

BUTLER | SNOW

Researcher Commercialization Networking Lunch

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What is Prior Art?

Prior Art is all information that has been disclosed to the public in any form about an invention before a given date.

Prior Art

- US Patents and Published Applications
- Foreign Patents
- Printed Publications

Why is knowing about Prior Art important?

- You don't want to waste resources reinventing the wheel.
- You need to know what else is out there before applying for a patent.
- You want to ensure that you aren't infringing any patents.

Search Options

- USPTO
- [Google.com/Patents](https://www.google.com/patents)
- [FreePatentsOnline.com](https://www.freepatentsonline.com)
- Sumobrain

USPTO PATENT FULL-TEXT AND IMAGE DATABASE

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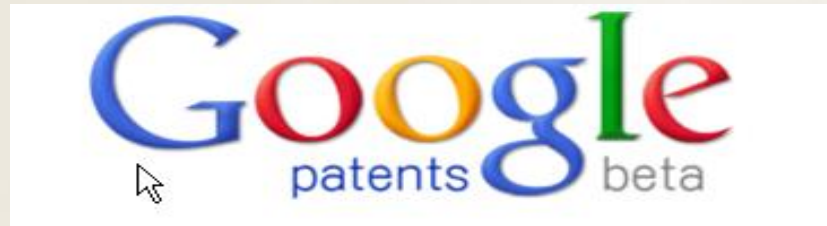
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–Advantages

- The official database – always up to date

–Disadvantages

- Unwieldy – uses TIFF!
- Text search is unavailable prior to 1976



- [Google.com/patents](https://www.google.com/patents)
 - Advantages
 - Uses book search technology to search text within patents
 - Includes text searching of even the oldest patents
 - Disadvantages
 - May not be as up to date
 - No international patents
 - OCR isn't very clear
 - Results vary greatly
- Good place to start when you don't know the current lexicon



freepatentsonline

all the inventions of mankind

- Free Patents Online
 - Advantages
 - Advanced patent search: Filter results by date range, word stemming on/off, sort patents by chronological order, etc.
 - Subscribe to patent RSS feeds by patent category
 - Links to classifications and related patents
 - Disadvantages
 - Possibly not the most up to date



- Made by same company as FreePatentsOnline
- Allows bulk downloading of patents as a Zip file
- Allows you to save searches
- Allows you to batch export data in Excel
- Free

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Overall Search Strategy

- 1) Find Search Terms.
- 2) Broadly Search the Specifications.
- 3) Identify relevant classifications, and browse the most relevant.
- 4) Review referenced patents to find more synonyms and missed classifications.

Finding Search Terms

- Make a list of your search terms.
 - Focus on the novel points of the invention.
- May be a good time to browse the internet using Google to find out what other common names are out there
 - Regional differences in names
 - Colloquial vs. Tradenames

Look for Synonyms

- Thesaurus or Wikipedia may be helpful:
 - Bicycle invention may be known as a velocipede, two wheeler
 - Oyster could be called a bi-valve, mollusk
- Look up Foreign Terminology
- Alternate Scientific Terminology:
 - Suppose you want salt related terminology:
 - Salt, NaCL, Sodium Chloride, Saline, halite

Search the Specifications

The specification is the long written portion of the patent that fully describes the technology and its variations.

Some search engines (such as USPTO) only search the abstract by default. The abstract may be intentionally vague.

You need to ensure that you are searching the specification. At the USPTO site add “spec/” to the front of the term for which you are searching.

e.g. “/spec”

If you find nothing on your keyword...you did something wrong!

- Try again with fewer terms.
- Expand your scope.
- Try it again in a more forgiving search engine (such as Google/Patents).

Identify patents that are close and write down classification numbers.

- The examiners at the Patent Office place patents into classifications.
- Each patent will list the classes that the patent has been placed into, including subclasses.
- As you write down the classification numbers, you will start to identify common classes.

Example: The Oyster Shucker

First, let's find our relevant search terms.

- Oyster
 - Mollusk
 - Bi-valve
- Shucking
 - Opening
 - Shuck

Do a search of the keywords in a patent database.

- I am accustomed to FreePatentsOnline, but any of the search databases can be used at this level.
- <http://www.freepatentsonline.com/>
- Do an advanced search, and choose all of the databases.
- Search the specification.

Write down identified patents and identify relevant classes.

PATENT	CLASSES	SUBCLASS		
4796333	452	16		
		17		
5178577	452	13		
		16		
3724031	452	12		
3828398	452	13		

Browse the classes that you identified.

This is easily manageable, and it ensures that you didn't miss any unusual terms.

You can either do it directly in your database, such as freepatentsonline, using the ccl/452/13

Or you can go to the USPTO website to see classes and structure:

<http://www.uspto.gov/web/patents/classification/selectbynum.htm>

While browsing, identify additional keywords as they become relevant.

For example, I noticed that mollusc is an alternate spelling.

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Foreign Patents

- Foreign patents are harder to find, but there are a variety of resources.
- Freepatentsonline.com or Sumobrain allows you to search for them using the same techniques you are used to.
- Alternatively, you can use WIPO's patentscope
- <http://www.wipo.int/pctdb/en/>
- Or espacenet for the European Patent Office
- <http://ep.espacenet.com/>

Search the foreign patents.

- You can use the keywords that you identified earlier while browsing the sites.

Advanced Searching

- Browsing through referenced patents
- Searching assignments of companies

It is an art, not a science.

- Patents are often misclassified.
- As you become better at searches and identifying keywords, you can repeat a search using proximity searches, or Boolean searches to hone down your area.

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- **Printed Publications**

Printed Publications

- The patent office will hold US and foreign publications against you.
 - Including U.S. and Foreign Textbooks
 - Articles
 - Dissertations
- You cannot get a patent if it was already known.

Printed Publications, continued

- Printed Publications
 - Journals
 - Trade magazines
- PubMed
 - Google and Google Scholar are very helpful here.

Duty of Disclosure

- A patent applicant has a duty to disclose any relevant prior art of which they are aware.
- Failure to do so could result in invalidation of the patent.
- Keep your list of relevant patents and publications, and provide it to your technology transfer office.