BY **MIKE WOOD**

Intellectual Property

Part 3, Patents

AS A RECAP THIS ARTICLE CONTINUES the discussion concerning the four main types of Intellectual Property (IP) a company or individual may own – perhaps without even realizing it. Those four categories are trademarks, copyright, patents and trade secrets. The previous two articles in this series have dealt with copyrights and trademarks so this time we are going to cover patents – perhaps the form of Intellectual Property that most people think of first.

I should perhaps make it clear that I am not a lawyer so nothing I talk about in these articles is legal advice. The articles are based on information I've picked up over the years and found useful based on my personal point of view as a product designer and developer in our industry. Because of that my comments are undoubtedly somewhat selective and subjective. In no way should you take what I say as anything more than useful (I hope) background information to assist further research. As with any legal matters if you have a real problem or concern always talk to a real attorney!

As with the other forms of intellectual property we've discussed, patents are similar to personal or real property in that they can be bought or sold, licensed, and exploited.

A patent is in many ways the easiest to understand of the different forms of IP – the concept is very straightforward. If you patent an invention then you are establishing an exclusive right to profit from the innovations in that patent. As the patent holder you gain the legally enforceable right to prevent others from manufacturing, selling, using or importing the patented invention. You may also have the right to stop others from selling products that have only trivial modifications to the product you have patented. Also, unlike copyright, someone doesn't have to have directly copied a patented invention to infringe – inventing something independently (as is often the case) does not constitute a defense against patent infringement.

Patent Rights

An important point here is understanding what rights owning a patent gives you; specifically those rights are completely exclusionary – i.e. they give you the right to exclude someone else from making, selling, etc. an invention but they do not give you the affirmative right to make it yourself! Your right to make and sell may be affected by someone else's patents, local laws etc. A common situation is patenting an improvement to an existing process which has been patented by another inventor – anyone, including you, wishing to use your improvement would have to license the original inventor's patent as well as your new one.

All this sounds great in concept; unfortunately patents can be a double edged sword for society. In general although it is a good thing to reward innovation and protect the investment of creative people who think up ideas, too many patents can stifle a marketplace by forcing the privatization of knowledge that may be of much more benefit if it were in the public domain. Patents were originally introduced as a way of making sure that good ideas got public exposure while still rewarding the original inventor, unfortunately these days they can often be used as a means of enforcing an essential monopoly on a technology.

Patents may be the easiest to understand in broad terms but they are perhaps the most complex form of IP in practice. Let's talk about who can apply for a patent and what areas can be patented as well as when you can do it.

Who can apply for a patent?

Firstly, anyone who produces an invention can apply for a US patent – there are no restrictions on nationality, age, mental capacity or anything else. You don't have to hire a patent attorney and you don't have to have a company backing you as an assignee – as long as you are the inventor that's all you need. (All that having been said I would highly recommend that you do use a patent attorney – this is a complex topic and there are many possibilities for error.) This works the other way around too – the inventor is in fact the only person who can legally apply for a patent – not the employer, not the agent – it must be the inventor. Patents are administered here in the USA by the United States Patent and Trademark Office (USPTO) which is a government body. *As an aside – although only the inventor can apply for a patent, anyone can own them. It is common for an employer to own the patents applied for by their employees for example, this is often covered by their contract of employment. Even without such an agreement or contract it is likely that an employer has an automatic free, nonexclusive license to employees' patents.*

What kinds of patents are there?

So – I'm an inventor and am legally entitled to apply for a patent, what can I patent? The two types of patents which anyone reading this article are normally likely to come across are: design patents which protect novel, ornamental or non-functional elements, and utility patents.

Design patents are, as the name suggests, patents on a specific new, original and ornamental design for articles of manufacture. Usually used to protect a distinctive shape or appearance of a functional item the protection they offer overlaps somewhat with copyright protection as both are used for similar purpose. Note that you can't usually get a design patent on an object which is purely decorative, such as a painting or sculpture; the item has to have some other defined purpose.

The choice between whether to apply for copyright or a design patent is complex. While getting copyright protection is fairly quick and cheap and a design patent is expensive and can take a couple of years, the protection you get from a design patent is far broader and gives the owner more exclusionary rights. Copyright only protects against actual direct copying of the idea whereas a design patent gives protection to "functionally equivalent" commercial uses of that idea as well. On the other hand a design patent only lasts 14 years whereas copyright can last for the life of the inventor plus another 75 years after his death. There are a lot of pluses and minuses in this decision so if you are unsure which is right for you this is definitely something you should take legal advice on.

> **"As the patent holder you gain the legally enforceable right to prevent others from manufacturing, selling, using or importing the patented invention."**

Utility patents are by far the most common type of patent and are what most people think of as just "patents." (There is another specialized patent available – a plant patent which protects distinct and new varieties of asexually reproduced plants – but you don't come across those much in entertainment technology!) Once granted, a new utility patent normally lasts 20 years from the initial filing date and affords strong protection for the inventor. *(Note: You can also file continuations to existing patents to refine the ideas presented – in this case you might retain the filing date of the original application, however you will also retain the original expiry date.)*

The USPTO defines a utility patent as protecting "a new and useful process, machine, article of manufacture, composition of matter, or any new and useful improvement thereof." Those options perhaps need a little explanation. A "process" is

a set of useful steps or a method of manufacture (for example – business methods such as an accounting method or a process used to coat a dichroic filter), a "machine" is a device for performing physical functions (usually something with moving parts or circuitry – most of the patents we see in our industry are for machines), "articles of manufacture" are goods and products that are made (usually no moving parts – a transistor or LED would fall here – this category is a catch-all that covers just about everything else!), and "compositions of matter" are chemical compositions, compounds, and mixtures. An overriding requirement for all these categories is that it has to be a concrete or tangible item which can be demonstrated to work – you can't just patent an idea or concept. Meet that constraint and one way or another you can patent just about anything.

Useful, Novel and Nonobvious

The next requirements for patentability are the most contentious ones – to be patentable an invention must be "Useful, Novel and Nonobvious." These are tougher to define and form the subject matter of many lawsuits. However, in broad terms, they can be considered as follows:

Useful: To be useful an invention must actually work and must have a definite stated legitimate purpose. This criterion is usually a pretty easy one to achieve for most patents in our industry as they are usually developed to meet a well defined need. Meeting a known need is a sure way of guaranteeing that something is useful. The "legitimate" comes in to prevent somebody patenting a method for breaking into bank vaults or getting protection on a new process for evading tax! Oh, and you can't patent atomic weapons either whether or not you think they are useful.

> **"If it's not a true inventive contribution then it isn't justified in gaining the high level of monopolistic protection that a patent provides."**

Novel: Not such an easy one to prove – there's often a lot of argument about this! The definition of "new" is specific to patent law and lays down certain requirements on disclosure. In particular an invention is not patentable if:

- The invention was known to the public before it was "invented" by the individual seeking patent protection;
- The invention was described in a publication printed in any country more than one year prior to the filing date; or
- The invention was used publicly, sold, or offered for sale to the public in the United States more than one year prior to the filing date.

The USPTO normally allows a one year grace period as mentioned in the last two bullets above – but most other countries in the world do not. So it is nearly always advisable not to make any public disclosure of your ideas until after a patent application is filed. Making such a disclosure may be alright in the US, but may preclude you from getting a patent anywhere else. The main reason for this is the difference in a basic tenet of the patent law between the US and most other countries – the US has a "first to invent" criteria to decide who should be awarded a particular patent, whereas most other countries have a "first to file" rule. For example, in other countries the first person to file a patent application on a specific idea wins the patent, not necessarily the first one to invent it – you can see how that requirement certainly teaches you not to talk about your invention!

First to invent may sound like a fairer way to go about it, but it leads to its own set of problems. A first to file rule is very easy to adjudicate, but how do you adjudicate who was first to invent? You can only imagine the fun the lawyers have with this one! Safest all around is to treat any patent application as if it were a "first to file" rule – thus keep your mouth closed and file promptly. The US fairly recently introduced the concept of filing a provisional application – this can be an easy way to get the process started and establish your "novelty" date.

Nonobvious: This is the really difficult one. Many people confuse this with novelty but they are actually very different requirements. Novelty is easy to define – if it's new then it is by definition novel. But just being new doesn't ensure that something is in any way nonobvious. To be nonobvious the invention has to be sufficiently creative that it contributes real value to its field. If it's not a true inventive contribution then it isn't justified in gaining the high level of monopolistic protection that a patent provides.

This is where the whole notion of "prior art" comes in. What has been the normal practice and the level of knowledge prior to the introduction of this invention? In order for an invention to be patentable it must be a nonobvious improvement over the prior art. This determination is made by deciding whether the invention would have been obvious "to one of ordinary skill in the art." In other words, the invention is compared to the prior art and a determination is made whether the improvements in the new invention would have been obvious to a person having ordinary skill in the type of technology used in the invention.

The Supreme Court has ruled on this often – in 1941 they ruled that a device wasn't patentable because it lacked the "flash of genius" normally associated with nonobviousness. They further went on to explain that nonobviousness requires a unique insight which would not be disclosed by simple research. Unfortunately later the Supreme Court abandoned this requirement. Shame, I like that "flash of genius" definition!

The US patent system is also slightly unusual in that it allows combinations of known devices to be considered nonobvious. The criterion here is that the combination has to be more useful than

just the mere sum of the component parts. This concept, known as synergism, is also a very tough one to precisely define and thus leads to much debate.

All this is somewhat vague and the determination of whether a particular change or improvement is "obvious" is one of the most difficult decisions in patent law. In order to help make the determination, the patent examiner will review previous patents and find those patents which are closest to the new patent application. If all the features of the claimed invention can be found in one single patent, the examiner will reject the patent for not being novel (i.e., it is exactly the same as something previously known and therefore is not new by definition). If no single patent contains all of the features, the examiner will attempt to combine two or more prior patents, and attempt to find all of the features in a combination of those prior patents. If the examiner is successful in finding such a combination, the examiner may reject the invention as an obvious combination of items known in the prior art. However, there must be some good reason to combine the two references, and sometimes a rejection based on such a combination can be overcome. Hindsight is always 20/20 and is not considered proof that something was obvious. For example, once a patent is issued and a product is described you may be able to go back and find two patents that could be combined to produce the newly patented item. However, combining those two patents may not have been obvious until after you'd seen the new item, particularly if they are from different fields – the examiner has the difficult task of deciding if combining two existing features would have been obvious to anyone of normal skill before they knew about the existence of the new item.

What's next?

Jump through all these hurdles, satisfy the examiner that your invention is useful, novel, and nonobvious and the patent is yours. This process is not quick; it can take at least 18 months to issue a simple patent and most take at least two years. It's also not cheap; it will certainly cost you somewhere between $5,000 and $10,000 to apply for and obtain a US utility patent – less for a design patent. There are also renewal fees due in the fourth, eighth and twelfth years of a utility patent – the renewal fees increase each time and could be as much as $2,000 for the year 12 renewal.

Next issue we'll continue this look at patents and consider the possible reasons for owning patents, routes to applying for them, the differences between US patents and overseas patents, patent licensing, and patent enforcement.

To be continued… ■

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