

WHO IS AN INVENTOR?

With the passage of the Leahy-Smith America Invents Act (AIA) on September 16, 2011, the United States adopted a first-inventor-to-file patent system and is abandoning the first-to-invent system that was previously in place. Nevertheless, the concept of inventorship is still central to United States patent law: in order to be awarded a U.S. patent on an invention, you must be an inventor of that invention. That makes the the question, “Who is an inventor?” a very important one.

The question, “Who is an inventor?” might better (but more lengthily) be phrased as, “When I am in the middle of a research project and I think I may have made an invention, but fourteen different people contributed ideas, money, time, data, general expertise, and moral support, am I the only inventor, and if I’m not, how on earth do I figure out who the real inventors are?” or (if this individual is in a legalistic mode), “Under United States law, which of the many potential contributors to a patentable discovery meet the statutory requirements for inventorship?”

RULE 1: Merely holding the title of “Department Head” does not make you an inventor.

In other words, in the United States you don’t qualify as an inventor if you weren’t directly involved in the making of the invention—if, for example, you played merely a supervisory role. In fact, you *may* not qualify as an inventor even if you *did* have direct involvement in the making of the invention, but more about that later.

RULE 2: Contributing a million dollars to support the work that leads to the invention does not make you an inventor. (Money does not an inventor make.)

Rules 1 and 2 eliminate two rather large and troublesome categories of individuals from the list of potential inventors—which is not to say that these people haven’t made a worthwhile contribution to your invention. It’s just that the federal government has, by statute, set out other criteria that an individual must meet in order to be named as an inventor on a United States patent application (and any resulting patent). So what *does* qualify an individual as an inventor?

RULE 3: In order to be an inventor, you must have made an invention.

It probably seems that we’re not making any progress here, but just hold on. The federal government has a set of rules (are you surprised?) for determining what constitutes the making of an invention. As you will see, an understanding of those rules is required in order to resolve the inventorship issue.

RULE 4: There are two separate parts to the making of an invention—conception and reduction to practice—and an invention is deemed to have been made only when both of those parts have been completed.

Not much help--now we have to determine what is meant by the terms “conception” and “reduction to practice.” One learned treatise* deals with these concepts as follow: “Conception is the mental part; reduction to practice, the physical part. These elements, to a limited extent, are analogous to those necessary to constitute a common-law crime: (1) *mens rea*--guilty mind; and (2) *actus rea*--guilty act.” (!)

* Peter D. Rosenberg, Patent Law Fundamentals §10.01 (2d ed. 1991)

RULE 5: The conception of an invention consists of the formulation, even if only in the inventor's mind, of the means of achieving a desired result.

It is not sufficient for an inventor to merely recognize that a problem exists or that a particular result would be desirable. Rather, the inventor must have figured out a *complete* and *operative* means of accomplishing that result, such that no more than routine skill will be necessary to put the invention to use (i.e., to reduce it to practice). So what is "reduction to practice"?

RULE 6: Reduction to practice of an invention (described in the above quote as the "physical part" or the "guilty act") can be either "actual" or "constructive." Remember that there is no invention without reduction to practice, but either *type* of reduction to practice will serve equally well to satisfy that requirement.

RULE 7: "Actual" reduction to practice is the successful physical use or carrying out of the invention to achieve the intended result. It often (but not always) involves the construction and successful testing of a prototype.

RULE 8: "Constructive" reduction to practice is the filing (with the U.S. Patent and Trademark Office) of a patent application that discloses the invention completely enough for a person "skilled in the art" to put it into practice. Even though "reduction to practice" is generally thought of as the *physical* part of the inventive process, constructive reduction to practice requires no physical act other than preparation and filing of the appropriate paperwork. Thus, the actual construction and testing of an invention is not required in order to have a valid patent.

You may well be wondering what all this has to do with our original question, "Who is an inventor?" Let's recap. We have a rule (Rule 3) that says you can't be an inventor unless you have made an invention. We have several more rules (Rules 4 through 8) that tell you what has to happen in order for an invention to exist. What else?

RULE 9: While an invention may be the product of only one mind, it is quite possible for an invention to be the product of several (if not many) minds. (Translation: Frequently inventions are made jointly by several co-inventors.)

The only remaining question is, "Out of all those people who contributed in some way to the making of the invention, which ones get the credit?" (which, as you will notice, is simply a restatement of our original question). And now the answer:

RULE 10: Each individual who contributes to the *conception* of an invention is an inventor. Merely contributing to the reduction to practice of an invention doesn't count.

But, you say, the reduction to practice of an invention is frequently the most tedious and time-consuming part. Why shouldn't the individuals who do that hard labor be rewarded by getting at least part of the credit? The answer to that question lies in the definition of conception (see Rule 5 above). In order for the conception part of the invention to be completed, the inventor must have formed (at least in his own mind) such a complete means of accomplishing the desired result that *no more than ordinary skill in the art* is required to achieve reduction to practice. Thus, by definition, the reduction to practice phase requires no unique or inventive input from anybody—only the customary skill and knowledge that a person in that field would normally be expected to have. This concept is borne out by the fact that reduction to practice may be accomplished simply by filing a patent application.

But, you say, this is the real world, and part (or even most) of the time it is not so easy to decide who contributed to conception and who merely contributed to reduction to practice. In fact, it is probably difficult in many cases to

determine at what point in the process you were conceiving (in the patent sense of course) and at what point you were reducing to practice. What is a beleaguered inventor to do? First, you may rest assured that you are not alone in your dilemma. Consider the following passage from a 1972 federal court opinion in which the inventorship issue was addressed:

The exact parameters of what constitutes joint inventorship are quite difficult to define. It is one of the muddiest concepts in the muddy metaphysics of the patent law. On the one hand, it is reasonably clear that a person who has merely followed instructions of another in performing experiments is not a co-inventor of the object to which those experiments are directed. To claim inventorship is to claim at least some role in the final conception of that which is sought to be patented. Perhaps one need not be able to point to a specific component as one's sole idea, but one must be able to say that without his contribution to the final conception, it would have been less—less efficient, less simple, less economical, less something of benefit.

—*Mueller Brass Co. v. Reading Indus., Inc.*, 352 F. Supp. 1357, 1372 (E.D.Pa. 1972)

While in some cases, you will never be able to reach a definitive decision regarding inventorship (at least without the professional assistance of a patent attorney), a few more rules may point you in the right direction.

RULE 11: Everyone who contributes to the conception of the invention in its *final form* is entitled to inventor status.

The reference to “final form” in Rule 11 raises another important point:

RULE 12: Conception may occur during reduction to practice.

Wait a minute—what about the rule that reduction to practice does not (by definition *cannot*) involve any inventive contribution? Consider the following scenario: Conception has occurred and the original inventor (i.e., conceiver) charges someone else (a graduate student? a lab technician?) with the responsibility of reducing that conception to practice. Things don't go exactly as anticipated, and in the course of reduction to practice, that second individual has to modify the original conception in order to make the whole thing work. That individual, who was originally perceived only as a “reducer to practice,” a skilled artisan if you will, is now a co-inventor (if the modification would not have been obvious to one skilled in the art). This sudden elevation in status is not due to the fact that (s)he successfully reduced the invention to practice, but rather because of his/her contribution to the *conception* of the invention, albeit a different invention from the one that was originally conceived. In fact, if in the course of reduction to practice a technician makes such a drastic modification of the original conception that it results in a completely different invention, the technician will be the sole inventor of the new invention, to the exclusion of the original inventor(s)!

Now that we know what is required in order to qualify as an inventor (i.e., a contribution to the conception of the invention), it would probably be helpful to examine what is not required:

RULE 13: All joint inventors do not have to make an equal contribution to an invention.

RULE 14: Among several joint inventors, it is not necessary to be able to define exactly which part of the conception was contributed by each individual. (The invention may be the result of a brain-storming session in which ideas contributed by several different individuals “fed” the development of the final concept.)

RULE 15: Face-to-face contact is not required for collaboration between joint inventors.

RULE 16: It is not necessary for joint inventors to arrive at the inventive concept simultaneously. Different components may be contributed by different individuals at different times, and that is okay so long as each individual's contribution relates to the entire invention in some manner.

Even if you have committed all these rules to memory, it is likely that you may still have difficulty in applying them to a particular fact situation. What happens if you reach the wrong conclusion?

In the old days, the erroneous addition or omission of even one inventor rendered a patent fatally and incurably defective. In due course the law was relaxed, permitting inventors to obtain a Certificate of Correction to fix these kinds of problems, but only if the mistake was an honest one that occurred without any "deceptive intention." With the passage of the America Invents Act, the correction process has been streamlined, and since the ultimate goal is to properly and correctly name the inventor(s), the right to make such a correction is no longer dependent on a lack of deceptive intention.

So exactly what is required by the AIA regarding the naming of inventor(s)?

RULE 17: Each non-provisional patent application filed in the United States must name all the inventors of the claimed invention and all those named must be true inventors.

RULE 18: In the absence of exceptional circumstances, for all non-provisional patent applications filed on or after September 16, 2012, each inventor must execute either an oath or a declaration stating that he or she is a true inventor of the claimed invention. (See the next rule for a list of those "exceptional circumstances".)

RULE 19: The patent applicant (who may be the assignee/owner of the invention rather than the inventor) is permitted to submit a substitute statement instead of an inventor's oath or declaration when an inventor:

- A. is deceased; OR
- B. is legally incapacitated; OR
- C. cannot be found after diligent searching; OR
- D. refuses to make an oath or declaration.

RULE 20: The person making the oath, declaration, or substitute statement may withdraw or change it at any time.

Finally, there may be some comfort in knowing that even if you arrive at an unshakable conviction concerning the true inventors of your invention, the entire situation may change when it gets in the hands of the Patent Office. For instance, if your total contribution to the invention turns out not to be patentable because it is obvious in light of the prior art (i.e., it is not inventive), your status as an inventor will be unceremoniously taken away.

Our final rule is a corollary of our first rule, and one that you have probably already figured out:

RULE 20: Holding the title of "Department Head" does not *preclude* you from being an inventor either.