

How to Perform a Patent Search For Attorneys and Inventors

By John L. Ryan, B.S.M.E.
DBP document # 5002-1
©2005 Donegal Bay Publishing

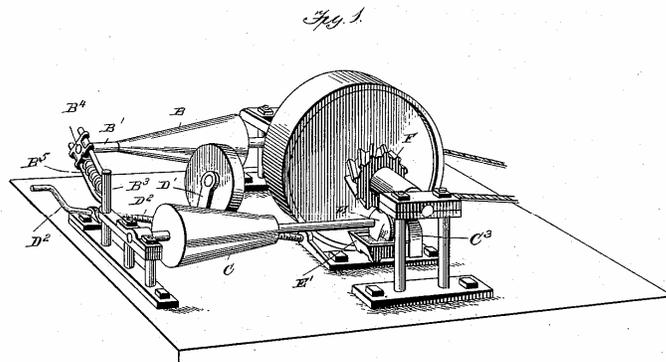
(No Model.)

3 Sheets—Sheet 1.

H. BEHRENS.
VARIABLE SPEED GEAR.

No. 598,762.

Patented Feb. 8, 1898.



Sponsored in part by:



SAFETY ENGINEERING
RESOURCES

Table of Contents

<u>TABLE OF CONTENTS</u>	<u>2</u>
<u>INTRODUCTION</u>	<u>3</u>
<u>WHAT IS THE WEBSITE ADDRESS?</u>	<u>3</u>
<u>WHAT CAN I FIND ON THE WEBSITE?</u>	<u>3</u>
<u>HOW TO DETERMINE THE STATE OF THE ART FOR A SPECIFIC PRODUCT AND DATE</u>	<u>3</u>
<u>HOW TO PERFORM A PATENT SEARCH: SEARCHING PATENTS TO DISCOVER IF AN IDEA FOR A PRODUCT HAS BEEN PATENTED</u>	<u>9</u>

Introduction

The first mechanical patent issued in the United States was issued to Joseph Jenkes on March 6, 1646, for a manufacturing mill. This patent was issued by the General Court of Massachusetts. The United States Patent and Trademark Office (USPTO) was created on April 10, 1790, when President George Washington signed the bill that began the patent system as we know it today. Since then, the United States Patent and Trademark Office has seen many inventions, including Edison's electric lamp, Bell's telephone, and the Wright Brothers' flying machine.

What is the website address?

The United States' Patent and Trademark Office website is found at: <http://www.uspto.gov>

What can I find on the website?

The USPTO website has several potential uses for attorneys. When companies produce a new, innovative product, the Patent Database can be searched to determine if there is a patent for the design of the product. This is an important step. Safety Engineering Resources develops innovative products, and we have had to stop development of a new product when we realized that someone had patented the idea already. Safety Engineering Resources can provide a booklet, "Patent Search for Inventors", document number 5002-4, describing the procedure used to determine if a product idea has been patented for a fee of \$40.00. Call us at (479) 549-4860 to order this document. In patent infringement cases, the USPTO website can be used to research the relevant patents involved.

The information most useful to attorneys doing preliminary research on a products liability case that can be found on the USPTO website is the state of the art for the time period of the product. Once the date of manufacture is established, the USPTO website can be used to determine if there were better ways of manufacturing the product at the time. This is very constructive information. Many states require plaintiffs to produce an alternate design if it is being claimed that a design is unreasonably dangerous. A patent search is a potential quick, easy solution to this issue. Safety Engineering Resources has used the USPTO website over the years to determine the state of the art of guarding issues, machine control issues, and machine interlocking to name a few.

How to determine the state of the art for a specific product and date

After accessing the United States Patent and Trademark Office website at <http://www.uspto.gov/patft/index.html>

1. Click on "Quick Search" (red arrow in Figure 1) in the green shaded box under "Issued Patents"

Issued Patents (PatFT) (full-text since 1976, full-page images since 1790)	Published Applications (AppFT) (published since 15 March 2001)
<ul style="list-style-type: none"> ● Quick Search ● Advanced Search ● Patent Number Search ● Operational Notices and Status ● Database Contents ● Help 	<ul style="list-style-type: none"> ● Quick Search ● Advanced Search ● Publication Number Search ● Operational Notices and Status ● Help
<p>Information Applicable to Both Databases</p> <p>Important Notices -- <i>Please read!</i></p> <p>How to Access and View Full-Page Images</p> <p>Problems Using the Databases?</p> <p>Report Data Content Problems</p>	
<p>Related USPTO Services</p> <p>Tools to Help in Searching by Patent Classification</p> <p>Downloadable Published Sequence Listings</p> <p>Patent Assignment Database</p>	

Figure 1: USPTO Patent Search Page

2. This is the patent quick search engine. This can be used to quickly locate patents from 1976 to the present date. To search patents prior to 1976, dating back to 1790, a search can only be performed using the patent number or current U.S. Classification. When trying to establish the state of the art, the patent number will rarely be known, and determining the correct Classification to search can be quite complicated. The simplest and by far the quickest method of determining the state of the art is to use the quick search engine to find patents relating to the product in question. Once the right type of patent is located, similar patents that date back to the early 1900's can be found in the References Cited section of the patent summary page. This will be demonstrated shortly.

On the quick search page, type in key terms in the first blank, labeled by the red arrow in Figure 2. This is where some trial and error will take place. In product liability cases, it is beneficial to determine when and if safety devices were made available for the product your client has been injured on. One method to start with is to type in the product description in the blank labeled “Term 1”, and type in “safety” or “safety device”, etc. in “Term 2”. This is a good way to do it if the nature of the safety device of the product is not known. Some safety devices will be known. If the name of the safety device is known, type this in “Term 2”. For instance, if your client was injured in a head-on automobile collision, you might know to type in “automobile” for Term 1, and “air bag” or “air bag restraint” for Term 2. If, for instance, your client injured his child while operating a lawnmower, the safety devices associated with a lawnmower may not be known. So in this case you would type in “lawnmower” for Term 1 and “safety device” or something similar for Term 2.

USPTO PATENT FULL-TEXT AND IMAGE DATABASE

[Home](#) [Quick](#) [Advanced](#) [Pat Num](#) [Help](#)
[View Cart](#)

Data current through 02/08/2005

Query [\[Help\]](#)

Term 1: in Field 1:

AND

Term 2: in Field 2:

Select years [\[Help\]](#)

Patents from 1790 through 1975 are searchable only by Patent Number and Current US Classification!

Figure 2: Quick Search Patent Search Engine

3. Once the search engine returns its results, you can check out the different patents it returned. Figure 3 shows the typical layout of a patent search using the USPTO website. The first patent returned, number 6,625,963 (see the red arrow in Figure 4), entitled “Reverse lockout feature for a mower” could be of interest.

USPTO PATENT FULL-TEXT AND IMAGE DATABASE

[Home](#) [Quick](#) [Advanced](#) [Pat Num](#) [Help](#)
[Bottom](#) [View Cart](#)

Searching 1976 to present...

Results of Search in 1976 to present db for:
lawnmower AND "safety device": 20 patents.
Hits 1 through 20 out of 20

Refine Search

PAT. NO.	Title
1 6,625,963	Reverse lockout feature for a mower
2 5,769,059	Elongated fuel-air bypass for internal combustion engine
3 5,606,956	Elongated fuel-air bypass for internal combustion engine
4 5,606,851	Battery-powered lawn cutting system
5 5,581,985	Safety clutches for self power operated lawn mowers
6 5,224,448	Ignition brake for an internal combustion engine
7 5,133,175	Safety flap for power-operated lawnmower
8 4,889,213	Compliance brake for an internal combustion engine powered implement
9 4,805,386	Bail stop
10 4,757,885	Engine control with self-energizing flywheel brake
11 4,736,575	Ride-on rotary lawnmower
12 4,694,639	Robotic lawn mower
13 4,528,488	Warning device using power tool residual kinetic energy
14 4,519,486	Engine flywheel brake toggle mechanism
15 4,455,977	Compression brake system
16 4,440,277	Implement clutch and brake control
17 4,394,893	Engine shut-off system with flywheel braking
18 4,295,327	Magnetic safety clutch for rotary lawnmower
19 4,208,859	Locking device for blade of rotary lawn mower
20 4,055,935	Clutch brake mechanism for lawnmowers

[Top](#) [View Cart](#)
[Home](#) [Quick](#) [Advanced](#) [Pat Num](#) [Help](#)

Figure 3: Example of search engine results

4. After clicking the link to the patent, the summary of the patent is displayed, including the abstract, references cited, and other pieces of information. Figure 5 shows the summary for patent number 6,625,963. This patent is dated September 30, 2003. This patent appears to detail an invention that prevents a mower from being shifted into reverse when the mower blade is engaged. This could be of interest to the example case of a lawnmower injury, but the date is too recent to be of much use. The next thing to do is to go past the abstract in the patent summary to the "References Cited" section. This section contains patents that are cited in the patent. Usually these are patents for a very similar invention from the past. Click on the patent number, they are links to the patent. Often you can find safety devices for the product you are looking for from a time period before the manufacture of the product. In Figure 5, clicking on the 3,984,967 (red arrow) brings up that patent.

USPTO PATENT FULL-TEXT AND IMAGE DATABASE



(1 of 20)

United States Patent 6,625,963
 Johnson September 30, 2003

Reverse lockout feature for a mower

Abstract

A lawn mower including a frame, an engine having an electrical system and attached to the frame, a mower deck assembly connected to the frame and having a rotating blade selectively engaged with the engine, a reversible transmission driven by the engine and having a shift mechanism having forward and reverse positions, a switch in electrical communication with the electrical system and mower deck assembly, and a solenoid attached to the transmission, in electrical communication with the switch, and having a plunger. The plunger has an extended position when the switch is in its first position and the blade engages the engine, wherein the plunger blocks movement of the shift mechanism into its reverse position, and a retracted position when the switch is in its second position and the blade disengages the engine, wherein the plunger does not block movement of the shift mechanism into its reverse position.

Inventors: **Johnson; Kevin L.** (Salem, IN)
 Assignee: **Tecumseh Products Company** (Tecumseh, MI)
 Appl. No.: **963059**
 Filed: **September 25, 2001**

Current U.S. Class: **56/10.8**
Intern'l Class: A01D 069/00
Field of Search: 56/10.5,10.8,11.3,11.2,16.7,DIG. 15,10.2 R,10.2 A 74/473.11
180/6.48,6.5,733

References Cited [\[Referenced By\]](#)

U.S. Patent Documents			
3984967	Oct., 1976	Jones	56/11.
3999643	Dec., 1976	Jones	192/52.
4352302	Oct., 1982	McAuliffe et al.	74/473.
6026634	Feb., 2000	Peter et al.	56/10.
6109010	Aug., 2000	Heal et al.	56/10.
6237311	May., 2001	Richards	56/10.
6405513	Jun., 2002	Hancock et al.	56/10.
Foreign Patent Documents			
0343002	Nov., 1989	EP.	
0589145	Mar., 1994	EP.	

Figure 4: Patent Summary of 6,625,963

- Figure 5 shows Patent Number 3,984,986 from 1976 showing a device to disengage a mower blade when the mower is shifted into reverse, and to prevent the mower blade from engaging when the mower is in reverse. This patent shows that the technology was available in 1976 to produce a device that would have prevented the client's child from

being injured in the back-over accident describe earlier. This patent also shows references cited where even older patents can be explored. Patents older than 1976 usually do not have online abstracts, but you can access the actual patent document images. These images are in TIFF format, a specific type of image format that requires a TIFF viewer. These are available free from a number of sources. “Alternatiff” is one such free TIFF viewer. The link to this viewer is: <http://www.alternatiff.com/>

You can cut and paste this link into the address line of your web browser, or simply search for “Alternatiff” from your favorite search engine. Follow the instructions at the website to install the free TIFF viewer. Investigation of the 2,899,793 patent shows it to be a patent for a riding lawnmower; apparently without the reverse mow safety lockout (modern terminology calls this feature “no-mow-in-reverse”).

(1 of 1)

United States Patent	3,984,967
Jones	October 12, 1976

Mechanical safety interlock for preventing mower operation during reverse travel

Abstract

A tractor and mower combination is provided with a mechanical interlock between the manual control for the clutch in the mower drive and the manual control for the forward-reverse transmission to prevent operation of the mower during reverse travel of the tractor and to prevent the transmission control from being placed in a reverse travel position when the mower is being operated.

Inventors: **Jones; Kenneth R.** (Thiensville, WI)
 Assignee: **Allis-Chalmers Corporation** (Milwaukee, WI)
 Appl. No.: **643314**
 Filed: **December 22, 1975**

Current U.S. Class:	56/11.8; 192/3.63
Intern'l Class:	A01D 075/20
Field of Search:	56/11.7,11.8,10.2,10.5,11.3,11.6,208,DIG. 15,DIG. 22 180/82 R,82 A,103 192/3.63

References Cited [Referenced By]

	U.S. Patent Documents	
2899793	Aug., 1959 Swisher	56/11.
2960810	Nov., 1960 Musgrave	56/11.

Primary Examiner: Eskovitz; J.N.
 Attorney, Agent or Firm: Schwab; Charles L.

Claims

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. In a tractor and mower combination including a power unit, a drive train to ground engaging wheels including a forward-reverse transmission and a drive train to the mower including a clutch, an interlock for preventing operation of the mower during reverse travel comprising:

a manual transmission control for said transmission shiftable between forward and reverse positions wherein forward and reverse directions of travel of said tractor are effected,

a manual clutch control shiftable between clutch engaged and clutch disengaged positions and,

mechanical means interconnecting said clutch and transmission controls preventing shifting of said transmission control to its reverse position when said clutch control is in its clutch engaged position and preventing said clutch control from being moved to its clutch engaged position when said transmission control is in its reverse position.

2. The interlock of claim 1 wherein said transmission control includes a manual shift lever and said mechanical means includes a shiftable blocking element engagable with said shift lever.

3. The interlock of claim 2 wherein said mechanical means includes a link interconnecting said clutch control and

Figure 5: Patent Number 3,984,986 from 1976 showing a device to disengage a mower blade when the mower is shifted into reverse, and to prevent the mower blade from engaging when the mower is in reverse.

How to Perform a Patent Search: Searching patents to discover if an idea for a product has been patented

Innovative inventions continue to be made. Inventors and average people are constantly coming up with new, better ways to do things. Entrepreneurs interested in developing a product based on a new idea should investigate whether or not a patent exists on the idea. This step will prevent wasted time by determining if the new idea has already been developed, and patented. The process is basically the same as described above, except that the patent search will be cross-referenced using the US Patent Offices' classification system. The USPTO has a system where patents are classified according to the type of product that is being patented. The easiest way to determine what classification a particular idea for a product falls under is by finding a product that falls in the same general category.

After accessing the United States Patent and Trademark Office website at <http://www.uspto.gov/patft/index.html>

1. Click on "Quick Search" (red arrow in Figure 6) in the green shaded box under "Issued Patents"

Patents > Patent Full-Text and Full-Page Image Databases

Issued Patents (PatFT) (full-text since 1976, full-page images since 1790)	Published Applications (AppFT) (published since 15 March 2001)
<ul style="list-style-type: none"> ● Quick Search ● Advanced Search ● Patent Number Search ● Operational Notices and Status ● Database Contents ● Help 	<ul style="list-style-type: none"> ● Quick Search ● Advanced Search ● Publication Number Search ● Operational Notices and Status ● Help
<p>Information Applicable to Both Databases</p> <p>Important Notices -- <i>Please read!</i></p> <p>How to Access and View Full-Page Images</p> <p>Problems Using the Databases?</p> <p>Report Data Content Problems</p>	
<p>Related USPTO Services</p> <p>Tools to Help in Searching by Patent Classification</p> <p>Downloadable Published Sequence Listings</p> <p>Patent Assignment Database</p>	

Figure 6: Quick search of ladder safety devices

2. Type in a search term that your product could be generalized to fall under and search. For example, if you were making a ladder leveling device, you would type in ladder safety device in the search box. Figure 7 shows what is returned. You can search these patents to see if your idea has been used, and you will locate the classification number in order to do a more thorough search.

[Bottom](#) [View Cart](#)

Searching US Patent Collection...

Results of Search in US Patent Collection db for:
 "ladder safety device": 28 patents.
 Hits 1 through 28 out of 28

Jump To

Refine Search

PAT. NO.	Title
1 7,156,205	Step ladder safety device
2 6,837,338	Ladder safety device
3 6,427,803	Apparatus for securing ladder to building structure
4 6,422,341	Lift-up rail extensions
5 6,412,600	Notch stabilized roof access ladder
6 6,167,989	Ladder safety device
7 6,161,647	Fall arresting ladder safety device
8 6,152,262	Ladder top stabilizer device
9 6,105,722	Ladder safety device

Figure 7: Quick search of ladder safety devices

- The next step is to click on a patent that appears to be somewhat similar to the type of product you are inventing. In this example, the patent 7,156,205 is clicked on. You will have to scan the patent to make sure it is the correct type of product. Once verified, locate the classification for the product. Figure 8 shows the abstract page. The arrow in Figure 8 indicates the classification for this patent. Locate this classification number (in the format # / #) for the patent you are looking at. In this example in Figure 8, the classification number is 182/129. Write this class number and subclass number down.

(1 of 28)

United States Patent 7,156,205
 Wilson , et al. January 2, 2007

Step ladder safety device

Abstract

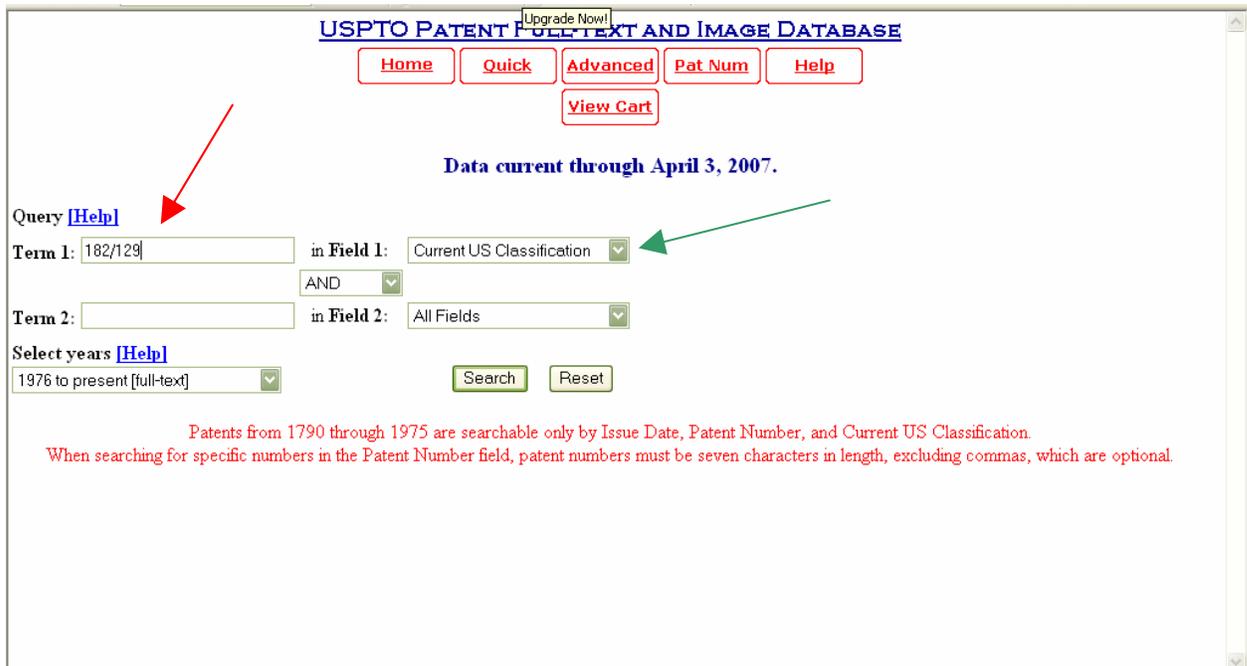
A novel safety device for step ladders. This safety device is fabricated and positioned so as to deter, dissuade and deny the ladder user access to the unsupported top step of a step ladder while allowing the user to an aloft tool organizer for pre-loading job materials thereby eliminating the need to repeatedly climb up and down the ladder carrying materials. More people are killed doing construction work every year than in any other occupation and falls are the biggest killer of employees in the construction industry, many of these falls involve the improper use of ladders. Falls are the leading cause of death in and around the home, according to the National Safety Council, there are thousands of people die from falls around the home each year and many suffer disabling injuries many of these also involve ladders. At work or at home, these accidents invariably occur because the victims violate the basic rules of ladder safety.

Inventors: **Wilson; Al Lynn** (Grand Blanc, MI), **Moore; Herbert Arthur** (Lapeer, MI), **Morey; Norman E** (North Branch, MI)
 Assignee: **Custom Products Enterprises, Inc.** (Grand Blanc, MI)
 Appl. No.: **10/756,519**
 Filed: **January 14, 2004**

Current U.S. Class: **182/129** ; 206/373; 220/830
 Current International Class: E06C 5/32 (20060101)
 Field of Search: 182/129,230 248/210,211,238 220/570,573,578,830,845,848 D25/68
 206/373 373 541 549 544

Figure 8: Abstract page with arrow showing classification number

4. You now have the classification number for your type of product. Repeat this with several patents, as there may be numerous classes that your product could fall under. Once you have searched to your satisfaction using search terms and not found a patent that resembles your invention, you will want to search using the class and subclass that you just identified. So, click on Quick search again. Here, in Term 1 you will type in the class and subclass that you identified previously (red arrow). Be sure to select “Current US Classification” from the pull-down menu to the right of the search box (green arrow). Now click on search.



USPTO PATENT FULL-TEXT AND IMAGE DATABASE [Upgrade Now!](#)

[Home](#) [Quick](#) [Advanced](#) [Pat Num](#) [Help](#)

[View Cart](#)

Data current through April 3, 2007.

Query [Help](#)

Term 1: in Field 1:

Term 2: in Field 2:

Select years [Help](#)

Patents from 1790 through 1975 are searchable only by Issue Date, Patent Number, and Current US Classification.
When searching for specific numbers in the Patent Number field, patent numbers must be seven characters in length, excluding commas, which are optional.

Figure 9: Searching by class and subclass

5. This will return a list of patents based on the class and subclass that you entered. From here you can perform your own exhaustive search to determine if your idea has been patented or not. Figure 10 shows you an example of what your search will return.

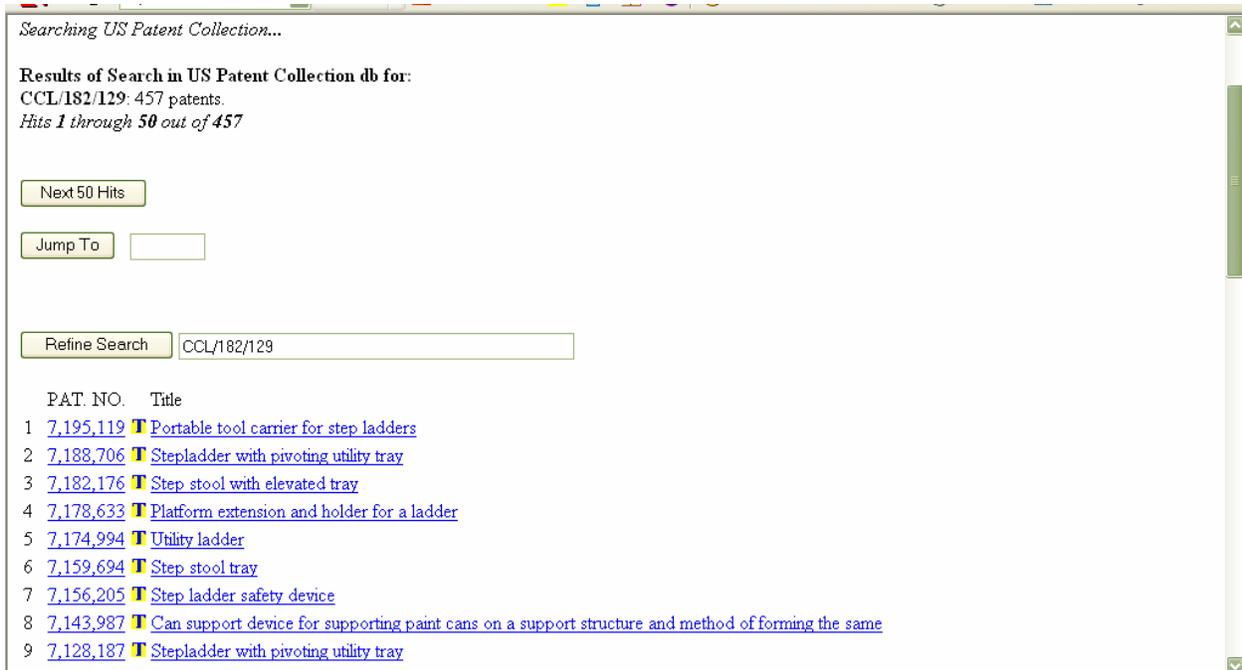


Figure 10: List of patents that are a specified class and subclass

- This is a quick way to perform a patent search to determine if an idea has been patented. It will require an extensive amount of time to adequately search. This will provide you information on how new your idea is. While you will want to probably hire a patent attorney to file a patent for your invention, who will want to do his or her own patent search, this will give you an idea of where you stand. It is possible to file your own patents, also. Go to the following web address for more information on how to file patents electronically, without the help (and expense!) of a patent attorney:
http://www.uspto.gov/ebs/efs_help.html