The legal and technical framework for patents

What are the patent classification systems?

Hello everyone and welcome to our course covering the basics in terms of the technical and legal framework for patents. My name is Duncan Clark and I'll be guiding you through this topic in this six-part series. In this module, we'll take a look at classification systems, and in particular the IPC (International Patent Classification) and CPC (Co-operative patent classification).

Classification codes are a type of categorization for patents which are used to classify the contents of a patent in a uniform manner. There are various different types of classification codes that are used which are used for different kinds of patents and in some cases are jurisdiction-specific. The most commonly referred to system is the IPC, the International Patent Classification as we just mentioned and CPC, the Co-operative patent classification.

In the US, there is the US classification system, which was replaced by the CPC in 2013. And then in Japan we have the FI (File Index) and F-term systems in use. The File Index is a subdivision of the IPC, with around 190,000 extra items. F-term (file forming term), meanwhile, is one of the most in-depth classification systems. In Japanese patent law, F-term is a system for classifying Japanese patent documents according to the technical features of the inventions described in them. It is not a replacement for the International Patent Classification (IPC) or other patent classifications, but complements other systems by providing a means for searching documents from different viewpoints.[1]

Added to this, there is also the Locarno classification. The Locarno Classification, established by the Locarno Agreement (1968), is an international classification used for the purposes of the registration of industrial designs.[2]

IPC

Let's start with the IPC. This is used in over 100 countries and is administered by the World Intellectual Property Office (WIPO). As the WIPO explains: "The International Patent Classification (IPC), established by the Strasbourg Agreement 1971, provides for a hierarchical system of language independent symbols for the classification of patents and utility models according to the different areas of technology to which they pertain. A new version of the IPC enters into force each year on January 1."[3]

The classification number itself is composed of a number of parts. At the top level, we have what's known as the section. The next level is called the class, followed by the sub-class, main group and, at the lowest level, the subgroups.

[1] https://en.wikipedia.org/wiki/F-term_(patent_law)
[2] http://www.wipo.int/classifications/locarno/en/
[3] http://www.wipo.int/classifications/ipc/en/

We'll start with the section. There are eight of these, namely:

A: Human Necessities
B: Performing Operations, Transporting
C: Chemistry, Metallurgy
D: Textiles, Paper
E: Fixed Constructions
F: Mechanical Engineering, Lighting, Heating, Weapons
G: Physics
H: Electricity

So if we take an example, A is human necessities. This is broken down into 15 sub-classes: If we take A01, we can see that this sub-class pertains to agriculture, forestry and so on; if we went into A01B, soil working in agriculture, we can break this into the groups, so zero-zero is hand tools, and then down to the most detailed level, B1/02 is spades or shovels.
Each patent will receive at least one classification code, down to the detail that is deemed necessary by the examiner. Many patents receive multiple codes from the patent examiner, although the first one mentioned on the document is known as its main IPC.
Within PatSnap, you are also able to search by Main IPC. For example, on the image below the main IPC is B61D7/00 and the other IPCs mentioned which are not the main IPCs are B61D7/32 and B65G53/04.

CPC

Next, the Cooperative Patent Classification. This hierarchy provides a more detailed breakdown of the IPC system. It is used by 25 patent offices[4] and is administered as part of a joint collaboration between the European Patent Office (EPO) and the United States Patent and Trademark Office (USPTO).

As the EPO explains: "The Cooperative Patent Classification (CPC) was initiated as a joint partnership between the USPTO and the EPO where the Offices have agreed to harmonize their existing classification systems (ECLA and USPC, respectively) and migrate towards a common classification scheme. This was a strategic decision by both offices and is seen as an important step towards advancing harmonization efforts currently being undertaken through the IP5's Working Group 1 on Classification."[5]

The CPC strongly mirrors the IPC system – divided into sections, classes, sub-classes, and groups comprising subgroups, although there are 9 rather than 8 sections:

A: Human Necessities
B: Operations and Transport
C: Chemistry and Metallurgy
D: Textiles

[4] https://www.cooperativepatentclassification.org/publications/AnnualReports/CPCAnnualReport2016.pdf
[5] https://www.cooperativepatentclassification.org/publications/AnnualReports/CPCAnnualReport2016.pdf

E: Fixed Constructions
F: Mechanical Engineering
G: Physics
H: Electricity
Y: Emerging Cross-Sectional Technologies

Let's take a look at the CPC in practice.

And we can see that when we get down to the detail, we have more coverage than what we have for the IPC system. This means that a CPC search, in combination with key word searching, can provide some of the most accurate results for a patent search.

Other systems

Now for the FI and F-term systems, we have to head to Japan. These systems cover documents that are examined by the Japanese Patent Office.[6] The systems were founded in 1984, in response to the problem that the IPC was found to be inefficient, especially as there are often technologies that are unique to Japan.

That said, the FI (File Index) version is based on the IPC system up to the sub-group level, followed by a three-digit number and/or a single letter. Classifications are assigned by the Industrial Property Cooperation Center, a non-profit organization based in Japan, that itself offers investigation, information classification, and technology survey services on industrial property business.

The F-term, meanwhile, or file forming term, is in turn, a subset of the File Index, although it is not completely hierarchical in the same way. It is also assigned by the Industrial Property Cooperation Center and has its own format, comprising a theme code (5 digits) + Perspective (2 alphabet characters) and a Number, of two digits.[7]

F-terms are used when the IPC alone retrieves many answers and where it can help to identify prior art. According to Kyoko Ueno of the Japan Association for International Chemical Information, it is heavily used to define uses of technology; it is often used for polymer searching, e.g. processes; but it is not used much for low-molecular weight or substance searching, where structure searching is more efficient.

Both the FI and F-term systems are important if one is trying to conduct searches in the Japanese market.

Locarno

Finally, there is the Locarno system. As the WIPO explains "The Locarno Classification, established by the Locarno Agreement (1968), is an international classification used for the

[6] http://www.wipo.int/edocs/mdocs/africa/en/wipo_ip_pre_16/wipo_ip_pre_16_t_9.pdf
[7] https://www.stn-international.org/uploads/tx_ptgsarelatedfiles/F-Term_09.pdf

purposes of the registration of industrial designs. The eleventh edition of the Classification entered into force on January 1, 2017."[8]

It comprises a list of terms into which industrial designs are incorporated.

These terms to describe goods are called Product indications. And as the European Union Intellectual Property Office explains: "Each registered design will have one PI assigned to it, describing the goods to which it applies. Each product indication is classified in one class and subclass of the Locarno Classification. In this way, each time a user wants to register a design, it will be easy to check whether there are other registered designs that may be in conflict with the design they wish to register, by checking the registered designs that are classified in the relevant classes and subclasses."[9]

Summary

So in summary, we have the following systems:

IPC: The International Patent Classification, administered by the WIPO.
CPC: The Cooperative Patent Classification, a joint collaboration between the European Patent Office (EPO) and the United States Patent and Trademark Office (USPTO)
The US classification: which was an official patent classification system used and maintained by the United States Patent and Trademark Office (USPTO), which has now been replaced with the Cooperative Patent Classification (CPC) as of January 1, 2013.
FI and F-terms: assigned by the Industrial Property Cooperation Center as part of the Japanese patenting system
Locarno: used for the purposes of the registration of industrial designs

So that concludes our quick overview of the different classification systems from around the world and where they are used.

In our next module, we'll cover the all-important question, who actually owns a patent?

Until next time, thanks for watching!

[8] http://www.wipo.int/classifications/locarno/en/
[9] https://euipo.europa.eu/designclass/locarnoClassification/find?linkMenu=true