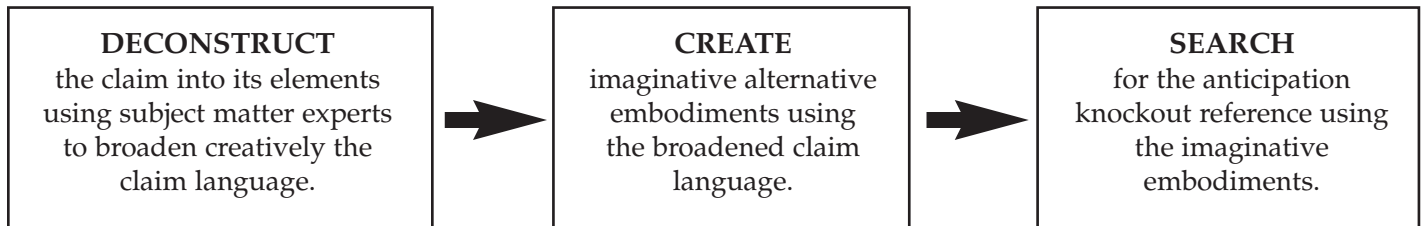


Solving the Tough Ones: Unanchored Searching for Use with Invalidation Studies

By the time the claim reaches you for an invalidation study, the client’s intellectual property engineer has engaged two law firms, hired four outside search firms, and sicced every contact to the fourth degree of connection trying to find references invalidating the claim; searching in some of the most out-of-the-way libraries and symposium records. This is the classic tough case.

We have developed a process yielding success with the toughest cases in lean, economical steps.

“Tough Ones” Process



Deconstructing the Claim

Deconstructing the claim is not rocket science, it’s Nobel Prize-winning science! Daniel Kahneman and Amos Tversky highlighted the cognitive problem of “anchoring.” People start thinking incrementally from a suggested reference point. In patent invalidation studies, too often that reference point is the drawing. Searchers often focus on the embodiment illustrated in the drawing, and fail to broaden the search to its more fundamental elements. A searcher must “unanchor” and deconstruct the claim into its more basic elements. Read the claims without reading the specification.

Step 1 in the “Tough Ones” process deconstructs the claim into the structural and functional language. Deconstruction gains leverage from having subject matter experts exploring the alternative expressions for the basic claim language with the goal of broadening the range of terms. The breadth of the claim arises as synonyms and alternative terms are matched with the claim language.

CONVENTIONAL SEARCH	UNANCHORED SEARCH
Review drawings, abstract, title, description of the invention and claims	Deconstruct the claim, break the claim into structure and function.
Anchor it: develop keywords and synonyms	Explore the metes and bounds of the claim language with subject matter experts. Leverage their knowledge of the industry and art. Identify alternative embodiments that the claim might cover. Combine with the subject matter expert.
Search the keywords, mixing in synonyms and word roots with Boolean operators (and, not, adjacent, etc.)	Develop keywords and root words, synonyms, and international classes that might cover the broader alternative embodiments. Research alternative classification systems.
Evaluate the resulting patents against a Feature Matrix to identify a 103 Obviousness Combination, while searching for the 102 Knockout Reference.	Search the keywords, mixing in synonyms and root words with Boolean operators (and, not, adjacent, etc.); Organize the search like an N-Factorial Designed Experiment.
	Extend the search to foreign languages.
	Focus on the 102 Anticipation Knockout, not the difficult-to-litigate 103 Obviousness Combination.

The subject matter expert is most helpful when broadly and deeply versed in the relevant technology and surrounding technology analogs. Further, the expert needs a creative vision enabling recognizing alternative embodiment possibilities.

For example, our staff often have spent at least a decade in industry becoming experts in the fields. Most of our staff have advanced degrees or professional engineering licenses.

Creating Imaginative Alternative Embodiments

Having deconstructed the claim, reconstruct the claim to create imaginative alternative embodiments. Explore the metes and bounds of the claim language. Don't peek at the drawings! Cognitive research shows that despite all efforts, exposure to the drawings begins the anchoring process, damping creativity.

Step 2 in our process uses the creative input from step 1 and the subject matter experts as a fulcrum on to which the lever of search analytics can be placed in lifting alternative embodiments on to the inspection table. Draw at least two embodiments from the claims making certain that the embodiments are as different as possible.

Now read the specification. To unanchor thinking, contract the alternative embodiments just created with the embodiments in the specification.

Conducting the Search

Not all search analytics are created equal! Neither are all patent databases created equal! The minimum standards include fully searchable text, multiple patent authorities' databases, date ranges, and foreign language terms.

Step 3 of our process is the search. Focus almost exclusively on the anticipatory reference that would invalidate the claim under section 102. Obviousness invalidations have a substantially lower probability of success during litigation.

Search the patent literature first because it has already been indexed. Patent examiners are experts in their respective fields. They have already spent many hours in closely related art.

	Search Term B1 "fiberglass"	Search Term B2 "reinforcement"	Search Term B3 "filament"
Search Term A1 "door"	Search A1 and B1	Search A1 and B2	Search A1 and B3
Search Term A2 "panel"	Search A2 and B1	Search A2 and B2	Search A2 and B3
Search Term A3 "slab"	Search A3 and B1	Search A3 and B2	Search A3 and B3

An example of a fractional factorial search strategy for a 3² study, i.e. two sets of three synonyms each. Factorial designs can be formulated using generally available software such as Six Sigma standard: MINITAB.

Reviewing the second and third generations of domestic citations both forward and backward from the target patent allows a searcher quick access to the terms of art, broadening the synonyms even further. But, in tough cases, this classic step wastes time; others will already have been here. The step can also anchor the searcher's vision of the scope. And, subject matter experts have already supplied the vocabulary.

But, reviewing the second and third generations of citations from foreign INPADOC family members

of the target patent often opens lightly trodden ground. Scanning of the foreign references offers the bonus of broadening the technical vocabulary in other languages.

Pushing on, there is no substitute for a strong patent search database, especially one including foreign words. Examples of very strong commercial databases are Patbase, Derwent, Micropatent, and Delphion.

Mechanically, a good search strategy includes a checklist for evaluation patents against the required elements of the claim.

In terms of information efficiency, a designed-experiment-type search strategy of keywords and classes assures that the search net is cast widely, but efficiently. For example, an N-Factorial Designed Experiment search structure, can minimize the number of searches needed while minimizing the loss of information about the patentable space. Tables and software are readily available for planning the selection of "search string experiments" where the various critical nouns of the claim define the equivalent of the number of variables in the experiments. The synonyms to the nouns comprise the levels of each variable, analogous low-medium-and-high settings in a 3-level experiment. The search pattern can be made parsimonious by taking a fractional factorial group of the available "search string experiments," such as a one-eighth fractional factorial structure. Such a structure means that only one-in-eight of the possible "search string experiments" are selected, leaning out the search time by about 87%.

Other search structures are available, such as an analog to Evolutionary Operations. But, any structure search pattern reduces the psychological inertia that leads to anchoring the search too early.

Failing to find an anticipatory patent reference, the searcher can apply the same strategies to the non-patent literature. The disadvantages of having to resort to this body of knowledge include (a) being at the mercy of the extent that the public search engines cover the literature body, (b) not having access to the leverage of the search engine experts, (c) not having the range of Boolean search terms in some databases, and (d) not having additional classifications to aid searching such as the international patent classifications.

Summary

A strong, lean invalidation study recognizes the goal of finding the reference anticipating the claim to be invalidated. We have a three-step process for finding the anticipatory reference in tough cases.

In economic terms, it is sufficient and necessary to search almost exclusively for the anticipatory reference when the search can be constructed using the broad potential embodiments developed by this lean invalidation study process.

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