Introduction to the Cooperative Patent Classification using Espacenet®

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The United States patent and Trademark Office (USPTO) and the European Patent Office (EPO) have harmonized their patent classification systems (USPC and ECLA) into the Cooperative Patent Classification (CPC). The CPC is International Patent Classification (IPC) compliant in that most of its subdivisions stem directly from the current IPC entries therefore the CPC follows standard IPC classification principles. The CPC classification numbers are called symbols. You can find guides to the CPC symbols on both the USPTO and EPO web sites. The CPC on Espacenet is the easiest to use. This guide will use Espacenet exclusively. Figure 1. Use the link on the left side of the page, “Classification search.”

The CPC is based on “industry” classification rather than the proximate/essential function of the old USPC.

Figure 1 European Patent Office patent search database Espacenet.

Enter your search terms in the provided search box to find appropriate classification symbols for the invention. This is considered a preliminary search for classification symbols. You will need to refine your classification symbols as you continue your research.

Figure 2 Cooperative Patent Classification landing page.

Enter your search terms in the provided search box. Figure 2. In this example we will use the invention, retractable leash. Once you execute your search you will be taken into CPC. Browse the titles for each symbol.
On the results page, read each description. Figure 3. Espacenet will highlight the most relevant results with red stars. The more red stars the more relevant the classification symbols. Do not depend on the accuracy of the relevancy ranking. This search only find the terms you enter. An alternative for the word leash can also be “leads.” Figure 4. Select the title, “Leads or collars, e.g. for dogs.”

Selecting the title initiates another drop down menu.
On the right side of the CPC listings are “D” contained in squares. Figure 5. “D” is a link to the definition for the sub-group. If you are not sure whether you are in the right sub-group, read the definitions. CPC is a hierarchical structure scheme. The dots show the relationships to the main group. In this example, Figure 5, Retractable leashes shows two dots. To find its connection to its parent sub-group look for the one dot, (Leads, leashes). The next connection is the main group, no dots will be shown, Leads or collars, e.g. for dogs. This main group will always be in bold type in the CPC. Browse the sub-groups between your selections to see if there is a connection to your inventions, too. A01K 27/004 is read as: Main Group Leads or collars, sub-group (Leads, leashes), sub-group (Retractable leashes). You will search each group for applications or issued patents that are similar to your invention.

To retrieve all patents and applications related to your sub-groups, check the box next to the sub-group you wish to search. By selecting the box, A01K 27/004 sub-group is placed in the “Selected Classifications” on the left side of the page, see Figure 6. It is from here that a search can be performed on the CPC symbols. You have two options for your search. The first option is to find all patents and applications assigned the CPC symbol, e.g. A01K 27/004. The second options will place the search in the “Advanced search”, see Figure 1. Why are there two options? Espacenet is limited in the amount of patents and applications it will retrieve to 500 total. Using the “Copy to search form” options allows you to add additional criteria to your search to reduce the amount of patents and applications retrieved to below 500.
When you select “Copy to search form” you are taken to the “Advanced search” form for Espacenet, see bottom red arrow Figure 7. Now you can add search terms in the “Title or abstract” (top red arrow in Figure 7) to assist you in narrowing the search results. It is highly recommended that you use “Title or abstract” rather than the “Title” search box. Patent document titles are merely descriptive and may not actually pertain to the invention that is contained in the document. As an example, “Toy and Process of Use” is the title for the Slinky patent, US2415012. At the bottom of the page is a button titled “Search.”
Figure 8 Patent document results list on Espacenet.

Whether you use “Find patents” or “Copy to search form” when you execute to search you will get a page that lists the results of the search, see Figure 8. In the results, you will notice that your CPC symbol is highlighted. In this example, 978 results were found, however, that number is shows that only 500 results are displayed. This is where you might consider returning to the previous screen and select the “Copy to the search form” and add addition search terms.

Here are some additional points of interest in your search results.

- Title; found in gray box above the bibliographic information.
- Inventor(s)
- Applicant; this name can be the assignee who actually owns the patent or the inventor.
- CPC symbol assigned to the invention; be aware, there can be multiple CPC symbols assigned to one invention. All will need to be searched if the patent document demonstrates a closely related invention to yours.
- IPC symbol; for your purposes, this can be ignored as this classification is so broad as to be useless in your research.
- Publication info; these are published numbers of patent documents; they can include published applications and/or granted patents. In the number AU2016367702 (A1), whereas, (A1) is a “kind code” that identifies this patent document as an application. (B1) would signify, majority of the time, a granted patent. For more information on “kind codes” see WIPO ST.
- Priority date. Date of first filing no matter where in the world the patent was applied for. Applications will share a common priority date if filed as a PCT application, continuation, continuation-in-part, or divisional.
This is a bibliographic record for United States patent application US2017360008 (A1). Again, your CPC symbol will be highlighted, Figure 9. This record contains the basic information such as inventor, assignee and links out to “Global Dossier.” “Global Dossier” is comparable to USPTO’s Public PAIR database showing all prosecution records for published patent applications. The application number is different from the US2017360008 (A1) which is a publication number. Application number in Espacenet refers to the serial number assigned by patent authorities when they first receive the initial patent application. The USPTO, for example, calls this a serial number. The abstract contains the first bit of useful information about this invention. While an abstract is not required to define the inventions, you can at least understand what industry the invention lies in and the process or application of the invention. Sometimes in Espacenet a representative drawing is located next to the abstract. This representative drawing is a quick way in determining if the invention is important to consider as prior art.

On the left side of the page are more options. These options are:

- Bibliographic (discussed above)
- Description, how the invention inventions is made
- Claims, the invention defined
- Mosaics, displays all of the drawing sheets contained in the application
- Original document, retrieves a pdf version of the patent document
- Cited Documents, prior art cited by applicant
- Citing Documents, looks forward displaying what patents cited this patent document
- INPADOC legal status, entries made or procedural steps taken during the patent-granting process.
- INPADOC patent family, is defined as comprising all the documents sharing directly or indirectly at least one priority.

It is critical to always check the INPADOC patent family. The patent family will show all continuations, continuations-in-part, divisional, and international filings for the invention.
Selecting the link for “Original document” will take you to a pdf version of the patent document, either an application or grant. From here you can view online different sections of the document. You can also print. If you want to download the entire patent, you must use the Espacenet “Download”, see red arrow Figure 10. Once you select the download link, you are challenged to enter a 5 to 7 digit number.

This is a brief and basic overview of the CPC system using Espacenet. If you have questions, please contact Ran Raider, Government and History Librarian at ran.raider@wright.edu or 937-775-3521.