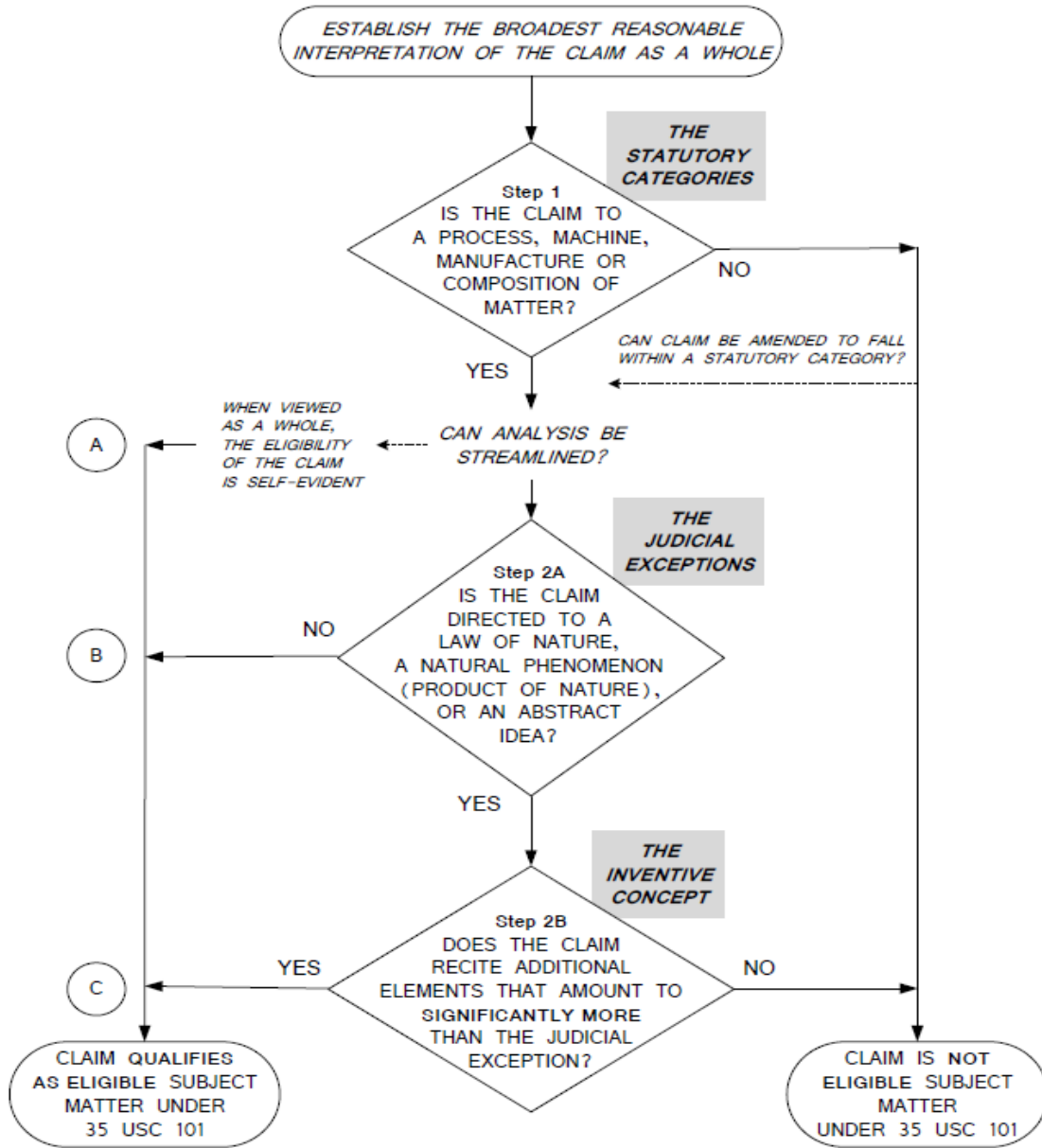


What cannot be patented

- Laws of nature
- Physical phenomena
- Abstract ideas that are not conceptualized
- Literary, dramatic, musical, and artistic works (these can be copyright protected)
- Inventions which are:
 - Not useful
 - Offensive to public morality
- MOST LIVING THINGS CANNOT BE PATENTED UNLESS THEY ARE NOVEL, USEFUL AND NON-OBVIOUS (i.e. made by man)
- Naturally occurring biological subject matter, including bacteria, viruses, and human or animal stem cells and cell lines, are considered to be patent ineligible.
- NOTE: If a product of nature is new, useful and nonobvious, it can be patented if it has been fashioned by humans
 - ✓ Genetically engineered microbes, animals
 - ✓ New Plants sexually or asexually reproduced by man
 - ✓ Natural compounds, proteins, and nucleic acids purified away from the human body may be patented in purified state in some countries and not in others.

*Some of the above text is excerpted from the book :
[Commercializing Successful Biomedical Technologies](#), (2nd Edition, Cambridge University Press)*

SUBJECT MATTER ELIGIBILITY TEST FOR PRODUCTS AND PROCESSES



(A) (B) (C) → THE PATHWAYS TO ELIGIBILITY

Characteristics of a patented invention

- Novel (not previously known, used, sold, on sale, marketed)
- Utility (useful task, some use for invention)
- Non-obvious to a person with knowledge in the field
- Adequately described to the public at time of filing
- Enable a person with knowledge in the field to make and use it
- Best mode or effective mode must be disclosed
- Described in clear, unambiguous, and definite terms



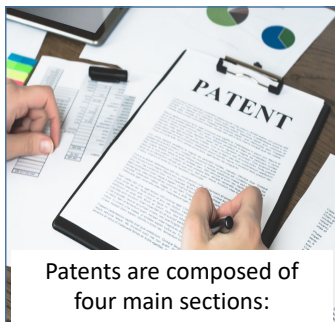
What is in a patent?

Face page:

Normally contains the patent number, date of issue Application, inventors, assignees abstract and title of patent

Description :

adds detail to the claims by virtue of examples and background. Description cannot be modified once it is filed.



Patents are composed of four main sections:

Claims:

The language in the patent claims is critical to legal definition and defense of the patent holders' rights and the use of single word can change the legal rights of the patent holder

Drawings:

Help to convey more specifics on the invention. Help to substantiate the application and reduction to practice of the invention

Priority date, grace period, and public disclosure

- Priority date : the date of filing of the first patent application.
- Any public disclosure before the date of filing is viewed as prior art in many countries and can invalidate the patent application as not being original, even if the public disclosure was by the inventor

How much does it cost to get a patent?



- Lawyers' fees to draft the first patent application - \$3,000 to \$15,000
- Foreign filing fees, adding up various nations' patent offices where you choose to file - \$30,000 to \$50,000
- local lawyer's translation and representation fees \$40,000 to \$80,000 depending on how many countries are selected
- Above costs vary based on type of patent, length, complexity, etc.
- Maintenance fees to US PTO due after being granted the patent

Considerations before filing a patent application



- Cost estimates and budget allocations
- Clarify business purpose/applications of the patent
- Confidence in ability to obtain and enforce the patent
- Return on investment estimates
- Freedom to operate (FTO) assessment

Checklist for filing a patent application

- ✓ Write up a detailed disclosure (description) and confirm eligibility of the subject matter
- ✓ Is the idea or invention conceptualized at the minimum required to file patent application

STEP 1:

Conception exists when there is a formation in the mind of the inventor of a definite and permanent idea of the complete and operative invention as it is to be used

STEP 2:

Conception is completed when someone ordinarily skilled in the field could perform the process or make the composition, when the concept is conveyed to them, without unduly extensive research or experimentation.

- ✓ Identify the specific class and code for your technology
- ✓ Find out if any prior art exists – do at least a preliminary search on conference abstracts and publications
- ✓ Determine the inventor(s) : Each inventor, to be considered an inventor, must have made a contribution, individually or jointly, to the subject matter of at least one claim of the application
- ✓ Choose an attorney to draft the claims.

Patent prosecution process

Step 1

- Document - the invention date

Step 2

- File provisional patent with USPTO.
- you have 1 year from this date to submit a full application in other countries through the PCT process

Step 3

- One year after the provisional filing, submit a full, non provisional patent application to the USPTO.
- Simultaneously submit a PCT application

Step 4

- Applications get published and are available for public review typically 18 months after application date.
- For PCT filing, an International Searching Authority, typically an examiner in the receiving country patent office, conducts a search and issues an International Preliminary Report on Patentability (IPRP)

Step 5

- At 8 months after PCT submission (20 months from priority date), the applicant has to select the final countries desired for final filing

Step 6

- At 30 months from submission into the PCT process, the patent enters national phase filing in the countries that were finally selected.
- Fees for individual countries will come due when national phase applications are filed

Step 7

- U.S. patents will issue anywhere from 2 to 5 years from initial application
- depending on the backlog at the Patent Office and the specific issues in the application.