

How to Review a Patent Application

An Inventor's Practical Guide

This document is not intended to provide legal advice. This document is only intended to provide an inventor with information on conducting a patent application review so that he can communicate more effectively with his patent attorney. This document does not create an attorney-client relationship. No information contained herein is a substitute for specific legal advice from a qualified patent attorney. This area of law is complex and subject to frequent change. Persons with specific questions should consult an attorney with knowledge in this area.

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This guide suggests a three-step process for reviewing a patent application. It assumes that you have fully described your invention to your attorney so that he can draft a fairly complete application. The goal of the process is to avoid reading the patent application more than once and, thus, minimize the time you, the inventor, spend reviewing the application. The process focuses on the claims, which are the most important part of the application. If at any point you see a big problem, stop the process and contact your patent attorney. When the attorney has addressed the problem, restart the process from the beginning. Instructions for each step of the process are given in the body of this guide.

Once you have completed this process, your attorney will file the application with the U.S. Patent and Trademark Office (USPTO). In about 18 months, an examiner at the USPTO will examine your application and compare the claims in your patent application with other inventions to see if your invention is new. The examiner will send a letter to your patent attorney explaining his findings. Your attorney can respond to this letter and change the claims if necessary. Eventually your attorney and the examiner will agree on a set of claims. Once they agree, your application issues and becomes a U.S. patent.

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As you read the application, think about alternative means, steps and mechanisms which could be incorporated into your invention and add them to the detailed description.

With these ideas in mind, read the application. Once you have read the application, you can return your comments to the attorney. He should provide you with an updated draft for your review.

Once you have completed this three-step process for reviewing a patent application, your application is ready to be filed with the U.S. Patent and Trademark Office and begin its official journey to becoming an issued patent. Patent law is one of the most complex areas of the law. No general patent guide is a substitute for the directed advice of a qualified patent attorney. The process suggested here will help you communicate effectively with your patent attorney so that he can draft a high-quality patent application and, thus, provide you with the strongest patent protection to which you are entitled.

STEP ONE: Read the Claims

What will my patent cover?

The patent application you receive from your attorney should have claims at the end. The claims contain the legal language used to describe your invention. **The claims describe what the patent application covers.** If you describe a fabulous invention in the application but don't claim it, you can't stop someone from copying your invention. Although the claims are hard to read, your attorney needs your input in order to properly construct strong claims.

How can I stop someone from copying my invention?

In order to stop someone from copying your invention or to collect licensing fees from a copier, **the device must infringe your claims.** Once accused, the copier has two main defenses he can assert against your charge of infringement: (1) non-infringement and (2) invalidity. A defense of non-infringement asserts that your claims do not match the accused device. A defense of invalidity asserts that the patent office made a mistake when it issued the patent to you. Either defense can be used as an excuse to freely copy your invention. Both of these defenses rely on the language used to describe your invention in the claims. For these reasons, the claims are the most important part of your application.

How are claims infringed?

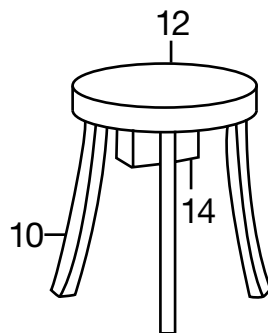
Claims are typically drafted in a hierarchy of independent and dependent claims. The independent claims are the broadest claims that cover the largest scope. The dependent claims are used to meaningfully narrow the scope of the independent claims.

You can identify dependent claims because they refer back to another claim in the very first line. **In order to infringe an independent claim, an accused device must contain every element of the independent claim. In order to infringe a dependent claim, a device must contain every element of the dependent claims plus every element of every claim from which it depends.**

For example, assume you have invented a floating chair and have been issued the following independent claim.

1. *A seating device comprising:
a plurality of legs;
a seating area coupled to the plurality of legs such that, in a first position, the seating area is raised above a floor by the physical strength of the plurality of legs; and
a flotation mechanism coupled to the seating area and configured to provide gravity resistance such that, in a second position, the seating area and the plurality of legs are raised above the floor.*

In this case, the “first position” corresponds to a position in which the chair is sitting on the floor. The “second position” corresponds to a position in which the chair is floating. You have also been issued the following dependent Claim 2 that depends from Claim 1.



2. *The seating device of Claim 1, further comprising a leveling mechanism coupled to the seating area configured to maintain a front edge of the seating area at a same height relative to a back edge of the seating area in the first and second positions.*

If you assert the cooking Claims 2 and 4 given above in a court of law, the court will look back at the text of your application to determine the scope of the “*means for mixing the measured flour, sugar and salt together.*” If the text of your application discloses only a spoon, this language will be limited to mean “a spoon and equivalents.” If your competitor mixes his ingredients using a fork, the court may say that a fork is the equivalent of a spoon and find that the competitor infringes Claims 2 and 4. However, if your competitor is using a blender, the court is likely to say that your “means for mixing” is not equivalent to your competitor’s “means for mixing” and, therefore, your competitor does not infringe your claim.

In order to combat this narrow interpretation, you can use a laundry list of alternatives. Somewhere in your application, you will have a block diagram and a flow chart that, respectively, show a spoon and describe the step of mixing. At some point in the text, when you introduce the spoon or the step of mixing, follow the introductory sentence with a legal laundry list of alternatives so that the scope of your claim can be interpreted to cover more than a spoon. For example:

In step 4, the previously measured ingredients are mixed together. In one embodiment, the ingredients are mixed together using a spoon. In other embodiments, the ingredients are mixed together using a fork, a whisk, an egg beater, an electric mixer, electric beaters, a blender, a combination of these, or any other means of mixing which combines the ingredients together with enough physical force to create a batter with a uniform consistency.

Although this example focused on expanding the scope of the “means for” claim elements, the principle of describing alternative embodiments is important to your application for other reasons.

processes, devices, solutions and such that are not readily known in the industry.

When in doubt, err on the side of adding information for clarity. Contrary to the claims, adding detail to the “Detailed Description of the Invention” does not narrow the scope of your patent.

Can I keep a portion of my invention as a trade secret?

No! The application must describe the best way that you know how to practice the invention. For example, assume you invent Velcro, both the prickly hook material and the soft loop material. But in your patent application you describe sticking the hook material to standard felt material and do not describe the loop material. You have not described the best way you know how to practice the invention. The patent office, not knowing about the loop material, is likely to issue you a patent. However, an infringer can assert that your patent is invalid because you didn’t disclose your best ideas. Once your patent is found invalid for this reason, your patent cannot be asserted against this or any other infringer.

How can I use the text to make my claims as broad as possible?

The patent statutes say that an element in a claim expressed as a “means for” or “step for” performing a specified function is construed to cover the corresponding structure, material or acts described in the specification and equivalents thereof. Therefore, **your application should include alternative structures or steps that could be incorporated or substituted into your invention.**

Because they are the broadest claims, the independent claims are most likely to be infringed, but also most likely to be found invalid. If one of the independent claims is found to be invalid, the dependent claims that depend from that invalid claim may remain enforceable. Specifically, if the dependent claim provides a meaningful narrowing to cover less than the independent claim, you may be the first inventor of the more narrow aspect of your invention even if you are not the first inventor of the broadest aspect of your invention.

In order to illustrate these points, let’s take an example. Suppose that after you have spent several years and lots of money developing the floating chair, a copycat competitor reverse-engineers your product and begins selling the floating chairs as you have described them in your patent. You sue this competitor for infringement.

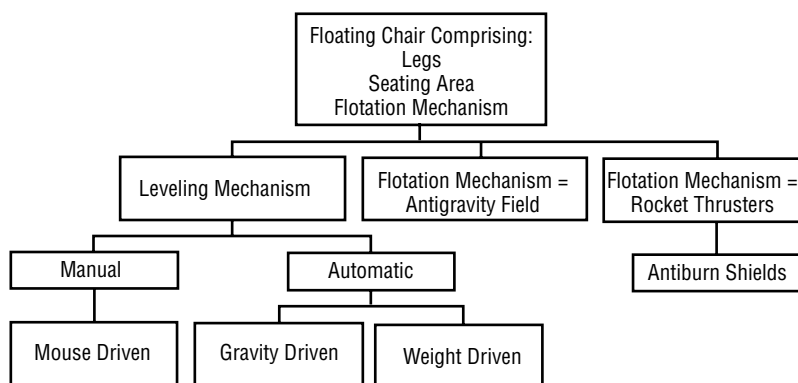
If your competitor is making a substantial profit on the chairs, he will spend a substantial amount of money to defend himself. Thus, if he chooses to assert a defense of invalidity, he will spend a lot of money searching for a reference that shows the subject matter of your claims was publicly known before you invented.

Assume that after a very extensive search, your competitor finds a dissertation published by a graduate student at the University of Obscurity in Eastern Alaska that describes the floating chair and was published before you invented the chair. Based upon this reference, the court invalidates Claim 1. However, assume that all work on the floating chair ceased a few days after the dissertation was complete because the graduate student died in a laboratory accident. Further assume that the death occurred when the graduate student was dumped out of the chair.

Obviously, the graduate student had not invented a means of stabilizing the flotation process. You have devised a way to stabilize the flotation process that you described in the patent and claimed in dependent Claim 2.

Even if Claim 1 is found invalid over the University of Obscurity reference, Claim 2 can remain valid and enforceable. If your competitor's chair also incorporates this leveling mechanism, your competitor is infringing Claim 2 and you can use your legal power over him to shut down his factory or to collect royalties or to cross-license with him for his further improvements to the chair.

Dependent claims can also depend from one another in a multi-tiered hierarchy as illustrated in the figure below. Dependent claims either more precisely define one of the elements in the claim from which they depend or add new elements. In this case, other good dependent claims might describe the flotation mechanism more precisely, the source of energy used by the flotation mechanism, the releasing mechanism that returns the device to the floor or the control mechanism that determines how high the chair rises above the floor.



tional tool. You should focus your review on the content of the application rather than the grammatical and stylistic aspects.

What is the goal of the specification of a patent application?

The goal of a patent application is to enable a person skilled in the art to practice the invention. In other words, the application should contain enough information to allow someone like you to understand the invention to the extent that he could make or perform your invention. Referring again to the floating chair example, Claim 1 would only be a valid claim if the accompanying description described the flotation mechanism with enough detail that a typical flotation engineer could build it.

You do not need to describe things that someone like you would already know. For example, if you invent a better mouse pad, your patent attorney should not dedicate several pages to describing the way the mouse cord connects to the computer. If an aspect of your invention is standard stuff anyone like you already knows, you need only tell the patent office that it is “well known in the art.”

The fabulous new mouse pad can be used in conjunction with a variety of existing and later developed mouse devices that use friction to detect movement. The mouse can be connected to a computer according to any one of a variety of connection mechanisms well known in the art so that the physical movement of the mouse on the new pad causes electrical signals to be transferred to the computer.

However, you should avoid the use of slang terms, unless you define them in the application. Be careful not to refer to internal

STEP THREE: Read the Entire Application

How will the specification be organized?

Once the claims are correct and the figures match the claims, you can read the application. A **typical specification is divided into four sections** in the following order.

1. Background of the Invention
2. Summary of the Invention
3. Brief Description of the Drawings
4. Detailed Description of the Invention

You should concentrate your review on the “Detailed Description of the Invention” as the other sections are less important. The first draft of the application you receive may not have a “Summary of the Invention” or a “Brief Description of the Drawings” as many attorneys prefer to draft these sections based on your approved claims. In any case, you need not carefully review these sections, as all of the information in these sections should be repeated in the “Detailed Description of the Invention.”

How should my invention be described in the “Detailed Description of the Invention”?

The “Detailed Description of the Invention” should step through the figures meticulously referring to each labeled element by its reference numeral. The text should describe the interrelation between the elements. The text should cover the scope of all of the claims, including the dependent claims.

The application is not a work of literature, but rather is a func-

Now look at an exemplary ill-drafted claim.

3. *The seating device of Claim 1 wherein the flotation mechanism is covered in leather.*

Claim 3 is a less valuable claim than Claim 2. If a reference invalidating Claim 1 is found, even if the reference doesn’t disclose a leather-covered flotation mechanism, it is obvious how to cover the mechanism in leather because leather-covered chairs are quite common. Thus, Claim 3 is likely to be found invalid, too.

If your patent attorney is drafting dependent claims that do not provide a meaningful narrowing, he may be confused about what you have invented in comparison with what already existed. Your job is to clarify the invention for him so that he can create more powerful claims.

Why did my patent attorney write so many claims that all look alike?

Claims come in three basic types: method, “means for” and apparatus. **In a legal sense, each type of claim has different scope from the others. An ideal patent application contains some of each type of claim in order to give your patent the broadest possible scope of protection.** In order to illustrate these three types of claims, let’s look at how we might claim the idea of baking a cake.

A method claim typically contains a list of gerunds (i.e. verbs ending with “ing”). Each of the new paragraphs of the claim is called an element. The following claim is a method claim that has four elements.

1. *A method of cooking, comprising:
measuring flour;
measuring sugar;
measuring salt; and
mixing the measured flour, sugar and salt together.*

A “means for” claim is typically created by taking a method claim and adding “means for” before each gerund. The following claim is a “means for” claim corresponding to the method claim just given.

2. *A cooking apparatus, comprising:
means for measuring flour;
means for measuring sugar;
means for measuring salt; and
means for mixing the measured flour, sugar and salt together.*

An apparatus claim contains a list of elements that are things. The following claim is an example of an apparatus claim with four elements.

3. *A cooking apparatus, comprising:
a measuring cup configured to measure flour and sugar;
a measuring spoon configured to measure salt;
a bowl configured to accept flour, sugar and salt from said measuring spoon and measuring cup; and
a mixing spoon configured to be inserted in said bowl.*

“Means for” elements can also be combined with apparatus elements in a hybrid claim as shown by the following claim.

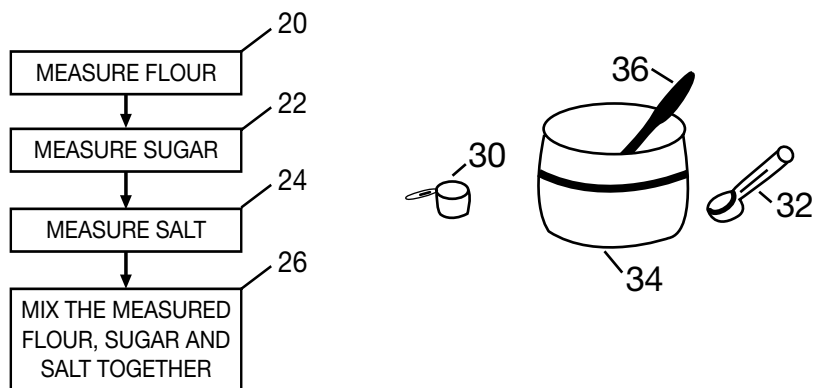
ical diagram should include the measuring cup, measuring and mixing spoons, and a bowl, each labeled with an individual reference numeral.

Compare your approved claims to the figures in your patent application. If you do not find a direct correspondence between the figures and the elements of the claims, call your patent attorney. He should amend the application to match the figures to the claims you have approved before you read the application.

STEP TWO: Compare the Claims to the Figures

What should I look for in the drawings?

Once you've read the claims and agree with the scope, compare each independent claim to the figures. Just as your application should contain both method and apparatus claims, **your application should contain at least one flow chart and at least one block diagram or mechanical figure.** The flow chart should contain one box corresponding to each step of the independent method claims. The block diagram or mechanical figure should contain a labeled reference numeral referring to each element of the independent apparatus claims.



Referring back to the cooking example, the corresponding flow chart should include one box each for (1) measuring flour, (2) measuring sugar, (3) measuring salt and (4) mixing the measured flour, sugar and salt together. The flow chart may have many more boxes. For example, the flow chart may have boxes representing the steps of breaking eggs, placing batter in a pan and placing the pan in an oven. Likewise, the corresponding mechan-

4. *A cooking apparatus, comprising:
a measuring cup configured to measure flour and sugar;
a measuring spoon configured to measure salt; and
means for mixing the measured flour, sugar and salt together.*

Although all of these claims appear to cover the same invention, the legal scope of each of the four is very different. Typically, software is more easily expressed in method claims while a device is more easily expressed in apparatus claims. However, except in very rare cases, your attorney should be able to express your invention in all three formats.

How much “stuff” should be in the independent claims?

In order for someone to infringe your independent claim, he must practice each and every element of the claim. A device or method that is missing just one element of a claim does not infringe that claim. If a device does not infringe the independent claim, by definition it cannot infringe the corresponding dependent claims, which requires the inclusion of each element of the independent claim plus more.

Referring back to the floating chair example, a floating disc that did not include legs would not literally infringe Claim 1. For the same reason, the floating disc that incorporates a leveling mechanism does not infringe Claim 2 because, in order to infringe Claim 2, the floating disc must have every element of Claim 1 plus those added by Claim 2.

A device that includes more elements than articulated in a claim still infringes so long as it has at least every element in the claim. Referring back again, a floating chair incorporating all the elements in Claim 1 as well as a back, arms and reclining features still infringes Claim 1. If this chair also includes a leveling mechanism, it infringes both Claim 1 and Claim 2.

Therefore, in a patent claim, less is more. **Including more “stuff” in your independent claims makes them narrower.** A common mistake is to draft claims to encompass extraneous elements that unnecessarily limit infringement of your claim. Review the independent claims for extraneous elements and other limiting language. Move this language out of the independent claims and consider including it in dependent claims.

In addition, try to find ways to segment your invention into smaller parts. For example, if you have invented a communication system with a transmitter and a receiver, try to draft one set of claims directed toward only the transmitter and one set of claims directed toward only the receiver. In this way, if someone is manufacturing only the transmitter and not the receiver, he still infringes your transmitter claim.

How important is the exact wording of the claims?

The exact wording of the claims can be very important. Sometimes a silly detail can mean the difference between **literal infringement and non-infringement**. Therefore, do not include unnecessarily limiting language. For example, the following floating chair claim has been modified to specify that the flotation mechanism is mounted beneath the seating area rather than coupled to it.

1. *A seating device comprising:
a plurality of legs;
a seating area coupled to the plurality of legs such that, in a first position, the seating area is raised above a floor by the physical strength of the plurality of legs; and
a flotation mechanism mounted beneath the seating area and configured to provide gravity resistance such that, in a second position, the seating area and the plurality of legs are raised above the floor.*

A floating chair with a flotation mechanism identical to the one you describe in your patent would not literally infringe this claim if the flotation mechanism were mounted above the seating area. Thus, the process of proving infringement of this claim by a competitor who mounts the flotation mechanism above the seating area would be more difficult and expensive.

At this point, you are ready to read the claims of the patent application. By reading the claims first, you know what to look for while you review the drawings and read the remainder of the application. If you have questions and suggestions about the claims based upon the discussion above, you may want to contact your attorney without reading the remainder of the application.