Can I Check If My Patent Guy/Gal is Doing a Good Job?

This Patent Stuff and My Semiconductor Business – Part 24

Welcome to this post about patents and chips. Not a lot has been written about this combination, but there is a lot to know, especially for the innovators and entrepreneurs themselves. In this three-weekly series, I talk about various aspects, from a dual perspective of a patent agent and a semiconductor entrepreneur. If you like the article and read it on LinkedIn, give it a thumbs up, and/or click on Follow. If you like to work with us for your next patent, "contact us" info is on www.icswpatent.com. You can also subscribe/unsubscribe for short email alerts when the next post is available.

How do you know if your patent practitioner (patent agent or patent lawyer) is doing your invention justice? Is getting the patent issued the one and only metric for success, or should there be more to it?

Not all patents are solid

For some large companies, with big war chests for infringement litigation, yes, getting the thing issued may be the only thing that matters. But not everybody is an 800-pound silverback, and for small companies it matters that a patent, or patent portfolio, adequately protects a unique and innovative technology. If you're not a lawyer, is there a way that you can assess if your patent, or better, the patent application that you're about to file, is strong?

There's no piece of software that I know of that can do it for you. Maybe somebody can collect a million litigation-winning and a million litigation-losing patents and feed them to an AI software to train a deep neural network and see how it does. But that won't help you right now. Here's what you can do.

Although most patent practitioners are very pleasant people who only want to write strong patents, not all have been part of a chip design team, and few have managed a chip design, or designed its architecture.

A big red flag is when your practitioner doesn't fully understand your invention. In that case, he or she may not be able to generalize the invention beyond the implementation that you're disclosing, and in electronics that means there will easily be 50 ways around it. Even when the practitioner doesn't understand the invention, a competitor might, and (thank you!) use any unclaimed alternative implementation to freely benefit from your innovation. Your patent will be as leaky as a wicker basket.

A similar red flag is when your practitioner has just taken your draft for a scientific article, an industry magazine article, or a whitepaper, and made some modifications to your text complimenting you how good a writer you are. There are a

few practitioners who spice up text with unnecessary quasi-legalese and antiquated language. Your draft may have served a different purpose than a patent does, and likely, it did not focus on explaining and generalizing the invention to give your patent the broadest, and waterproof, coverage. A patent text almost always needs to be written from scratch. When you notice that your innovation is buried in the patent description, and your practitioner sticks to only implementation details you provided, then you may suspect that he or she is out of his/her league. The detailed description really should present the generalization of the invention, followed by various possible alternative implementations, including the one you made. A practitioner working for multiple customers cannot have expertise in all innovations he/she handles, so when that context is missing, the practitioner should have a discussion with you about alternative implementations, and document those in the application.

Sometimes this means that the description first has to describe how you do it. This is called a method (in patent speak) and would typically be described using a simple flow diagram—not too many loops and branches. It could be followed by implementations in different technologies, for example a block diagram with dedicated logic, one with processors, mixed-signal circuits, single-chip diagrams and/or circuits, and circuits or block diagrams with different approaches, i.e. different circuits that all do the same thing. If an application doesn't show any different approaches or different implementations, it may leave the door for competitors wide open. Personally, I often do it the other way around, too, and start with block diagrams and/or circuits, followed by methods. Sometimes I alternate them, if that helps to more understandably present the invention.

One challenge that practitioners face is that, often, an inventor knows that he or she has done something unusual, but is not certain which part of the work is truly innovative and has never been done before. Most inventors don't know the details of how patent laws work, and nobody has read everything that has ever been published about his or her specialty. To identify the actual invention, some practitioners will partially depend on their intuition. Some will just claim broadly and wait for the first patent office response to see what sticks. Others will perform a prior art search. None of those approaches is bad, even though they don't guarantee success. A prior art search gets you into prosecution with open eyes, and with claims that have a high chance of success, but the search itself can be costly, too.

You should take a look at the drawings. Is there a drawing that shows your naked invention, either in a circuit, a flow diagram, a timing diagram, or something? Are there drawings for the different implementations? If there are only circuit drawings, or only flow diagrams, you may want to ask your practitioner why they aren't there both (sometimes it can be justified, but often it is better to have both).

Then you should look at the claims. As I have mentioned earlier in this series, the claims are the most important part of your patent application. They define what is to be protected. Every word, comma, and dot counts. Every detail. Claims are organized hierarchically. The most important (the broadest) are the independent claims. They are at the root of their hierarchy. Often you find that a US patent includes about 20 claims, and up to 3 of them are independent (a European patent may have 15 and 2, and other jurisdictions may have different numbers). You can recognize an independent claim because it starts with the article "A" instead of "The". For instance, "(Claim) *1. A (something), comprising…*". On the other hand, a dependent claim starts like "(Claim) *2. The (something) of claim 1, further comprising…*". Find the independent claims, and see if they describe your bare invention. Is there one that shows how you do it (the method)? Is there one that describes a circuit or architecture? Can you figure out what type of infringer the claim targets? For

instance, in the case of firmware, there might be an independent claim describing a chip or a circuit. It is targeted at rogue chip makers. There might be another independent claim describing a "*non-transitory processor-readable medium*" (*patentese* for a non-volatile memory or a CD/DVD or whatever) "*with instructions* (steps that describe the method of your invention)", which is targeted at rogue software sellers. And there might be a general one describing your method that could be targeted at any infringer. In general, you'd want to address potential infringers who are competitors. You'd be much less worried about customers or suppliers infringing.

Do the independent claims contain any detail that could be left out, I mean, without which your invention would still work? That could be the reddest flag you can find. A competitor would just leave it out, so that he can use your invention without infringing it. But there might be a valid reason for it, usually related to prior art. Ask your practitioner why it's there.

If you look at your dependent claims, they should contain the stuff you figured out that may not be essential to your invention, but that certainly adds value to it. Hopefully including some more things that you believe nobody else may do. But you should also find some more detail about the different implementations.

As mentioned, details matter a lot in claims. For a description of the invention, it might be helpful to think of a digital signal to be high or low, but in a claim you'd like it to be asserted or deasserted ("high" or "low" could be limiting the scope of your claim). That is, if that signal even needs to be in your claim. Similarly, information can be in a voltage (a DAC could output a voltage), but it could just as well be carried in a current (the DAC could output a current), or in some other physical quantity or quality. If a claim purely talks about some voltage, it may leave the door open for a competitor who uses a current to do the same thing. Why would you build a house if there is only half a roof over it? You have to be protected.

Claims have weird language (see TPS 21). But they should still make sense. Especially the independent ones. If you can't figure out what a claim is saying, or you got a feeling that something is not right, talk with your patent guy or gal. He or she will probably appreciate it quite a bit when you do.

Upcoming:

25. I Can't Wait for the Patent Office for 3 Years, Can I?

Published so far (find the articles on www.icswpatent.com or #ThisPatentStuff):

1. So You Got This Great Idea That Will Wipe Out Competition. Now What?
2. Developing an IP Protection Strategy for Your Semiconductor Company – PART I
3. Developing an IP Protection Strategy for Your Semiconductor Company – PART II
4. In What Countries Should I Patent, Anyway?
5. Choosing the Right Patent Person for Your Inventions
6. How is a Chip or Firmware Patent Different than Other Patents? What About a Software Patent?

7. Woohoo! I Invented a Huge Improvement over My Competitor's Invention!
8. I'll Be A Billionaire Soon Enough. But Now I'll Just Buy This Book on Patent Writing on thriftbooks.com.
9. My CTO Can't Explain His Invention to Me. But He Is the Smartest Guy in the World.
10. Should I Do a Provisional, Non-Provisional, Or a PCT?
11. What Makes and Inventor, and How Can I Stimulate Innovation?
12. My Invention is Vital for My Business Plan. But I Don't Have Much Money Yet. How Can I Save?
13. I Want to Protect It Now, But Am Still Working Out Architecture Details. Can I Add Those Later?
14. I Want to Use an FPGA Before an ASIC. Can It Be One Patent?
15. How Do I Know If My Invention Is Patentable?
16. How Do I Screen My Employee's Invention Before Deciding on a Patent?
17. A Prior Art Search Before Filing the Application
18. Should I Pay Extra to Get the Patent Faster?
19. How Many of Those Patent Office Actions Should I Budget For?
20. My Company is in Brazil. How Do I Manage Patenting Worldwide?
21. Why Are Patent Claims So Weird, Anyway?
22. They Don't Understand My Invention‼
23. Do I Really Need to Spend So Much Time to Get a Patent?
24. Can I Check If My Patent Guy/Gal is Doing a Good Job?

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