

TECH 780/880
Intro to patent claims
Spring 2019

Claim drafting and the many kinds of patent claims one might want to have are broad and complicated topics; there are whole courses on them. This is just a high-level overview.

A basic independent claim has three parts: a preamble, a transition, and a body. For example, consider the following (hypothetical) claim:

1. A portable communications device comprising:
 - an outer, substantially waterproof frame;
 - an LCD display mounted within the frame;
 - a wireless antenna mounted within the frame; and
 - a processor mounted within the frame, capable of sending and receiving communications through the wireless antenna and displaying those communications on the LCD display.

In this example, “a portable communications device” is the preamble, setting forth the kind of thing the claim covers. “Comprising” is the transition. There are other transition words you will sometimes see, but “comprising” is the most common and means the invention must contain all the listed elements. And then everything after “comprising” is the body of the claim, setting forth the elements or pieces that make up the claimed invention.

This is an independent claim, meaning it stands on its own without reference to other claims; there are also dependent claims that build on earlier claims. For example:

2. The portable communications device of claim 1, further comprising:
 - a storage device configured to store the communications sent through the wireless antenna.
3. The portable communications device of claim 1, in which the LCD display is touch-sensitive and configured to receive input.

These claims have all been product claims, or apparatus claims, which means the claim describes a physical object of some kind. There are also method or process claims, where the claim describes a process for doing something—a set of steps instead of pieces. Think a claim describing a cookie, versus a claim describing a recipe for making the cookie.

All of the principles about dependent and independent claims and the pieces of a claim apply equally to these method or process claims. For instance:

1. A method of determining a user's spatial position on earth comprising:
communicating with a medium-earth orbit constellation of satellites;
fixing the position of at least four satellites of known position; and
calculating the user's position algebraically with reference to said four satellites.
2. The method of determining spatial position as recited in claim 1, further comprising:
programming an electronic device to automatically perform spatial calculations based upon the user's position relative to the satellites.
3. The means of determining spatial position as recited in claims 1 or 2, further comprising:
communicating with said satellites at electromagnetic frequencies between 1000 and 1600 MHz.

Finally, the last major piece of claim basics you need to know is a means-plus-function claim, or, more precisely, a means-plus-function claim element or limitation. These claims contain at least one limitation (patent-speak for one of the pieces required by a claim) that is phrased not in terms of structure, but in terms of the function that structure is meant to accomplish. For example:

4. A portable communications device comprising:
an outer, substantially waterproof frame;
an LCD display mounted within the frame;
a wireless antenna mounted within the frame;
means for receiving input from a user; and
a processor mounted within the frame, capable of sending and receiving communications through the wireless antenna and displaying those communications on the LCD display.

Here, "means for receiving input from a user" is the means-plus-function limitation: it doesn't say what receives the input, just that something must do so. As we will see later in the course, these claim limitations are allowed but are construed fairly narrowly.

Exercise: claims for a pencil

In this exercise, you will prepare some claims for an invention that is commonplace now but was once new: a pencil. Pretend you are a patent lawyer and an inventor comes to you describing her new invention.

She tells you the prior art consists of:

- (a) the quill pen and inkwell technology;
- (b) burnt charcoal;
- (c) the Greek and Roman “stylus made of hard lead” for light marks; and
- (d) the Roman peniculum, which is like a paintbrush that paints thin lines.

She also tells you that that her invention has these virtues:

- (a) it produces a dark mark;
- (b) it does not tear the paper;
- (c) it does not blot; and
- (d) the marks it produces can be rubbed out.

She also offers these technical insights:

- (a) lead and graphite both work, but graphite is better;
- (b) the best graphite comes from Cumberland, England;
- (c) the best graphite is soft;
- (d) mixtures work better than pure compounds for the marking material;
- (e) she knows properties for some specific mixtures; and
- (f) softer woods are more comfortable to hold than harder woods.

Draft a claim or set of claims covering the new invention. Endeavor to make these claims as strong and useful as possible. Feel free to use as many claim forms as you wish.

Email your responses to roger.ford@law.unh.edu by 6:00 pm on Friday, March 1, with the subject line “Patent claims.” Please include your response in the body of the email, not as an attachment.