

Defensible Technology and Patents

A presentation to CU Entrepreneurs

The object of this presentation is to give you a balanced view of the patent system.

First a verse:

*I've looked at love from both sides now
From give and take, and still somehow
Its love's illusions I recall
I really don't know love at all¹*

For love read patent.

The smart entrepreneur understands both the give and the take of the patent system. He can use IP to protect his business model to provide a sustainable competitive advantage, but he can also evaluate risks that other people's patents present to him.

There is also a third way and that is to use patent applications to give you insights into your market and competition. Mining the data can reveal all sorts of commercial as well as technical insights. You can even find likely recruits.

What is a patent

A patent gives its holder a monopoly for a period of up to 20 years in a particular country. All that the country asks in return is a full disclosure of your technology – including all the necessary secrets. The extent of the monopoly is defined by the claims in the patent. You have to give a lot before you can take a patent.

Patents are issued by governments to encourage innovation. We have had patents in the UK since the 15th century so it is not surprising that there are differing opinions as to why they exist. In the beginning patents were very clearly linked to investment. If you were prepared to invest in bringing in new technology to this country, the crown would grant you a monopoly to make your investment worthwhile. In the early days there was no concept of reward for innovation. It was not until 1610 that James 1st decided that it was only appropriate for patents to be granted for “projects of new invention”. History buffs can find it all set out very nicely at <http://www.patent.gov.uk/about/about-ourorg/about-history/about-history-patent.htm>.

A patent on its own will not bring you a fortune. Patents are only useful as part of a business model and you should bear in mind the link with investment before you expect a reward.

The ying and the yang of patents

While a monopoly that allows you to prevent anybody else competing with you is a wonderfully positive thing and very attractive to investors, a patent monopoly that belongs to someone else can be a threat to your business plans.

It makes sense to think about patent infringement because it emphasises what a patent is. It's a right to bring a legal action to prevent someone doing something. A patent gives you no positive rights whatever. Possession of a patent does not say you can exploit the technology. It merely says you can prevent anyone else doing so.

X creates a molecule and patents it. Y discovers that in a certain delivery vehicle it will cure cancer and patents that. Y cannot sell his cure without infringing X's patent. He must do a deal with X first before his investors can make a fortune. Equally X cannot sell his molecule

¹ Words & Music by Joni Mitchell

to another drug company to make their cure because that drug company would be infringing Y's patent. You can either end up with a network of deals and the public gets its cure and both sets of investors doing well or you can end up with stalemate. It's the business skill of the parties involved that makes the difference.

When are other people's patents a problem?

Only a proportion of the published applications are ever granted as Patents. Most patents are not kept in force for the full 20 years and lots are allowed to die in childhood -most before they are but eight years old. It is only granted patents that have been kept in force that can cause your business any risk. It is only the independent claim of a granted patent that matter to you. For there to be an infringement the patent holder must be able to find something in what you do that corresponds with every single word in his claim.

Pitching the Patent Issues

Engineers and Scientists don't mix well with Investors. This seems to be a universally accepted truth that requires you to have a team member who can don a suit and explain the science and more importantly the impact of the patent at a level that the investors can "get" without being patronising.

The process of preparing a claim for your patent application with your patent attorney is a good opportunity to distil your ideas, compare them with what is already out there and work out what the inventive contribution is.

It may be sufficient in your elevator pitch to mention patented technology, but you're going to have to go beyond that when your prospective investors start carrying out their due diligence. They will want to know what exactly it is you claim to be able to prevent the rest of the world doing. They will want to be comforted that your patent is watertight.

If it is well known that there are patent issues in this technical field, they will want comfort that competitors can't stop your model succeeding. You won't be able to give black-and-white answers to these questions but you must demonstrate that you are fully aware of the risks and have a strategy in place for minimising them.

http://www.bbc.co.uk/dragonsden/episodes/dragons4_ep2.shtml#dragonslink

Richard Farleigh: "The teddy bear plus media player may be a new product, formed by adding two existing products together. It seems a brilliant concept by Imran Hakim, and I was impressed that he'd built it himself, but will he be granted a patent? I may be wrong (it happens often!) but I doubt that adding two existing products is patentable. Did the people who first put lights in refrigerators get a patent? I don't think so, so I didn't invest. We'll see."

Peter Jones saw huge potential profits through the whole distribution chain, and offered half the money for 22.5 %. Theo was quick to match Peter's offer **but on condition that the patent would stand up**

Whether that is a wise condition will depend upon whether this entrepreneur knows his technical field. Was he wise to rely on a patent attorney's search of the patent literature. Imran said confidently to camera that they didn't find a personal media player integrated with a soft toy. However in [November 2004](#) The Music Buddy™ Garfield Plush Toy was launched with an 128MB MP3 Player built-in. The MP3 Player is controlled by squeezing Garfield's leg. The plush toy MP3 Player runs on a single AAA battery with a 8 hour play-time.

Who gets Which Patents

Somewhere there has to be a **balance** between giving out monopolies to encourage investment and having too many, which prevent businesses going forward with their plans. How do we maintain that balance? This is the role of The Patent Office and the legislation. As a matter of public policy certain things aren't regarded as inventions. Lord Justice Jacob in the Court of Appeal last year said that there was *no evident underlying purpose behind the exclusions as a group*. However, it is worth noting that artistic ideas, software and business methods have one thing in common, they do not require a great deal of investment to implement them once they have been created.

For the rest of industrially applicable technology, a patent can only be granted if the invention is new and isn't obvious. Obviousness is always tricky because inventors are often very modest. It is really a question of whether your peers think the solution is clever. If you want to try your hand at peer review of software patents have a look at <http://dotank.nyls.edu/communitypatent/>.

Your claim will also only be valid if it is supported by a sufficient description to enable somebody else to implement the idea. This is where many patents fail. They have been filed too soon before the inventor has actually worked out how to do it. Either there is no information or there is just mere speculation.

It is well known that patents are for ideas – but then it's also generally held that ideas are not patentable. So what's going on? The issue is this. You would like a monopoly on the answer to the market need that you have identified. However, unless you can implement a solution, you have not yet made the invention. You say it is just grunt work from now on. I can get [PA](#) to do all the testing and development to make it into a commercial product. They won't have to contribute any inventive spark at all. It's all in my idea. It scarcely ever is. Almost every patent-based business model I have encountered has shifted quite significantly in what was disclosed in their original application. If you are lucky this will happen within the first 12 months from your priority date-when you file the first application for a patent.

When to file a patent

The problem is that you are bursting to talk about your idea - to get some money and a team together to find out if it is an investable proposition. The more that gets disclosed, the more likely it is that the eventual solution will start to look obvious. It may well be that you need to file an incomplete patent application. Once upon a time, these used to be called *provisional* applications. They still are in the USA. The benefit of filing a provisional application is that your own disclosures of what is in the provisional application won't be considered prior art to your eventual claim. The bad thing is that other people's publications might still be prior art to your eventual claim - if it turns out not to be supported by the original provisional disclosure.

If you have to talk about your idea before it is a complete solution to the perceived market need, then you have to file a patent application and start the patent clock running. It is the only strategy available to you. If you can keep everything secret until you know how to make it work, then that is always the better course.

The patent clock

Once you filed your first patent application for an invention, you establish a priority date. You can never add material to an existing patent application. If you develop new material that you wish you had included in your patent application, you can file another application which will have its own priority date. You can also file a cumulative patent application and claim the first priority date for the original material. You can do this many times but only up to 12 months after the earliest priority date. If you want patent protection in any country apart from the one where you started, you need to file before the first birthday of your priority date.

Nothing ever goes according to plan. Patent law is inflexible. It has to be to maintain the balance.

Judging the value of a patent

Whenever you file a patent application set down your original purpose. If the business model moves away from that purpose, then abandon that patent application so your resources are used effectively.

The most valuable patents are those which cover a broad concept but many broad concepts like [sliced bread](#) are obvious. Sliced bread may well have completely solved the problems of sandwich makers but it was quite clear that it would. The innovations in the sliced bread world lay not in the concept of pre-slicing the bread but in ways of doing it industrially and packaging the resulting product so that it didn't fall apart. The iTeddy inventor was looking for a broad concept patent for a personal media player inside a soft toy. He can't have it because it is not novel. He may compromise on a claim that refers to a collection of features but will that satisfy the investor's conditions. Will that monopoly make any difference in the market?

However, if your idea is for an unexpected concept, such as the blue squash ball (which solves problems of visibility) or fluoridated milk (which solves the problem of delivering fluoride to prevent tooth decay to children) a broad concept may well be novel and non-obvious. Patent claims like these are ones that even the most naïve investor will "get". iTeddy wanted this type of patent.

However, if you decide to make a broad claim, you run the risk that it also describes lots of things that have been published before. You may feel that you need a monopoly over a particular molecule and that you deserve it because you have developed a method of extracting it cleanly. However, if that molecule already exists in nature you simply cannot have a patent monopoly because the molecule itself is not new.

Kirin Amgen Inc went all the way to the House of Lords because they wanted a monopoly over erythropoietin (EPO). EPO was a hormone made in the kidney, which stimulated the production of red blood cells. They had developed a method of producing it but it wasn't the one that the alleged infringer used. The judge was right to find that there was no difference between EPO made according to claim 26 and EPO which had been purified from urine and was already part of the state of the art. The UK should apply the same law as the European Patent Office and the other Member States when deciding what counted as new for the purposes of the European Patent Convention and should not accept product by process claims as a matter of practice. Claim 26 would have been revoked in opposition proceedings and was therefore declared invalid on the ground of anticipation. (3) The nature of the invention which the specification had to enable was a way of making EPO. The judge was right to conclude that claim 19 was invalid for insufficiency because the test for distinguishing EPO falling within claim 19 from EPO purified from urine by its molecular weight was in practice incapable of application. (4) The patent was revoked on the ground that claim 19 was insufficient (Patents Act 1977 s.72(1)(c)) and claim 26 was anticipated (s.72(1)(a)).

Patent Strategy -are narrower patents useful?

Broad concept patents are easy for investors to "get" but risk being invalid.

Now you have to consider if you can't have it all, is there some patent strategy you can have that gives your business model a sustainable competitive advantage. Just because the simplest patent strategy of total control is not open to your business model there may be others that work. The big boys have simply adopted a strategy of quantity regardless of quality. If you have enough patents no-one will threaten you or if they do they are likely to infringe something in your portfolio. The file anything strategy may just bring down the Patent Offices though. You may not have the budget either.

Consider alternatives – relying on secrecy or registered designs/design patents if patents are not likely to bring you results in the context of your model. Brand and Registered Designs would probably serve iTeddy pretty well. Enough funding could mean that marketing was more important than IP.

Strategy in Practice

Whatever the strategy you decide upon it is important to make it known internally and agree it with investors. In the longer term an essential first step is a process for evaluating all the ideas as they arise and develop. Set targets to encourage the bringing forward of ideas but beware of creating unproductive stress. Reward and motivation are important whether your research team is internal or external. Take feedback from early customers and articulate the problems that arise. Talk to your sales team

You also need an approach to the scope of geographical protection.

If you're doing business in the UK then a US patent cannot touch you. Conversely, if you are going to attack the US market then a UK patent won't protect that investment.

If you can justify your approach from a business perspective, a VC will be interested provided it goes with the growth he wants and contributes to the dominant market position he aspires to.

Knowing your Technical Field

Patents relate to the appliance of science. Published scientific research will be reliable because it is peer-reviewed. Published patent applications may be complete rubbish. Anybody can put anything in a patent application and most of them are published exactly as filed. Sometimes they contain useful information about how things really work. Sometimes they contain just misleading speculation. Sometimes they describe inventions. Sometimes they don't.

Whichever category they come in, if you want a patent in a particular area you need to make yourself aware of both the background scientific knowledge and that in the patent literature. You need to be able to clearly identify your inventive contribution – also known by most patent agents as the clever bit. You can only do that if you have some knowledge of what has gone before-the prior art. Studying the prior art can be rewarding because it tells you what blind alleys other people have followed and save you the trouble of doing the same.

Its also wise to monitor others that are active in your technical field and the patent literature is a good source, although nothing much is published more than eighteen months after the priority date so there is a significant time lapse. Longer term trends can be revealed.

Wrap Up

Procure patents that are going to help you to achieve and maintain a dominant position and even the most science-averse VC will delight in the patent illusions you can spin for him.

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