

INVENTION ANALYSIS AND CLAIMING: How Should That Claim Be Amended? Part I'



BY RONALD SLUSKY

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The final form of a claim should not depend on when the prior art that shaped it comes to light. But the reality is sometimes different.

When drafting a claim initially, we may deem it “done” only to realize that it still reads on some piece of prior art we thought we were avoiding.

Returning to the word processor, we might find that avoiding that last piece of prior art may be no simple matter. As new limitations are added to deal with the new piece of art, others may be able to be taken out and/or the context may be redefined—all to make the claim as broad as possible without reading on any prior art, including that last new piece. Everything in the claim is up for grabs until the day the application is sent over to the inventor for signature.

However, once the patent application is filed, a different mindset seems to take over. The claim and its limitations take on a sacrosanct quality they didn’t have before the application was filed. So when examiner-cited prior art makes it necessary for the claim to be amended, our tendency is to band-aid the claim by finding some limitation in the embodiment not contained

in the cited prior art and simply engrafting that limitation onto the original claim. This *can* lead to the same claim we would have arrived at had we known about the cited prior art *ab initio*. Often, however, it does not, and the resulting claim defines the invention sub-optimally: it concedes more than it needs to.

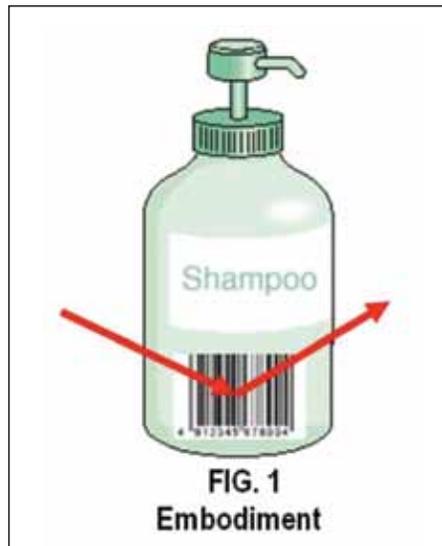
This is not how it should be. It’s the same invention. It’s the same prior art, no matter when it’s discovered. And so the way we define the invention in view of that prior art should not depend on when the prior art comes to light.

The antidote to all of this is to not simply rethink the *claim*. Rather, we must first rethink the *invention* and only then rethink the claim.

Read on.

DROPPING NO-LONGER-NEEDED LIMITATIONS

It is crucial to remember that a claim limitation added to differentiate the invention from the newly cited prior art may distinguish the invention from *all* the prior art, including prior art that shaped the claim when the application was originally filed. As a result, limitation(s) previously regarded as crucial to patentability may now serve only to limit the invention definition unduly. Claiming the invention at its full breadth may thus mean dropping certain limitations at the same time we are adding new ones.



Assume that our client was the inventor of laser-read bar codes (FIG. 1). And assume that the closest prior art we knew about at the time of filing was to print account numbers and other information on bank checks using magnetic ink (FIG. 2). This approach is perfectly serviceable in the bank check context because the check layout is standardized and the checks are read in a controlled environment that ensures that the magnetically-encoded information is perfectly aligned, and in direct physical contact, with the magnetic read head.

By contrast, the requirements of coded-object uniformity and controlled, physical contact are show-stoppers for the use of magnetic ink labels for point-of-sale checkout. Our inventor’s solution—using laser or other light reflected from a graphic code—overcomes all of those problems. Let us assume, then, that the broadest claim in the patent application as filed recites “reflected light” as the hook for patentability:

1. A method comprising identifying an object by machine-reading light reflected from an identifying code on the object.

Assume now, however, that examiner cites prior art during prosecution in which coded patterns are affixed to freight cars and are machine-read by a trackside-mounted photocell that reads light reflected from the coded patterns as the freight cars pass by (FIG. 3). That prior art clearly renders claim 1 too broad, and we need to amend.

Re-thinking the inventive *solution*, we realize that we could limit the claim to laser light. We reject that approach, however; it is probably obvious to use a laser in the prior art freight car system. Re-thinking the *problem*, however, opens the door to a fix that still retains a great deal of commercially valuable subject matter.

Redefining (or perhaps we should say *re-understanding*) the problem as being how to achieve quick and accurate checkout of a retail product leads us to a limitation that retains the solution at its full breadth, but puts that solution into the narrower, retail context, in which it is arguably patentable.

1. (Amended) A method comprising identifying an object a retail product by machine-reading light reflected from an identifying code on the object retail product.

A freight car is not a retail product. And we will argue that the freight car prior art would not have rendered it obvious to place machine-readable codes on retail products.

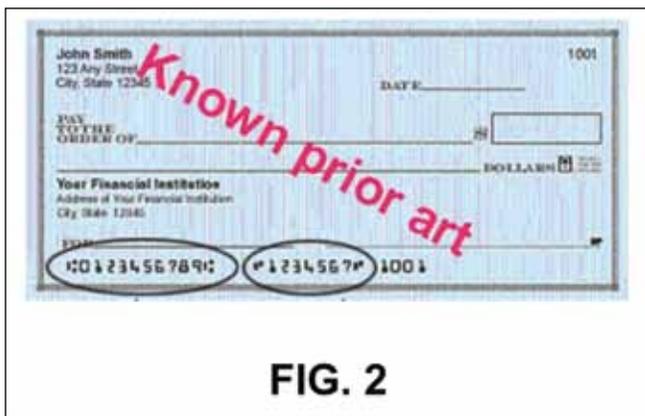


FIG. 2

Amended claim 1 is not optimal, however. The reflected-light limitation was a good hook for patentability when the only prior art in play was magnetic ink encoding. But now that the freight car prior art has surfaced, the reflected-light limitation does nothing for the claim except to narrow it for no good reason.. The same retail-product limitation that distinguishes the invention from the freight car prior art also distinguishes it from the bank check prior art.

Indeed, it appears that the day will come when bar codes on groceries and other consumer goods will be replaced by radio-interrogatable printed electronics²—an embodiment that would not be captured by amended claim 1.

The better approach to amending claim 1 once the freight car prior art came to light is to undertake a problem-solution analysis with that prior art in mind. That analysis should lead us to a problem-solution statement like the following

The problem of being able to automatically identify a retail product is solved by machine-reading an identifying code on the retail product.

Such a problem-solution statement readily yields a claim that, unlike amended claim 1, is not burdened by the reflected-light limitation .

2. (New) A method comprising identifying a retail product by machine-reading an identifying code on the retail product.

The formalism of drafting a new problem-solution statement may not be needed in a simple case. The key is to evaluate each limitation in the claim to be sure that it is still necessary once other limitations have been added.

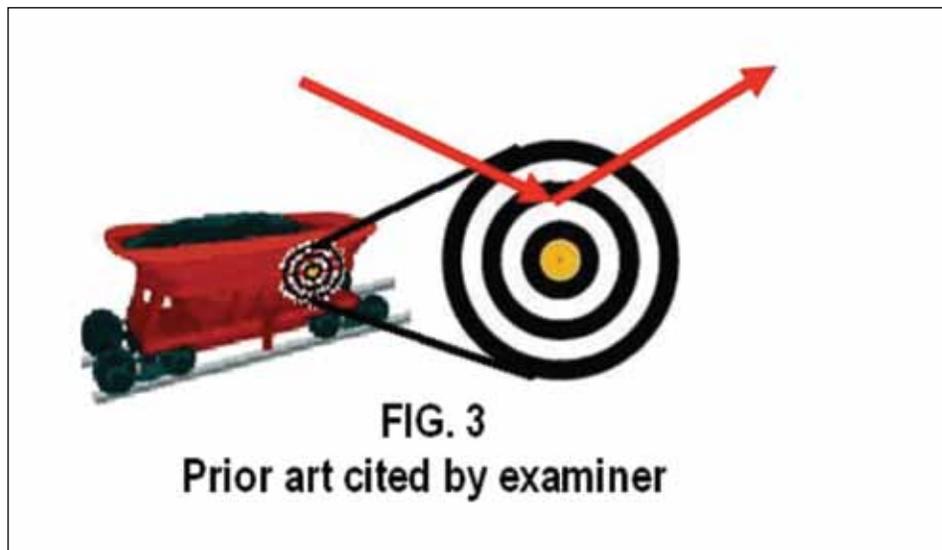
One caveat is in order: There is some risk in removing an existing claim limitation, particularly if another practitioner wrote the claim. That practitioner may have had some piece of prior art in mind that

requires the limitation's continuing presence in the claim. Even though such prior art should have been cited to the examiner and should be found within the file, the next practitioner picking up the case may not appreciate its applicability to the claim. On the other hand, we *do* want to claim the invention at what appears to be its broadest allowable scope.

The safe approach is to do both: Narrow the existing claim without eliminating any existing limitations (e.g. amended claim 1 above) but also present a new claim based on the new problem-solution analysis (e.g. claim 2). **(IPT)**

ENDNOTES

1. Copyright © 2007, 2010 American Bar Association. Adapted with Permission. All Rights Reserved.
2. Alfred Siew, "RFID spells convenience for all," ComputerTimes, Sept. 22, 2004.



HP Files Patent Infringement Lawsuit Against APM

HP (NYSE: HPQ) today announced it has refiled its Federal District court litigation pertaining to the sale of patent-infringing cartridges as well as the sale of products incorporating stolen components.

The refiled of the complaint identifies an additional defendant, **Asia Pacific Microsystems Inc. (APM)** of Taiwan, an affiliated company of Taiwan-based **UMC Group**. The refiled case also adds **Hewlett-Packard Development Company**, a subsidiary of HP, as a plaintiff in the case.

The original case is *Hewlett Packard v MicroJet Technology*, No. C 10-00965 EMC, U.S. District Court, Northern District of California (San Francisco). HP also is taking similar steps to introduce APM as a respondent in a parallel investigation regarding the patent claims before the U.S. International Trade Commission (ITC). The Federal District court and ITC complaints also name the following as defendants: Mipo Technology Limited of Hong Kong, Mipo Science & Technology Co. Ltd. of China, Mextec Group Inc. D/B/A Mipo America Ltd. of Florida, Sinotime Technologies Inc. D/B/A All Colors of Florida, and Ptc Holdings Limited of Hong Kong. HP will soon be taking similar steps to introduce APM as a defendant in parallel litigation on the patent claims before the ITC.

HP's allegations of infringement arise from ongoing enforcement efforts by HP.

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