INVENTION ANALYSIS AND CLAIMING:
Reaching for Breadth – Part II[1]

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We have seen in previous columns that a desirable way of arriving at the broadest claim to an invention is to Begin from the Problem [Not the Embodiment]. We first identify the problem the invention is intended to solve, think about how—broadly and functionally—the problem was solved and then write a problem-solution statement that reflects what we've figured out. The claim itself can then be written based on the problem-solution statement.

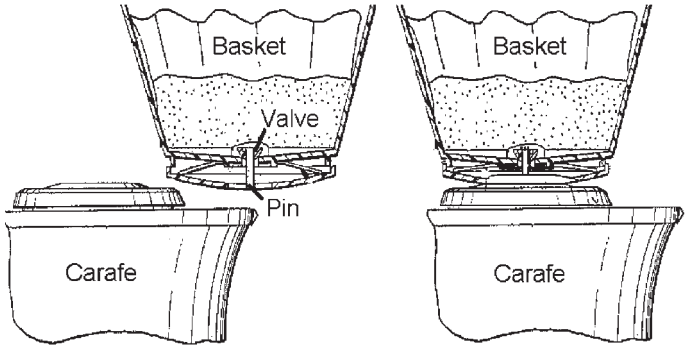
Last month's column, in particular, offered two prescriptions—Start Early and Think Big—that can help us to analyze the inventor's embodiment(s) in broad problem/solution terms. This and future columns offer further invention analysis paradigms that can aid in the quest for the broad invention—a quest that the author calls "Reaching for Breadth." Next month's column, however, will begin our look at the other side of the coin—ways of analyzing a problem-solution statement to determine if it is too broad and, if it is, how best to narrow it into the patentable realm.

Techniques for burnishing a problem-solution statement can also be used by practitioners who would rather just write claims in the first instance.

DON'T BE MISLED BY THE INVENTOR'S EMBODIMENT FOCUS

The broad invention is often some new functionality. How the embodiment implements that functionality is of secondary importance. The inventor may not appreciate that distinction, however, and may lead the attorney to assume that the new functionality is already known in the art. The opportunity to define the inventor's contribution at its full breadth may then become lost.

The attorney can usually forestall such a result by keeping his ears open and, again, starting early and thinking big.



Consider, for example, the drip-style coffee maker shown in the FIG. When the carafe is not in place, a valve in the coffee basket prevents liquid from dripping out of the brew basket onto the burner or countertop. Sliding the carafe into place pushes up on a pin, which opens the valve and allows coffee to flow. If the carafe is removed, the valve is again closed.

At the time the inventor devised this pin-and-valve design, the broad concept of shutting off the flow of liquid if the carafe is not in place may have been in the prior art. But it may not have been. In that case, the inventor would be entitled to a claim broad enough to encompass all ways of confirming the presence of the carafe—a photocell, micro switch, weight sensor, etc.

Unfortunately, the inventor may describe the problem she set out to solve not as the problem of dripping coffee but the problem of how to shut off the flow. In so doing, she will have relegated her broad invention to the prior art. The attorney is less likely to be misled by such overly narrow thinking by beginning to formulate the problem-solution statement early on. He will then have the opportunity to explore with the inventor whether the invention can, indeed, be as broad as the naked notion of shutting off the flow if the carafe is not there.

FIRST BE A SKEPTIC; THEN BE AN ADVOCATE

The previous discussion involves a situation where the inventor doesn't appreciate the full breadth of the invention. The opposite is also possible. That is, the inventor's view of the breadth of the invention may be overly optimistic.

A truism of the patent business is that if a problem is one of long standing and could have been solved years ago, it probably was! Thus an attorney presented with an invention that solves an old problem and that was readily solvable with old technology should bring a healthy dose of skepticism to the invention analysis process.[2]

Consider, for example, a pager or a cell phone that automatically switches from audible ringing to its vibrate mode when an on-board microphone senses that the ambient noise level is so high—on a busy street, for example—that the audible ringing might not be heard. It's a cute idea. But the problem of not hearing an audio alert in a noisy environment is as old as the pager itself. And tiny microphones for sensing the ambient noise level have also been around for a long time. The problem could, therefore, have been solved years ago, and our intuition ought to suggest that this is not a new idea. In fact, it is not.[3]

This does not mean the inventor should be sent packing based on mere suspicions about the prior art. What it does mean is that a prior art search should definitely be undertaken to either validate or disprove our suspicions.

The role of the attorney as skeptic also extends to the question of obviousness under 35 U.S.C. 103. The attorney's experience may tell him that the invention as broadly presented by the inventor would likely be deemed obvious based on the prior art. The inventor needs to be challenged in such a case to articulate (with the attorney's help, as discussed below) why an

invention so broadly defined would not have been so obvious after all.

The point of such skepticism is not to talk the inventor out of seeking a patent, at least not in the first instance. Indeed, the attorney's role is to be the inventor's advocate and help her secure whatever intellectual property protection she is entitled to. The point, rather, is to open a dialog that hopefully will bring to the fore possible arguments against the obviousness rejection the attorney believes is likely to come if the present broad view of the invention is maintained.

Thus, once having laid out for the inventor the examiner's likely obviousness rejection, the attorney needs to switch roles and become an advocate for the invention. For example, the inventor should be encouraged to identify any incorrect assumptions underpinning the attorney's skepticism, such as the attorney's interpretation of what a particular prior art reference actually says. And the attorney should explore with the inventor whether any of the case-law-sanctioned indicia of non-obviousness might apply, such as unexpected results, long-felt need, or the art teaching away from what might be seen as being *prima facie* obvious.

Surprises often await the attorney on these fronts. He is often surprised to hear from the inventor some cogent technological and/or legally sound reasons why the attorney's initial view of the obviousness of the invention is not as open-and-shut as first appeared.

Once it appears that all the relevant prior art is in hand and that at least some reasonable argument can be mounted against any anticipated case of obviousness, the attorney will be in a favorable position to advocate for the patentability of the invention if and when the expected obviousness rejection is actually issued by the patent examiner. However, the attorney's advocative role should be engaged long before that. We will see in future columns how an artfully crafted patent specification can serve as a powerful vehicle for advocating the patentability of the invention.

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Discovering the breadth of the invention is only half the story. We must also be able to evaluate a problem-solution statement or claim to determine if it is so broad as to read on prior art and how to fix it if it is. Our look at that aspect of the practice begins in next month's column, *Reining in Overbreadth*.

ENDNOTES

2. This phenomenon is particularly common with the non-professional, armchair inventor who brings to his attorney only the very broad idea because the inventor does not have the engineering skills to design an embodiment.
3. United States Patent No. 5,646,589.