

ELG's Practical Guide to

PATENT SEARCHING

for the
Cost-Conscious Inventor

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ELG'S PRACTICAL GUIDE TO

PATENT SEARCHING

FOR THE COST-CONSCIOUS INVENTOR

Do you have an invention? Before seeing a patent lawyer, you should make a preliminary search to find out if your idea was previously known. The Patent Office will only award patents for ideas that are truly new. While a self-directed internet search is not a substitute for a professional patentability search, it is a smart preliminary step for any cost-conscious inventor. The patent archives are filled with evidence of past inventive genius - much of which never achieved commercial success. Better to find out bad news early. Patent searching is tedious work. An organized approach is essential. Expect that patent research for most inventions will require about 10-20 hours of focused attention. The search process described here has 3 Phases, followed by an Analysis of the findings.

PHASE 1. KEY-WORD SEARCH

Begin your patent search with a series of Key-Word queries in the free on-line patent databases. I most often use one of these sites:

- Google Patents: www.google.com/patents
- US Patent Office: www.uspto.gov
- European Patent Office: www.espacenet.com



Wondering if someone
has already patented
your great idea?

The goal of the Key-Word search is to find at least 3 or 4 examples of relevant prior art (more is better). "Prior art" means any technology that pre-dates your invention. A "relevant" prior art reference is one that is similar to your invention in its design or approach. When you find a relevant prior art reference, save a full text image and then set it aside. Don't bother analyzing now - wait until all 3 Phases of the searching process are finished.

When you have at least 3-4 examples of relevant prior art, move on to Phase 2.

TROUBLESHOOTING TIPS:

If your Key-Word searches don't yield at least 3 or 4 good prior art examples, then try searching for patents associated with the leading companies in the technology space.

When possible, use Key-Word terms that are particular to the field of your invention. You might discover in reading patents in the field that specialized words seem to be used over and over again.

PHASE 2. CLASSIFICATION SEARCH

Now switch to an altogether different search method. Every U.S. patent document is categorized according to its technology using a class/subclass designation. Successful classification-based searching depends on finding the right class/subclass in which to search.

The U.S. Patent Office keeps a record of all the classes and their subclasses in something called a Classification Manual. Unfortunately, the Classification Manual can be difficult to navigate due to the archaic terminology sometimes used. They say sometimes you have to kiss a lot of frogs before you find a prince ... well it's like that here too. You might have to look at a lot of subclasses before you find the right one.

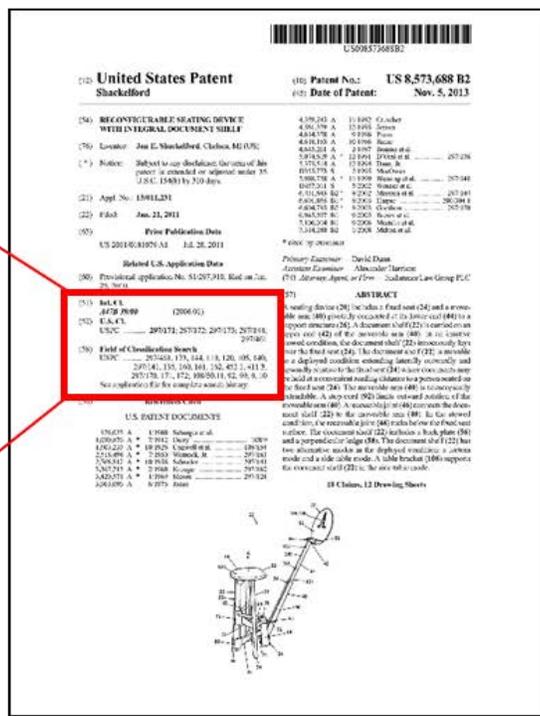
To keep yourself organized, you'll want to make a Search List. Check out our blank Search List at the end of this Practical Guide.

Now, we are going to use the patents found during the Key-Word search (Phase 1) to get things started. Patents granted since 1972 will list their US Class/Subclass designations on the cover page in Paragraph "(52)". (For pre-1972 patents, you might have to look-up the patent number on the USPTO website.) The patent shown below is classified in "297/171" (indicated by the bold face type), which is shorthand notation for US Class 297/Subclass 171. The patent is cross-referenced in 297/172, 297/173, 297/144, and 297/461. Paragraph "(58)" is interesting because it tells us the classes/subclasses where the Patent Examiner searched.

(51) **Int. Cl.**
A47B 39/00 (2006.01)

(52) **U.S. Cl.**
USPC **297/171**; 297/172; 297/173; 297/144;
297/461

(58) **Field of Classification Search**
USPC 297/461, 173, 144, 119, 120, 105, 140,
297/141, 135, 160, 161, 162, 452.1, 411.3,
297/170, 171, 172; 108/50.11, 92, 99, 9, 10
See application file for complete search history.



CLASSIFICATION SEARCH

Using these US Class/Subclass designations from Paragraphs (52) and (58), your Search List might start out like this:

- (52) **U.S. Cl.**
USPC 297/171; 297/172; 297/173; 297/144;
297/461
- (58) **Field of Classification Search**
USPC 297/461, 173, 144, 119, 120, 105, 140,
297/141, 135, 160, 161, 162, 452.1, 411.3,
297/170, 171, 172; 108/50.11, 92, 99, 9, 10

Search List					
Class	Subclass	"P" Docs	"A" Docs	Notes	
297	171	<input type="checkbox"/>	<input type="checkbox"/>		
297	172	<input type="checkbox"/>	<input type="checkbox"/>		
297	173	<input type="checkbox"/>	<input type="checkbox"/>		
297	144	<input type="checkbox"/>	<input type="checkbox"/>		
297	461	<input type="checkbox"/>	<input type="checkbox"/>		
297	119	<input type="checkbox"/>	<input type="checkbox"/>		
297	120	<input type="checkbox"/>	<input type="checkbox"/>		
297	105	<input type="checkbox"/>	<input type="checkbox"/>		
297	140	<input type="checkbox"/>	<input type="checkbox"/>		
297	141	<input type="checkbox"/>	<input type="checkbox"/>		
297	135	<input type="checkbox"/>	<input type="checkbox"/>		

Now, visit <http://uspto.gov/web/patents/classification/>. Select "USPC" as the Classification System, and enter the first class/subclass (297/171, in this example) from your Search List into the box fields. Choose your preferred output format: HTML or PDF. In the Select Content box, click on "Schedule" then click "Submit." You will be taken to an outline.

CLASSIFICATION SEARCH VISIT ONLINE:
<http://uspto.gov/web/patents/classification/>

Access Classification Information by Symbol

Select Classification System: CPC USPC

Enter Classification symbol: /
e.g., 482/1 or D14/314

Select output format: HTML PDF

Select Content:

- Schedule
- Definitions
- Statistical Mapping from USPC to CPC
- USPC to IPC Concordance
- USPC to LOCARNO (for Designs)

Clear Submit



I know this is getting tedious – but stick with it. The outline you see on the website is the portion of the US Patent Office’s Classification Manual for the class you entered. A dot system is used to indicate hierarchy in this outline format. Look closely at the outline for a potentially better subclass title that pertains to your idea. Clicking on a subclass number or title will take you to a Definitions page that usually contains useful information for patent searchers.

To the far left you will see the letters “A” and “P.” The “A” (set in a blue box) executes a search for all published patent applications referenced under this subclass. The “P” (set in a red box) executes a search for all granted patents referenced under this subclass. Both “A’s” and “P’s” are important areas to search for relevant prior art.

Click on the “P” of the subclass you want to search. A chronological list of granted patent documents will appear, starting with the most recent. Read the titles. If the title suggests the patent could possibly be relevant to your search, click on it. A record for that patent will open in your browser. If this patent document qualifies as “relevant,” download or print a full text image and set it aside with the other relevant patents you have found. Check the class/subclasses (listed on the cover page in Paragraphs (52) and (58)) of each newly found “relevant” prior art and add any new subclasses to the Search List.

Published Patent Applications

Granted Patents

Subclass

Outline Hierarchy

Subclass Title

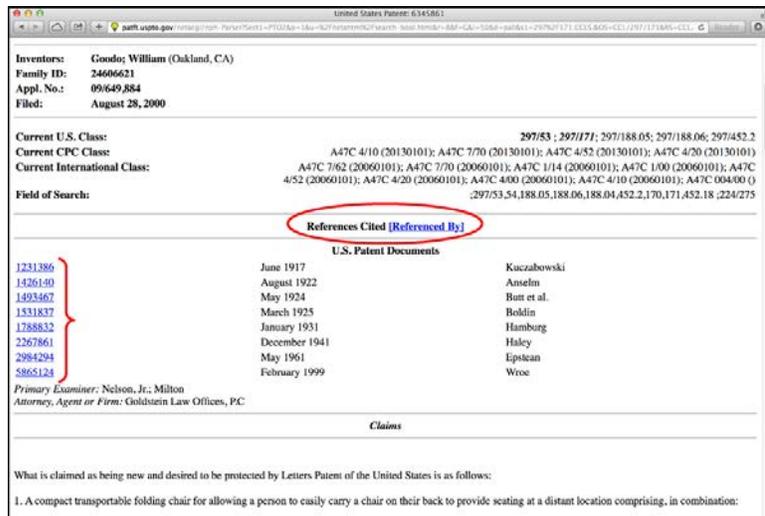
A	P	171	Standard is vertical extension of chair leg
A	P	172	Standard spaced from chair by base element
A	P	173	Table pivotally connected to seat

Class Schedule for Class 287 CHAIRS AND SEATS

- 161 -- Adjustable to multiple use positions
- 162 -- Connected to move to inoperative position
- 163 -- Table behind seat
- 164 -- Both independently vertically adjustable
- 165 -- Tilttable seat
- 166 -- Single pedestal
- 167 -- Tilttable seat
- 168 -- Vertically adjustable
- 169 -- With tilttable
- 170 -- Chair/seat/stand supports table
- 171 -- Standard is vertical extension of chair leg
- 172 -- Standard spaced from chair by base element
- 173 -- Table pivotally connected to seat
- 174 -- Table in front of seat
- 174CB -- Chair seat detachably mounted to table
- 175 -- MILKER STOOL TYPE
- 176 -- With tall guard or holder
- 177 -- Pail support movable as unit relative to seat
- 178 -- Pail support vertically movable
- 179 -- Adjustable as to pail size
- 180 -- WITH HEAT EXCHANGER OR MEANS TO PROVIDE FLUID OR VAPOR TREATMENT
- 180.1 -- Portable supplemental pad
- 180.11 -- Electric heating element
- 180.12 -- Power source propels air for heat exchange
- 180.13 -- Fan directly attached to a chair or seat component
- 180.14 -- Liquid medium
- 180.15 -- Occupants motion actuates a ventilating means (e.g., rocking movement, etc.)
- 180.16 -- SIMULATION; E.G., ANIMAL OR VEHICLE
- 181 -- WITH DEBRIS CATCHER
- 181.1 -- WITH HANDLE
- 182 -- Movable to inoperative position
- 183 -- (e.g., prop or baby seat, etc.)
- 183.1 -- dual use positions
- 183.2 -- chair in collapsed position (e.g., stadium chair)
- 183.3 -- part us
- 183.4 -- occupant while seated
- 183.5 -- CHILD OR INFANT PROTECTOR (E.G., CANOPY, SCREEN, ETC.)

Hopefully, during the course of your searching you will encounter some very close examples of prior art. (Although everyone secretly hopes to find nothing relevant, finding close examples is a good indicator that you are searching in the correct subclass.) For the really close prior art that are granted patents (as opposed to published applications appearing under the "A" categories), there is a nifty trick you can try. Before exiting the record for the patent document in your browser, scroll down to the section titled "References Cited [Referenced By]" as shown below. The "References Cited" section provides handy hyperlinks to the prior art considered by the Patent Office to be relevant for this patent. The "[Referenced By]" hyperlink will execute a search for all later patents that cite this one as prior art. Be sure to explore these areas; relevant prior art to this patent could be relevant to your invention too!

Repeat the above steps with the letter "A" patent documents for the same subclass. Each time you



Search List

Class	Subclass	"P" Docs	"A" Docs	Notes
297	171	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Lot of good hits
297	172	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Interesting Definitions ...
297	173	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Not relevant
297	144	<input type="checkbox"/>	<input type="checkbox"/>	
297	461	<input type="checkbox"/>	<input type="checkbox"/>	
297	119	<input type="checkbox"/>	<input type="checkbox"/>	
297	120	<input type="checkbox"/>	<input type="checkbox"/>	
297	105	<input type="checkbox"/>	<input type="checkbox"/>	
297	140	<input type="checkbox"/>	<input type="checkbox"/>	
297	141	<input type="checkbox"/>	<input type="checkbox"/>	
297	135	<input type="checkbox"/>	<input type="checkbox"/>	

find a new relevant published patent application, print or save a copy and set it aside with the others relevant patents you have found.

Working methodically through your Search List, review the "A" and "P" patent documents for each class/subclass. Keep in mind that your Search List will grow as you find new relevant documents and add their class/subclass designations. Be methodical. Stay organized. Take good notes and check off each subclass searched as you go.

"BE METHODICAL"

- Stay organized
- Take good notes
- Check off each subclass searched

Eventually you will get through all of the subclasses without adding any new ones. Then it is time to move on to Phase 3.

PHASE 3. INTERNET SEARCH

This final Phase of the search looks for examples of prior art in the general (non- patent) literature. This will include information gleaned from websites, product literature, chat forums, blog postings, and so forth.

Open your favorite internet search engine and run Key-Word searches using all the best terms you can think of. By now, you may have discovered certain specialized words that seem to be common in the field; be sure to include these specialized terms in your research. You are looking for anything that might qualify as relevant prior art. Again, download or print each relevant example of prior art and set it aside.

ANALYZE

Once all three Search Phases are complete, the relevant prior art you have found must be methodically compared to your invention. Patent protection, if available, will be found in the differences between your concept and the entire pool of prior art -- provided those differences enable some unexpected advantage or new result. To do a proper job, your comparisons must be unbiased and soberly analytical; discipline

yourself to be impassionate in your evaluation of each prior art reference.

DONE! NOW WHAT?

Congratulations! Your preliminary patent search is done. Now might be the right time to talk with a qualified patent lawyer about where to go next. Filing a Provisional patent application (PPA) is one option if you are confident your invention possesses key differences over the prior art. Find a patent lawyer who wants to understand your business objectives. A good patent attorney will recommend a course of action tailored to help you reach your objectives in the most economical and responsible way possible.

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Registered U.S. Patent Attorneys **LAW GROUP.**

ABOUT THE AUTHOR

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WARNING: Preliminary patent searches of the type described in this Practical Guide should not be expected to provide a definitive statement of the prior art that a typical U.S. Patent Office examiner will consider relevant to your invention. Often, prior art unfavorable to patentability can be uncovered through self-directed research like this. But a professional patentability search, interpreted by an experienced patent attorney, is strongly recommended before filing a regular Utility patent application. Remember also – even though your invention may be patentable, there could exist a dominant earlier patent that poses an infringement risk. Be sure to seek out qualified legal representation for your commercial endeavors.

