



Basics of Patent Searching

WIPO Patent Drafting Course for
Patent Agents from the ARIPO
Member States and Observer States

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What is Prior Art?

- Information that is available prior to the effective date of a patent application
- The effective date is typically the filing date of the patent application
- Prior Art includes any public document, for example published patents, technical publications such as journal articles, conference papers, websites, available products, marketing information, and the like



Importance of Prior Art searches

- A Prior Art search relates to an organised review of prior art material available from public sources, and may be provided in the form of
 - Patentability searches
 - Patent examination searches
 - Validity searches
 - State-of-the-art searches
- Prior Art searches may also be used to determine the value of a potential investment



Importance of Prior Art searches

- A patentability search prior to filing a patent:
 - May speed up prosecution of a patent, as the claims may be configured to take into account the prior art
 - May reduce overall costs by saving time, as potential future hurdles may be avoided
 - May indicate where research and development investments should be allocated if an unexplored field is discovered
 - May indicate existing technology which could be problematic from an infringement perspective. Take note that an infringement analysis is a different type of search.



Importance of Prior Art searches

- A patent examination search during prosecution of a patent:
 - Done by an examiner to determine if the patent application may be granted
 - Allows the examiner to comment on the novelty and inventiveness of the patent application



Importance of Prior Art searches

- A patent validity search after grant of a patent:
 - May be done by a party who wants to contest the validity of a patent, or by a party who wishes to defend their patent
 - May indicate that a patent is valid, or that it was incorrectly granted and should be revoked or could be saved by amendment



Importance of Prior Art searches

- A state-of-the-art search:
 - May be done by a party wishing to assess a particular field before venturing thereto
 - Can lay out a path for a party to design around existing technology
 - Indicates what art exists, and provides opportunity to develop around it



The Art of searching

- Before searching:
 - You must understand the invention before you start to search
 - If you do not fully understand the invention, you may think non-relevant results to be relevant
 - If you do not fully understand the invention, you may base your opinion of the invention on incorrect information
 - Patentability of an invention is determined with reference to the claims
 - Interpret the claims in light of the specification



The Art of searching

- Searching is not easy
- The correct result is very seldom, if ever, immediately found
- Many iterations may be required to obtain a suitable result
- Searching is an art that is learned over time



The Art of searching

- How to search:
 - Search for defining concepts of the core of the invention
 - Identify the essential features of the invention
 - Think of different embodiments of the invention, other than those described therein
 - Keyword searches:
 - Words used to describe the invention
 - Example: "Solar water heater"
 - Alter, change or add keywords if relevant results are not found:
 - "Solar geyser"
 - "Solar energy hot water heater"
 - "Solar energy geyser"



The Art of searching

- How to search:
 - Take note of words that are used differently in different countries, particularly the US and Europe (bonnet v hood, sidewalk v pavement, etc.)
 - Take note of synonyms that may be used: “mobile device”; “cell phone”; “mobile phone”; “communication device”; etc.
 - Use wildcards
 - Beware of searching for specific forms of a word:
 - “Generate”; “generating” and “generated” may all provide different results
 - “generat*” will locate all of the above terms if the “*” character is applicable on the search platform
 - Make sure you are aware of the wildcard characters of your search platform



The Art of searching

- How to search:
 - Search in specific categories – This may eliminate substantially irrelevant results
 - Very useful if a very large amount of results must be filtered
 - Can classify the invention yourself, or can look at a relevant specification to determine the classification allocated thereto



The Art of searching

- How to search:
 - Search in specific categories:

Symbol	Classification and description	
<input type="checkbox"/> F	MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING ENGINES OR PUMPS	
Lighting; heating		
<input type="checkbox"/> F24	HEATING; RANGES; VENTILATING (protecting plants by heating in gardens, orchards, or forests A01G 13/06 ; baking ovens and apparatus A21B ; cooking devices other than ranges A47J ; forging B21J , B21K ; specially adapted for vehicles, see the relevant subclasses of B60 to B64 ; combustion apparatus in general F23 ; drying F26B ; ovens in general F27 ; electric heating elements and arrangements H05B)	
<input type="checkbox"/> F24J	PRODUCING OR USE OF HEAT NOT OTHERWISE PROVIDED FOR (materials therefor C09K 5/00 ; engines or other mechanisms for producing mechanical power from heat, see the relevant classes, e.g. F03G for using natural heat)	
▲ <input type="checkbox"/> F24J 2/00	Use of solar heat, e.g. solar heat collectors (distillation or evaporation of water using solar energy C02F 1/14 ; devices for producing mechanical power from solar energy F03G 6/00 ; semiconductor devices specially adapted for converting solar energy into electrical energy H01L 31/00 ; photovoltaic [PV] cells including means directly associated with the PV cell to utilise heat energy H01L 31/0525 ; PV modules including means associated with the PV module to utilise heat energy H02S 40/44)	
<input type="checkbox"/> F24J 2/04	• Solar heat collectors having working fluid conveyed through collector	



The Art of searching

- How to search:
 - When a relevant prior art document has been identified, look at the prior art documents that was cited against it during its prosecution, and at patent applications against which it was cited:
 - This may provide a significant number of prior art documents that may be equally or more relevant



The Art of searching

- Remember that an entire patent specification is important for patentability searches, not only the claims
- Everything that is published is Prior Art
- Patents and/or patent application may be published later, but with an earlier priority date, and may be prior art although not yet available
- You can search for a specific inventor, or for a specific applicant



The Art of searching

- Where to search:
 - National or international databases
 - Free access typically provided, as patents and patent applications are public information



The Art of searching

- Where to search:
 - Google Patents – www.google.com/patents
 - A good place to start a search
 - Intelligent search algorithms provide relevant results
 - It typically takes 2 to 3 months for published patent applications to appear, so some Prior Art may not be available
 - Originally only included US prior art, but other databases has been added to some extent
 - Does not cover as many jurisdictions as others
 - Limited field combination possibilities
 - Provides links to other major search platforms



The Art of searching

- Where to search:
 - Espacenet - worldwide.espacenet.com
 - Database of published patents and patent application managed by the European Patent Office
 - Search algorithm not as intelligent
 - Includes Prior Art from most jurisdictions
 - “Advanced” and “Simple” search options
 - Claims to provide access to over 90 million Prior Art documents
 - Many foreign language Prior Art documents with machine-translated information



The Art of searching

- Where to search:
 - WIPO - patentscope.wipo.int/search/en/search.jsf
 - Database managed by the World Intellectual Property Organisation
 - Includes Prior Art from most jurisdictions
 - “Advanced” and “Simple” search options
 - Claims to provide access to over 49 million Prior Art documents



The Art of searching

- Where to search:
 - USPTO - patft.uspto.gov/netahtml/PTO/search-bool.html
 - Database managed by the United States Patent and Trademark Office
 - Only covers US patents and patent applications
 - Initially relatively complex to use, especially advanced searches
 - Example:

Refine Search

PAT. NO.	Title
1 7,887,331	Light bulb socket adapter
2 5,365,162	Light bulb electric life extender having a diatriac combination connector in parallel with a capacitor
3 4,824,393	Socketless light bulb holder



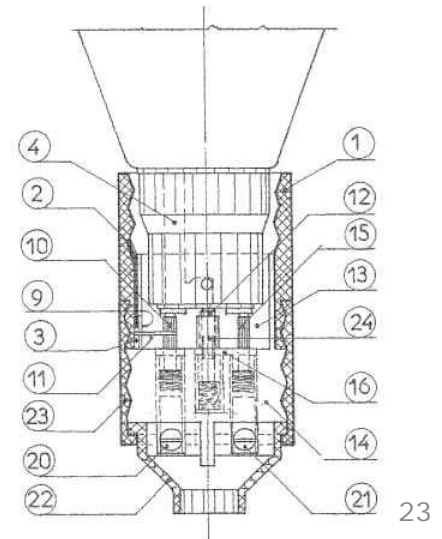
The Art of searching

- Example of search
 - Light bulb fitting that can take both types of light bulbs
 - Google patents: “Light bulb fitting that can take both types of light bulbs”
 - Result that appears relevant - WO2005104304A1
 - Actually relates to a light bulb fitting which attaches to a base via a magnet. It merely mentions that any type fitting may be provided with a secondary bulb fitting, which attaches to the base via a magnet.



The Art of searching

- Example of search
 - Light bulb fitting that can take both types of light bulbs
 - Google patents: “light bulb screw bayonet fitting”
 - Third result - WO2008142624
 - Universal lamp holder defining a cavity shaped to receive either a screw cap or a bayonet cap of a lamp.
 - At bottom of page, see “patent citations”
 - List provided with other, older prior art documents cited in relation to WO2008142624





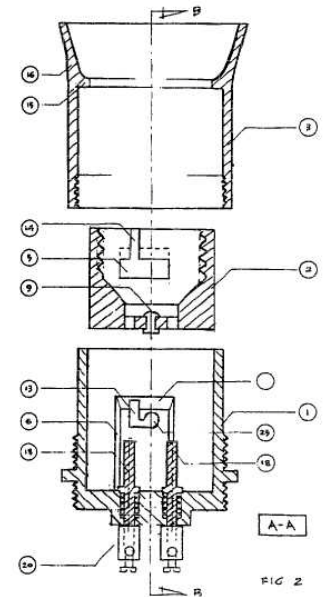
The Art of searching

- Example of search
 - Light bulb fitting that can take both types of light bulbs
 - Espacenet: "light bulb screw bayonet" in "title or abstract" search field
 - 26th result when sorting by priority date - GB2331405
 - The light bulb socket can hold either a bayonet cap light bulb or an Edison screw light bulb.
 - On left, see "patent citations"
 - List provided with other, older prior art documents cited in relation to GB2331405

Enter keywords in English

Title: plastic and bicycle

Title or abstract: hair

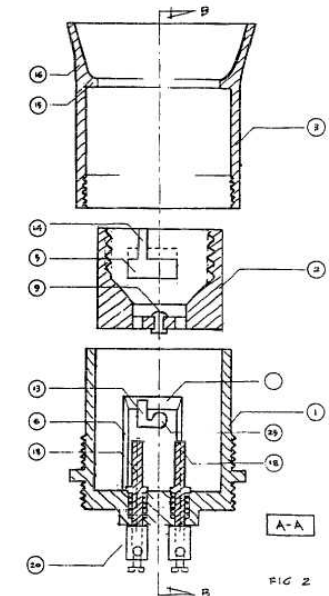




The Art of searching

- Example of search
 - Light bulb fitting that can take both types of light bulbs
 - Interesting to note classification:

Symbol	Classification and description	
H	ELECTRICITY	
H01	BASIC ELECTRIC ELEMENTS	
H01R	LINE CONNECTORS; CURRENT COLLECTORS (switches, fuses H01H ; coupling devices of the waveguide type H01P 5/00 ; switching arrangements for the supply or distribution of electric power H02B ; installations of electric lines, cables or auxiliary apparatus H02G ; printed means for providing electric connections to or between printed circuits H05K)	
H01R 33/00	Coupling devices in which a holder is adapted for supporting apparatus to which its counterpart is attached; Separate parts thereof (structural association of counterpart with specific apparatus, see the relevant subclass for the apparatus)	





The Art of searching

- Example of search
 - Light bulb fitting that can take both types of light bulbs
 - Duplicating the search of “light bulb screw bayonet” in only class H01R33 results in GB2331405 moving up to 7th in the results

Enter keywords in English

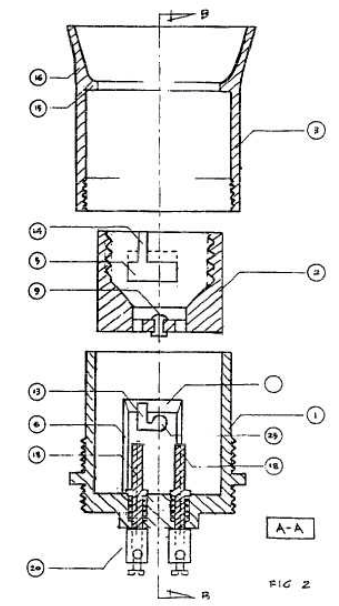
Title:

Title or abstract:

Enter one or more classification symbols

CPC:

IPC:





The Art of searching

- Example of search
 - For interest, the same search terms on the USPTO website:

Query [\[Help\]](#)

```
ABST/(screw AND bayonet AND light AND bulb) AND  
ICL/(H01R33)
```



The Art of searching

- While searching:
 - Keep track of your search strategy
 - Store your strategy for later reference if further searching is necessary
 - Report your search strategy to client as part of your results if applicable
 - If they can pick up a missed search term or keyword from your strategy, they can instruct you to perform further searches
 - As many searches may not yield the required results, it may help your client to understand the time spent on the search



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