Section 1

"US Patents: Definitions & Patentability"

Chapter 3

What Types of Innovations Can Obtain a Patent?

According to the patent statute, "Any person who invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent[1]."

Well, that all sounds like a lot of legalese. Let's get right to the nuts and bolts of that answer's meaning.

A complete, in-depth description of any actual machine, manufacture and composition of matter, or even "any useful improvement thereof," goes beyond the scope of this book.

However, to give you an idea as to how each type is defined, we will discuss what the basic qualifications are for each different patent-eligible category listed in the statute.

Let's start with the first one:

1. **Process.** What is a process? When you think about it, many common milestones in life are a process: getting a high

[1]Title 35 U.S. Code § 10 - PATENTABILITY OF INVENTIONS

school diploma or buying a house, for example, are certainly processes.

Let's break that down a little bit, though. The examples above represent a "set or series of acts" in a certain order and sequence. That's what really makes up a process—a starting point and an ending point.

Federal law puts it like this: "a process is a mode of treatment of certain materials to produce a given result. It is an act, or a series of acts, performed upon the subject matter to be transformed and reduced to a different state or thing[2]"

2. Machine. We talked about the process. Now we will take a look at the patent qualifications for an actual machine. The main difference between a qualifying machine and a qualifying process is that a machine is the sum of various physical parts that carry out a process. If, as we said before, the process is the recipe, the machine is the oven. It is a concrete, empirical object. It consists of parts of certain devices, and there's a combination of devices. Each device, say, a blender, is made of sub-parts. A machine may be made

[2] 35 U.S. Code §10 - PATENTABILITY OF INVENTIONS

of sub-parts, which need to be fully described. I think this category is probably the most straightforward of the four.

We've covered process and machine, let's go to the third type of eligibility.

3. **Manufacture.** When I first started studying patent law, I found this category to be the most abstract of the four—mainly because it sounded (to me) like a work that wasn't quite yet complete.

The "manufacture" patent designation refers to an article produced from raw or prepared materials by giving to these materials, whether by hand labor, or by machinery, new forms, qualities, properties, or combinations.

This designation is all about raw materials. Think: wood, water, dirt, chemical compounds and basic, simple mixtures that can be made into more complicated things. This type of patent allows innovators to produce unique products from base ingredients. Much like the process, a patented or eligible manufacture must change the properties of the materials used in regards to their form: the way it actually looks and appears and the shape it holds—in essence, any physical properties.

Let's say a researcher prepares elements for a study on producing new types of materials for retail packaging. As an initial experiment, he will mix a polymer and a silica with a dioxin, thus transforming plastic and quartz into a bouncy, putty-like consistency.

This is the definition of a change in property: when the R & D technician combined the two materials, they produced a third with unique physical properties. That result defines a manufacture.

Note: The WAY that the raw materials are combined is left open-ended, unless a separate process claim is written.

4. Composition of Matter. Let's read the statute definition here:

All compositions of two or more substances and all composite articles, whether they be the results of chemical union or a mechanical mixture, or whether they be gases, fluids, powders, or solids, for example.

Though perhaps not obvious at first glance, there is a big difference between the composition of matter and a manufacture. Manufacture is simply combining raw materials and giving them new qualities or properties. Composition of

matter, instead, combines and mixes one or more substances such that they form a chemical union, binding their electrons and transforming at the atomic level.

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Chapter 4

Are Ideas Patentable?

For some reason, many attorneys LOVE to answer this question with a quick, "Absolutely not." Now, technically, they're right--but the spirit of this question really asks: "If I can explain my idea in sufficient detail so that someone like me could make it and use it, can I protect it?"

The answer to THAT question is a resounding "Yes!" Once the inventor is able to articulate with words and drawings in a sufficient amount of detail to enable someone with ordinary skill in the art (POSITA) to make and use the invention, they have just met the requirement for **enablement**.

Here's an example:

> Imagine a classroom full of students at any Technical School in the country. They are learning about a new tool for integrating the Bean programming language with HTML code. To accomplish this integration, they're using the new TRANS tool.

> Their professor presents a flow diagram that describes each step of this process. The students can see how to integrate Bean and HTML one function at a time.
>
> After class, a young student named Smarty, who successfully integrated the two, exclaimed, "I would have never understood that new tool without Professor Wise's flow diagram."
>
> I chose this hypothetical specifically to refer to a recently published patent application for the TRANS tool. The applicant ONLY described functions; namely, the storage function, the retrieval function, and a conversion function, but also addresses other functions, including the HTML result function.

While the applicant did NOT include a flow diagram, it was all laid out in the descriptions of each function from which the Professor was able to create the diagram. In fact, the patent didn't have any detailed schematics or diagrams explaining what order the steps should go in, just the major functions. On top of that, the patent didn't have any code whatsoever. There was actually no Bean programming language in the written description.

Would a patent application similar to the example above still be considered enabling?

Surprisingly, I would say, yes, it definitely seems to be in that category. Remember, you've got to consider that the patent application's audience is not a student, nor even a savvy businessman or woman. Instead, it's the POSITA, the person of ordinary skill in the art. In this case, most likely a computer programmer who would already know that he/she could use many different coding languages to perform the functions. Similarly, a programmer wouldn't need to be instructed on the order of the steps, as they can get the function to work as long as they know how the pieces fit together and what the relationships are.

Remember, in general, no, ideas in and of themselves cannot be patented. One must bring it to life and enable it. In other words, the patent application has to describe a concept in such detail that a POSITA would be able to read it, recognize what's written there and know what the invented steps are in order to be able to innovate again.

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Chapter 5

The Heart of Patent Eligibility

Let's begin our discussion of the "heart," or the deciding factor (or factors) in determining the eligibility status of an application by talking about what's NOT eligible—at least since the patent law and the patent clause were inserted into the US Constitution.

Not Eligible

Algorithms or pure physical phenomenon, say gravity, or E=MC2, are not protectable. This is mainly because they are laws of nature. Yes, they're complex, and sure, they take a lot of brain power to be understood or applied—but that's not the point here. Laws of nature CANNOT belong to an individual or organization, but to Mother Nature. In other words, they are inherent to the existence of life itself. Our lawmakers made sure to point out that it's not in good faith to potentially allow for someone, an individual, to own something that has been defined by Mother Nature, as opposed to something that has been created by humans.

> Now, of course there's lots of arguments going back and forth on that matter, but that's outside the scope of this book.

What's important for our purposes is that the **claims**, or the subject matter regarded by the applicant as the invention eligible for rights of the patent application do, in fact, define the whole of what was invented.

To that end, the language defining the particular scope of exclusivity must be very specific in each application that gets reviewed. Typically, (if working with counsel that's seeking to be an applicant's best advocate) a lawyer will push for the most amount of rights (broadest) as he or she believes possible.

Such claims may start out being quite broad in nature, and as the examiner finds prior art—meaning patents or publications that are similar to the applicant's work, or that may have previously disclosed subject matter to the public that the applicant is trying to claim—some of those broad claims will most likely be limited or amended by the patent office.

In all, if someone asks you what your patent is, it's not really the drawings or the description; it is the claims.