

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



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Last month’s column discussed the use of the problem/solution paradigm to identify appropriate limitations when amending claims in view of cited prior art. Although not presented as such, that column focused on the scenario in which the cited prior art is *invention-relevant*, meaning prior art that not only meets the claim language but also teaches what had been thought by the inventor and patent professional to be the broad inventive concept.

This month we look at the scenario in which the cited prior art is *invention-irrelevant*. This is prior art that serendipitously meets the claim language but does not teach or embody the inventor’s contribution to the art.

The difference is significant because the way we should amend depends on whether cited prior art is invention-relevant or invention-irrelevant—that is whether it does or does not disclose the inventive concept.

Suppose, for example, we have filed a patent application directed to the idea of mounting a building or other large structure on springs to dampen earthquake vibrations and thereby protect the structure from dam-

age or collapse (FIG. 1), with the following as claim 1:

1. Apparatus comprising
a structure, and

one or more springs supporting the
structure.

If the examiner cites invention-relevant prior art—i.e. prior art that actually discloses mounting a building or other large structure on springs to dampen earthquake vibrations—claim 1 needs to be amended to retreat from the originally-staked-out invention boundaries. The inventor and the attorney thought that the naked notion of mounting earthquake-damage-prone structures on springs was new, but the existence of the cited invention-relevant prior art shows that that is not so. Patentability will have to be predicated on a fallback feature, such as a unique type of spring that the inventor may have devised as being advantageous for this particular use, as in claim 2:

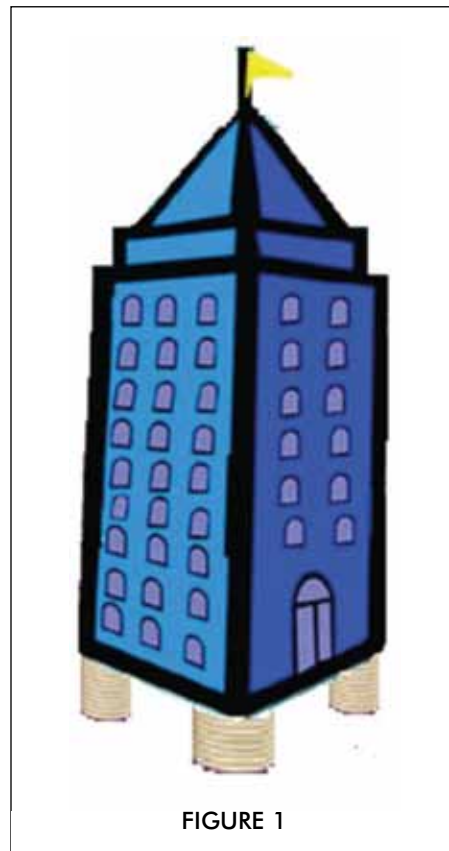


FIGURE 1

2. Apparatus comprising
a structure, and
one or more springs supporting the
structure,
wherein at least one of the springs
is a triple-wound, double-helix
spring.

Claim 2 is much narrower than claim 1, but what can we do? The inventor’s contribution to the art turns out to be more modest than we thought when the patent application was filed.

By contrast, let’s see what’s to be done when the cited prior art is invention-irrelevant. Even if the examiner does not find invention-relevant prior art disclosing the concept of mounting large structures on vibration-damping springs, she will certainly cite such invention-irrelevant prior art as the pogo stick (FIG. 2) which, indeed, meets the language of claim 1.

Here again claim 1 needs to be amended. But unlike the case of invention-relevant prior art, there is no need to retreat to a narrower view of the invention by resorting to an implementational detail, per claim 2. Instead, a claim should be amended in the face of invention-irrelevant prior art in a way that more particularly defines the invention boundaries that were intended all along.

Just as in last month’s example involving invention-relevant prior art, the problem/solution methodology provides a principled way of arriving at the right limitation here. Upon asking ourselves what problem was sought to be solved, we recognize that the problem is that of protecting structures that are susceptible to earthquake vibration damage—not “structures” in the abstract. This leads us to amend the claim in a very different way, e.g., as in claim 3.

3. Apparatus comprising
a structure of a type that is suscep-
tible to damage from earthquake
vibrations, and

one or more springs supporting the
structure.

Note that *this* claim avoids the prior art yet, unlike claim 2, does not constrain the claimed invention to a particular embodiment detail that would render the claim relatively easy to design around.

Hopefully the specification supplies a description or definition of what class of structures is of the “type” called for in claim 3; otherwise claim 3 is subject to

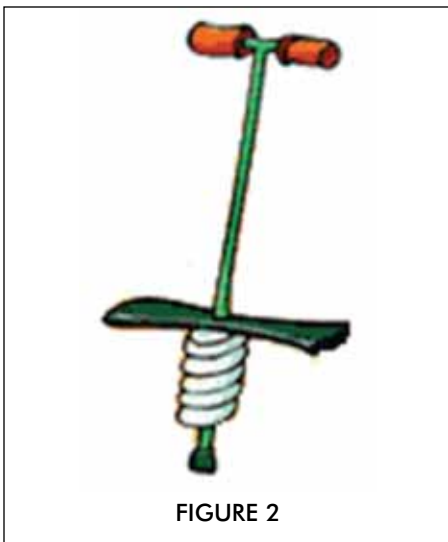


FIGURE 2

being declared indefinite. If the specification does not provide such a description or definition, we might have to be satisfied with a claim that defines the claimed earthquake-damage-prone structure more narrowly, e.g. as a “building,” as in claim 4.

4. Apparatus comprising a building structure, and one or more springs supporting the building structure.

The term “building” may well be more limiting than we would like. But claim 4 is still undoubtedly more valuable than claim 2.

WHY THE PROBLEM/SOLUTION APPROACH?

A claim can always be amended to include *some* distinguishing limitation. But unless we employ a problem/solution analysis or some other principled approach that focuses on the inventive concept, we may well arrive at the *wrong* limitation.

For example, if instead of invoking the problem/solution paradigm in the present example, we might observe that the “structure” in our disclosed embodiment (FIG.

1) has windows, whereas pogo sticks do *not* have windows. We thus might think to use the presence of at least one window as being a convenient basis for distinguishing the claimed subject matter from the pogo stick prior art, as in claim 5:

5. Apparatus comprising a structure having at least one window, and one or more springs supporting the structure.

But there is no significance to the “window” limitation in terms of the problem sought to be solved nor in the manner that it *was* solved. As such, such a limitation has a strong likelihood of leaving a major infringement loophole. For example, the water tower of FIG. 3 has no windows and yet might be susceptible to damage from earthquake vibrations and might benefit from being spring-mounted pursuant to the principles of the invention.

Moreover, latching on to a randomly-selected claim limitation, while distinguishing over the *presently cited* invention-irrelevant prior art, leaves the claim vulnerable to other invention-irrelevant prior art that may be urged against the patent only after it has issued, when there is little, if anything, that can be done about it. Compare claim 5 to, for example, the invention-irrelevant bathroom scale shown in FIG. 4.

To summarize: A threshold question to be asked when prior art is cited against a claim is whether that prior art is a) invention-relevant or b) invention-irrelevant.² If the former, we have no choice but to amend in a way that retreats from the invention boundaries previously staked out—specifically by incorporating an implementational feature into the claim. If the latter, we should *not* retreat but, rather, amend in a way that simply firms up the invention boundaries that were always intended,



FIGURE 3

thereby avoiding the cited invention-irrelevant prior art while preserving coverage for the inventor’s contribution.

In either case, the problem/solution paradigm points the way to the correct limitation.

ENDNOTES

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2. Obviously, we should first confirm that the claim does, in fact, read on the prior art cited.

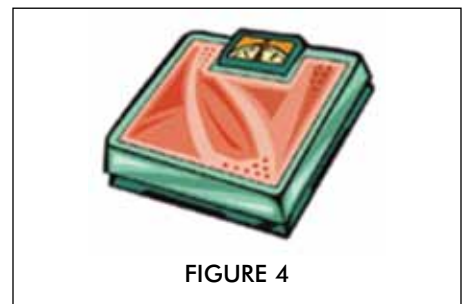


FIGURE 4