

Many businesses re-invest a good portion of their revenues in research and development in order to remain competitive. As such, they need to ensure that relevant inventions resulting from these investments are protected and leveraged by patents that serve the objectives underpinning their business strategy.

This is not just a question of creating or acquiring a large number of patents in a technological niche. The quality of the individual patents counts. Quality in this sense refers to a patent's fitness for the business purpose that it serves, and is distinct from the quality or value of the underlying invention. This quality depends, among other factors, on skilled drafting of the patent application, and in particular of the claims. Regrettably, not all patent claims are drafted from a business strategy perspective. Far from safeguarding company investments and delivering profits, patents with poorly drafted claims can become financial burdens. This article seeks to make businesses aware of the pitfalls of filing patents without devoting sufficient attention to the importance of drafting good claims.

What are patent claims ?

Claims are the heart of a patent application. Whereas the *description* of the invention contained in a patent document teaches how to make and use the invention, the claims define the scope of legal protection. The claims demarcate in

words the boundary of the invention, much as a picket-fence defines the extent of land covered by a deed for a piece of land. Only the technology covered in the claims is protected by the patent. If the claims are not properly drafted, then any invention contained in the detailed description but not covered by the claims becomes part of the prior art when the granted patent is published. Anyone else would then be at liberty to use that unprotected information without the patent owner's permission.

Broad versus narrow claims

The claims may be broad or narrow in their scope. Most patent agents would prefer to draft claims that are as broad as possible to cover all aspects of the invention found in the detailed description, its equivalents or likely future versions. On the other hand, a patent examiner in an IP office will not allow broad claims that cover more than the inventor actually invented, and will seek to narrow the claims to the actual invention. Further, the patentability of

Tips on Writing Claims

The website of the Canadian Intellectual Property Office (CIPO) offers a clearly written, online tutorial to assist individuals and small businesses in writing patent applications. It includes the following practical tips for drafting claims.

- ▶ Decide which are the essential elements of your invention that you want to claim exclusive rights to. These elements should be the ones that distinguish your invention from known technology.
- ▶ Begin with your broadest claims and then progress to narrower claims.
- ▶ Start claims on a new page (separate from the description) and number each claim using Arabic numbers starting with 1.
- ▶ Precede your claims with a short statement such as "I claim: ..." In some patents this reads as "The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows: ..."
- ▶ Check to see that each claim consists of an introduction, linking word, and body.
- ▶ One way of ensuring that specific inventive features are included in several or all claims is to write an initial claim and refer to it in claims of narrower scope.

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For further information and examples, CIPO's online tutorial is at
http://strategis.gc.ca/sc_mrksv/cipo/patents/e-filing/menu.htm

Drafting patent claims demands careful consideration if they are both to serve business objectives and stand up in court.



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IP AND BUSINESS

an invention defined by broad claims may be more easily refused based on a wider range of prior art. So, while broad claims are attractive to the business applicant because they cover a greater range of products or situations, it is more difficult to obtain and to enforce a patent with broad claims.

Narrow claims are generally specific to one particular invention in a product, and consist of more elements/limitations than broader claims. Patents with narrow claims tend to be easier to obtain and enforce. Conversely, they will prove less useful as a business tool since they allow competitors to gain easy access to the same market by producing products with only minor modifications to the patented product or service. From a business perspective, therefore, the most effective patent applications tend to include a large number of claims, including a mix of broad and narrow claims.

Patent claim construction

Under patent law, a patentee's exclusive rights depend entirely upon the claims of the granted patent. In disputes over the scope of these exclusive rights, the courts bear responsibility for all issues of patent interpretation. Claim construction is the interpretation of the words in the patent claims in order to determine the meaning and scope of the claims. Claim construction is important in patent litigation as it determines whether the patent fulfills the conditions and requirements of patentability, or whether the patent is being infringed upon.

Different countries have different approaches and legal principles in relation to the interpretation of patent claims. Though the European Patent Convention (EPC) harmonized a system for the grant of patents in EPC countries in 1977, variations still exist in the approach taken by individual courts towards claim construction. This article therefore refers to claims drafting as practiced in the United States America, or what is known as U.S.-style patent claim construction.

Determining patent infringement

In determining whether a patent claim covers an alleged infringement, the U.S. courts traditionally apply a two-step process: The first is to determine, as a matter of law, what the words in the claim mean. The second is to determine, as a matter of fact, if the claim covers the

alleged infringing product. Infringement exists when all of the claim's elements are found, either *literally* or *equivalently*, in the alleged infringement.

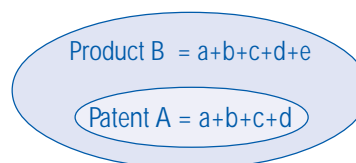
The U.S. courts established two categories of evidence for use in claim construction. The first, so-called *intrinsic evidence*, consists of the specification, the claims and the patent prosecution history. The second, so-called *extrinsic evidence*, includes all other sources that are external to the patent and the prosecution history, such as expert testimony, dictionaries, technical writings, etc. In recent years, the courts have changed position towards the use of extrinsic evidence, and the intrinsic evidence is usually sufficient to determine the meaning of disputed claim language.

In practice, courts have refused to confine the infringement inquiry to the precise choice of words of claims. Instead, the scope of the protection may be extended beyond the literal wording under the *doctrine of equivalents*. This arose to stop people from trying to get around literal infringement by introducing insubstantial differences into rival products based on a claimed invention. In recent cases, however, the courts have added restraints to the doctrine of equivalents by stressing that, if the accused infringement could reasonably have been foreseen by the drafter of the claims, then it was the duty of the drafter to have sought literal protection for this from the patent office.

Let us look at some simple representations in order to illustrate when infringement takes place. We will call the patented invention "A" and the elements contained in the claims a, b, c and d. The product accused of infringement we will call "B".

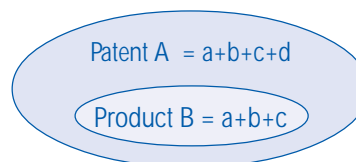
Case 1

- ▶ Patent A includes claims consisting of elements a + b + c + d.
- ▶ Product B has features covered by elements identical to a + b + c + d; with the addition of element e.
- ▶ In this case, product B would infringe literally on Patent A, because Product B has all features that are covered by Patent A, even though it has an additional element e.



Case 2

- ▶ Patent A includes claims consisting of elements of a + b + c + d.
- ▶ Product B has features covered by identical elements of a + b + c.
- ▶ Product B may not infringe on Patent A directly, because Product B does not include – literally or equivalently – element d of invention A.



U.S. courts have regarded *every* element included in the claims as being essential to the invention, even those elements which are only minor or peripheral parts of the invention. (This case only applies to cases of direct infringement).

So infringement arises when each element of a claim is shown in the accused infringement, either literally or equivalently. If all of the claim's limitations are found literally, such as in Case 1, then there is usually literal infringement. If one or more of the claim's limitations are found equivalently and the rest are found literally, then there is usually infringement under the doctrine of equivalents. Of course, while this illustration is simple, application of the rules has proven rather more difficult in litigation.

Conclusion

The effectiveness of a patent to protect a business's products and services depends on the claims. Aspects of the invention detailed in the description of the patent will not be protected unless included in the claims. The best way to draft the claims section of the patent application is to write broad generic claims as well as more specific claims. The scope of protection con-

ferred by a patent may be extended beyond the literal wording of the claims under the doctrine of equivalents. However, the US courts have become far less willing to allow patentees to obtain a scope of protection outside the literal scope of the claim. Patent claims must be drafted to stand up in court as well as to serve business purposes. It is advisable and highly recommended to use the services of an expert patent agent.

For more information on practical aspects of the IP system of interest to business and industry, visit the website of the SMEs Division at www.wipo.int/sme.

