Why Are Patent Claims So Weird, Anyway?

This Patent Stuff and My Semiconductor Business – Part 21

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.

They're weird, aren't they? Are the claims not just some kind of summary? Is the description of the invention not boring enough? What's up with the language?

To some extent there is tradition. A document as important as a formal recognition of a noble invention could not be written in street language. There is also that some practitioners don't afford to analyze an invention properly. To cover that they don't understand, they may dress up an inventor's text with expensive and antiquated language.

Let's take a step back. A patent is a legal document. When issued, it gives you the privilege to decide about a bunch of rights for an invention that you have made. You get the privilege for 20 or 21 years, and after that, the invention becomes public domain, and all of humanity can benefit. To make the whole thing work, of course you need to describe clearly what you've invented, and you need to claim precisely what is unique about it. Usually, you have a couple of independent claims, in which you claim your invention as broadly as you can get allowed, and each independent claim may have a string of dependent claims that can narrow it down to what you have actually built. Or thought of building.

The claims are THE MOST IMPORTANT part of your patent. My friend Joachim gave a really good tip for inventors. When you review the draft of your application, don't skip the claims. Take a pencil and a paper and take the claim language as instructions for a drawing. Are the instructions clear enough to make the drawing? Do you recognize your invention? If not: discuss with your practitioner!

You cannot write the claims yourself, though. All fighting about patents in court is about the content, meaning, and language of the claims. There is a boatload of legal baggage: the laws (US: four that are really important), the regulations (a couple of hundred), the rules (thousands), and case law (all the court cases that make up how the laws are currently interpreted).

There are many legal requirements about the language in claims, even to the extent that it deviates from what a normal person would identify as grammatically correct English. Not one of the requirements, luckily, is to write mumbo-jumbo. In fact, of the four laws (in the US) that form the foundation of the patent system, there is one that specifically requires that the description of the invention be full, clear, concise, and in exact terms. The reality is often different, in some part for the reasons I gave above.

Personally, I believe that a claim should be legible, clear, and defining the invention. That is how you get a strong and valuable patent. Sometimes I feel like I'm the only person who thinks so, though. There are so many patents, especially about electronic circuits and systems, in which the claims seem to be just a meaningless bunch of words. The example on the right (an Apparatus! by Intel) is a claim without obfuscating words or language, that gives a detailed description of an invention. It seems to the point, and defines the invention. Mind you that, without having read the patent, I hardly have any clue what it is talking about—but that is my fault, not the practitioner's.

An Apparatus!

1. An apparatus comprising:
a substrate;
one or more active devices adjacent to the substrate;
a first set of one or more layers to interconnect the one or more active devices, wherein the one or more layers of the first set includes a first layer of a first thickness and a second layer of a second thickness greater than the first thickness, wherein the first layer is closer to the substrate than the second layer;
a second set of one or more layers, wherein the one or more layers of the second set includes a third layer of a third thickness and a fourth layer of fourth thickness greater than the third thickness; and
a layer adjacent to one of the layers of the first and second sets, wherein the layer is to bond the one of the layers of the first and second sets, wherein the layer to bond includes a metal, wherein the third layer is closer to the layer to bond than the fourth layer, and wherein the second layer is closer to the layer to bond than the first layer.

(From US 11,037,817)

Claims do not *need* to contain legalese. But because the language is tightly controlled by patent office rules, and impacted by case law, there are many common words and expressions that have an uncommon meaning when they appear in a patent claim. We are extremely careful using them, or we blacklist them altogether. Using the word *or* is very tricky. The verb *contain* is a no-go. We need to think twice before using the word *with,* or *having*. Before we can write "the (something)", we have to introduce "a (something)", otherwise we have an antecedent violation. When there are two (something)s and they may be different, we'd better write "a first (something)" and "a second (something)". We can write in a dependent claim that the second one may be the same as the first one. In some cases, we are forced to accost English grammar.

We do have choices, though. My applications don't talk about "said (something)", I just write "the (something)". Unless forced, I will not write "a plurality of (circuits)"—I will write "two or more (circuits)", etc. I want the inventors I'm serving to be able to read what I write.

For somebody unaccustomed to claim language, reading claims can be a painful exercise. It is not only the legal baggage that makes them hard to read. As mentioned, the claims are the heart of the patent. If your description features this omnipotent vehicle that allows traveling to the moon and back, but your allowed claims are only of a kids' scooter, then

the only thing protected will be the kids' scooter. Your claims must clearly target potential infringers, who would usually be certain types of competitors. For instance, if your company is a fabless semi, you may have a circuit claim, even to the extent that it looks a bit like a whole netlist expressed in crooked English. If you have a software invention, one of the claims may be for a memory (such as a DVD) that comprises instructions that cause a processor to (description of the method you have implemented in software).

If your independent claims are narrow, then it may be easy for a competitor to get around them. So, independent claims should be as broad as possible and free of anything that is implementation specific. That means that the implementation-specific terms that the inventor is used to are replaced by broader terms. Sometimes, a broader term is easily available and easy to read. But sometimes, a broader term is not so easily available, and the claim may use a term that, although it might be introduced in the detailed description, is still awkward.

I normally claim for the broadest use of an invention (unless a CEO tells me specifically to not care). That means that I will try to divorce an invention from the application for which it was invented. If you invent a microphone for use in a cellphone and that doesn't pick up the noise from the wind, I will take it out of the cellphone context (at least for independent claims), because such a microphone is also very useful for many other outdoors conditions.

If you haven't guessed already—reading claims is not the only difficult thing. Writing claims is difficult, too, and can go awry. Let's revisit this infringe thing. I once saw a patent for a major foundry. That foundry has a signature technology with which it distinguishes itself from competitors for wireless semiconductors. The invention was cool, but the lawyer who wrote the patent didn't understand it. When the patent was examined, the examiner saw some prior art issues with claim 1. The lawyer decided to narrow the claim a little bit by throwing in that the circuit be manufactured with the foundry's signature technology. That got him the patent approved. But who were the potential infringers with this new limitation? The foundry's customers‼ By adding in this limitation that had nothing to do with the invention, the lawyer opened up (gave away) the invention to all competitors, and protected the foundry from infringement by its own customers, who pay to use the foundry's technology! OK, so maybe this lawyer didn't have his best day, but claims can be tricky.

Unfortunately, it happens a lot that the commercial value of a patent is destroyed by a patent practitioner who doesn't understand the invention, or its commercial value to the inventor's company. For this reason, I follow my golden rule. When I file a patent application, I will understand every sentence and every word in it. I will understand the invention, and I'll have done my best to understand the customer's strategic goals. And I also want my readers to understand it.

Upcoming:

22. They Don't Understand My Invention‼
23. Do I Really Need to Spend So Much Time to Get the Patent?
23. Can I check if my patent guy/gal is doing a good job? (How Do You Know If Your Patent Practitioner is Doing Your Invention Justice?)
24. 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?

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