INVENTION ANALYSIS AND CLAIMING:
Claim Diversity and Enforced-Format Claiming[1]

BY RONALD SLUSKY

Ronald Slusky mentored dozens of attorneys in "old school" invention analysis and claiming principles over a 31-year career at Bell Laboratories. He is now in private practice in New York City. This article is adapted from his book ***"Invention Analysis and Claiming: A Patent Lawyer's Guide"*** *published by the American Bar Association and available at all online bookstores. More information about the book can be found at* ***www.claim-drafting.com****. Ron can be reached at 212-246-4546 and rdslusky@verizon.net*

A patent's enforcement is fraught with uncertainty. Claims may contain unappreciated loopholes—unnecessary elements, unduly narrow terminology or limitations whose meaning seemed perfectly clear "at the time" but could be argued to be indefinite. Another uncertainty is the discovery of prior art not cited during prosecution.

These problems may not surface until the patent owner attempts to license or sue on the patent, at which point it is usually too late to do to much about them. Fallback feature claims[2] and definition claims[3] can take us part of the way toward addressing these uncertainties, but it is difficult to anticipate every possible invalidity scenario.

Yet another source uncertainty is what the law will be at the time the patent is asserted.

These and other uncertainties are addressed by presenting the invention in diverse ways—organizing the limitations differently, using different terminology or employing different combinations of functional and structural recitations.

A particular defect in a claim that renders it too broad or too narrow or indefinite may not show up in another claim if they express the invention differently, albeit at the same level of breadth, in the same setting[4] and using the same statutory claim type. Thus imbuing the overall claim suite with a significant measure of diversity improves the odds that the issued patent will have at least one claim that is both valid and infringed.

We never actually know whether any potential problems have been fixed. Any *known* claim defects are fixed before the application goes out the door. We simply take it as an article of faith the more one claim differs from another, the more likely it is that any hidden defects in the first will not appear in the second.

Achieving a significant level of diversity in the claim suite may be easier said than done. Having slaved over a claim to get it just right, it is sometimes difficult to force one's brain to think about how the invention might be defined differently. It can be hard to put aside a particular ingrained view of the invention—or a particular approach to claiming it—and head off in new directions.

This column presents a way of jumpstarting the claim drafting process into those new directions.

ENFORCED-FORMAT CLAIMING

It is a technique that the author calls "enforced-format claiming, in which the claim drafter arbitrarily imposes on the claim to be drafted one or more claim format options. For example, if an already drafted claim has a minimal preamble, the imposed claim format option may be to pack the preamble with as many of the claim limitations as possible.

Enforced-format claiming forces us to head off in a new direction in defining the invention. The selected format options may be ones that we do not employ regularly and may not seem natural at first. This is all to the good. It provides an effective way of propelling us out of the very comfort zone that may stand in the way of achieving a more diverse suite of claims.

Enforced-format claiming is analogous to painting a landscape. Before an artist begins to paint the objects to be depicted, she must first make some format choices. What will the orientation of the canvas be? What direction does the light come from? Where is the vanishing point? Only after such non-subject-matter-specific aspects have been chosen does the artist begin to inform the chosen framework with the subject matter itself.

Enforcing certain arbitrary format choices on ourselves will typically have a ripple-through effect on the more substantive aspects of the claim. Certain format options may force the claim elements into a different order of presentation. This, in turn, may require different recitations to stitch the claim elements together. Limitations that seemed unavoidable when the claim was put together in one way may need to be stated differently—or may prove to be unnecessary altogether—than when the claim is put together in some other way. The resulting claim may well be quite different from any of those already drafted.

It may become apparent as a claim evolves that certain format choices will not work well with others or may not be suitable for the invention at hand or for the chosen setting. Other format choices can be tried out in real time as the claim is being drafted. Certainly any chosen format option should be given up on if the claim seems to work better without them. They were, after all, chosen arbitrarily in the first instance.

The following are but a few of the possible claim format options that a practitioners may impose upon him/herself in the interest of claim diversity.

Functional vs. Structural Limitations

An invention can be expressed in functional or structural terms. Structural components, in turn, can be recited as physical or means-plus-function elements.

Number of Elements or Steps

An apparatus claim can have 0, 1, 2 or more individual claim elements. Similarly, a method claim can have 0, 1, 2 or more individual method steps.

Preamble Length

The claim preamble can be very minimal, e.g., "Apparatus comprising…" Another option is to pack into the preamble as many of the claim recitations as possible. Or the preamble can contain something in between.

Preamble Content

The preamble can contain functional statements, method steps, apparatus elements or combinations of these. Importantly, preamble method steps are not limited to method claims nor apparatus elements to apparatus claims. For example, a method claim preamble can establish an apparatus context for the recited method steps.

Problem To Be Solved

It is undesirable for every claim to explicitly recite the problem to be solved. In the interest of claim diversity, however, some claims may explicitly recite the problem.

Treatment of the Inventive Departure

The inventive departure appears at the end of many claims—the result of defining an invention in terms of a prior art structure or process to which something new is added. However, a very different set of words defining the invention can evolve by forcing the novel part of the claim to appear elsewhere.

Another format choice is the relationship of the inventive departure to the other limitations. It can stand alone; be a sub-element or sub-step of one of the other elements; or can be a functional characterization of one of the other elements.

Underlying Scientific or Engineering Theory

Many inventions are based on some underlying engineering or scientific discovery (or theory). It is dangerous for that discovery to be manifest in every claim, however, because the inventor's theory as to why the invention works as it does may be wrong. Thus the application should have claims that simply recite new and non-obvious structure or steps that take advantage of what the inventor thinks is the underlying theory of its operation without reciting or implying the theory or discovery itself. On the other hand, in the interest of claim diversity, some claims may explicitly invoke the underlying theory.

EXAMPLE: WEB SEARCH

Statement of Invention

There are numerous of internet search engines that specialize in particular topics, or "search domains" such as medical, sports, jobs and careers, etc.. If one knows the name of the search engine for a particular topic one can, of course, visit the search engine's site and input a search string there. In general, however, users know few, if any, specialized search engines, and rely on the general purpose search engines instead. A problem is that the general purpose search engines often return many hits that are irrelevant to what one is looking for.

The inventive concept is to have software that performs an automatic analysis of the content (text) of an input search string to identify a relevant search domain and that submits the search string to a search engine that specializes in that search domain.

Claims

The claims below incorporate various ones of the above-noted format options. Each of them defines the invention in broad terms while, desirably, being quite different from one another.

1. A software interface that submits words of an input search string to a specialized search engine identified in response to an automatic computer analysis of the search string.
2. A software interface of a type that carries out the steps of receiving input search string and submitting it to a search engine, the interface comprising means for receiving the input search string, and means for submitting the input search string to a specialized search engine, the means for submitting including means for identifying the search engine based on an automatic computer analysis of the contents of the search string.
3. A method in which the number of extraneous search engine hits in web searches is minimized by submitting search strings to respective search engines each specializing in a search domain relevant to the respective search string, the method comprising automatically identifying the relevant search domain for each search string based on the contents of that search string.
4. A method for submitting an input search string to a search engine, the method comprising minimizing the number of extraneous returned hits by submitting the search string to a search engine that specializes in a search domain relevant to the search string, said minimizing comprising

   a) automatically identifying at least one search domain based on the search string,

   b) identifying as said search engine a search engine that specializes in the identified search domain.
5. A method performed by a computer system, the computer system including a screen, browser software that displays a search window on the screen, a keyboard for user input of search strings into the window and a memory that stores a list of specialized search engines, the method comprising analyzing each search string to identify a particular search engine on said list based on the contents of the search string, and submitting the search string to the identified search engine.

Next month: To Chain or Not to Chain

ENDNOTES

2. *Intellectual Property Today*, June, 2007.
3. *Intellectual Property Today*, May, 2008
4. *Intellectual Property Today*, October, 2007