

What's So Special About **Patent Invalidity Searching?**

by Thomas E. Wolff

Here's a likely business scenario: You have a client company set to go into production with a new technology that is destined to change the world, or at least make plenty of money. All the technical details are worked out, patents have been filed, and the contractor is ready to break ground on a new manufacturing plant.

Did your client cover all the bases? Not unless it made sure that no one else has patents that could shut the process down. So you search for relevant patents, and the attorney thinks one patent might require a license before the client can proceed. What do you do? Try to find some reason that the patent is not valid, that's what.

You might find some earlier patents or publications—collectively called prior art—that would invalidate the patent and leave your client free to

build the new plant. Find it, and you're the hero. Otherwise, your client can still try to get a reasonable license and hopefully profit on the new process. This article explains what invalidity searches are all about and what differentiates them from other patent searches.

WHY ASK FOR PATENT SEARCHES?

The impetus for most search requests is a pending business decision, as explained in the article "Patents in the Realm of Independent Information Professionals" (www.asis.org/Bulletin/Oct-10/OctNov10_Wolff_Adams.pdf).¹

Technology-based organizations use patent searches to help them answer these types of questions:

1. Where should we focus our research and development efforts to gain competitive advantage?
2. Can we obtain a patent to keep others from practicing our invention?



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3. Can we practice a technology—manufacture or sell a product, or carry out a process—without fear of being sued for infringing a patent?
4. Do we need to be concerned about others' patents that relate to our technology business plans?
5. Can we keep others from practicing our technology by enforcing our patents?

The first question often leads to a state-of-the-art search, while the second suggests a patentability search. Both generally are asked at early stages of research to help management decide whether and how to proceed with research and patent applications, to aid scientists and engineers in planning their programs, and to assist patent attorneys write patent applications.

The third question is critical throughout the product development life cycle. Both startup companies and estab-

lished businesses need to know whether their new plans are going to be encumbered by others' in-force patents. Knowing this could have an impact on obtaining development capital or upper management approval to proceed. The company would want a freedom-to-operate (FTO) search, also known as a freedom-to-practice, clearance, infringement, noninfringement, or right-to-use search. The search would seek in-force patents or pending applications with a high likelihood of issuance that have claims relating directly to the client's technology and are issued in countries of interest. The results of the search would form the basis of an FTO opinion by an attorney.

The fourth question is similar to the third one and comes after the identification of a potentially problematic patent. An attorney's FTO opinion might point out specific patents or published applications that could be of concern to the client. In that case, the client might be able practice its technology if the patent were determined to be unenforceable.

If maintenance fees have been paid, the client could ask for an invalidity search to assist planning and possible legal action by the attorney.

The fifth question is a variation of the fourth one. In this case, the client holds the critical patent and wants to be sure that it will withstand a challenge from competitors. A searcher would be asked to carry out a validity search to try to confirm that there is no prior art that would invalidate the patent.

INVALIDITY OR VALIDITY?

Whether you call it an “invalidity” or “validity” search is a matter of perspective, although it is best to use the same terminology as your client. No amount of prior art can “prove” that the patent is valid and should have been granted. On the other hand, excellent prior art can be effective in allowing patent attorneys to make the case that a patent is invalid and therefore unenforceable, which is why I prefer the term “invalidity.” Alternatively, a business may want to “validate” its own patent by confirming that others could not find invalidating prior art.

The same search process is used in both cases, but the client’s desired outcome is different. As a searcher, you are expected to take substantial steps to find critical prior art overlooked by the patent examiner, which would allow the client to challenge another’s patent (“invalidity”) or be prepared to defend a patent infringement allegation by a competitor (“validity”). The client particularly wants you to find references in the first case, but not necessarily in the second.

Looking for prior art to invalidate a client’s granted patent is the same phenomenon as the “paradox of patentability searching” described by Edlyn Simmons in her 1985 article of the same name.² The paradox is that patent searchers need to look for damaging prior art that could work against their client’s intentions. However, knowledgeable clients will recognize that the value of avoiding filing applications, pursuing litigation, or marketing licensing agreements without having strong cases.

IMPACT OF AMERICA INVENTS ACT

Under the 2011 Leahy-Smith America Invents Act (www.gpo.gov/fdsys/pkg/BILLS-112hr1249enr/pdf/

BILLS-112hr1249enr.pdf), companies have several ways to attack another’s patents in the U.S., as John Villasenor explained in a May 14, 2012, *Forbes* article (“Patent Reform: Five Things Technology Companies Need to Know;” www.forbes.com/sites/johnvillasenor/2012/05/14/patent-reform-five-things-technology-companies-need-to-know).³ Interested parties will be able to provide a “pre-issuance submission” to the United States Patent and Trademark Office (USPTO) to advocate why a pending application should not be granted. They may also contribute to the “post-grant review” (PGR) and *inter partes* review processes to challenge a granted patent. The PGR petition must be filed in the first 9 months after issuance, and the latter would be filed subsequently.

Other patent authorities, including the European Patent Office, have similar opposition procedures (www.epo.org/about-us/jobs/examiners/what/opposition.html).⁴ In addition, challengers may seek to invalidate patents through the court systems and the United States International Trade Commission.

Finally, a strategic option is to hold onto the knowledge of invalidating art in case the patent holder alleges infringement of the patent. Good invalidating art can quickly forestall litigation. This private approach also has the advantage of not alerting other potential competitors that they would be free to ignore the patent as well.

NOVELTY GROUNDS

The primary focus of the invalidity search is usually novelty because it is more difficult to invalidate a patent on other grounds such as obviousness, utility, or coverage of patentable subject matter. A highly successful invalidity search would find one or more patent documents or other nonpatent literature that alone would convince others that the invention was not novel at the time of application. A backup alternative would be finding multiple prior art references that could be used in combination to show the invention would have been obvious to a person having ordinary skill in the art.

The goal is to demonstrate that the patent application would not have been approved by the patent authority in the first place had the examiner known about this newly found prior art. The prior art must predate the priority date of the target patent claims and not have been reviewed by the patent examiner.

HIGH REWARD, LOW RISK

I believe that patent searchers like invalidity searches because of the high reward and low risk. Invalidity searches provide the opportunity for high psychic reward associated with the thrill of the hunt and finding the “prey” that can help invalidate someone else’s patent. There is little apparent risk because expectations for finding new, relevant prior art are relatively low. An invalidity search is just the latest in a series of searches presumably carried out by the inventor and, ultimately, by the examiner.





In addition, doing an invalidity search is usually less stressful than a freedom-to-operate or validity search where missing a critical reference could adversely affect the future of a pending business plan. A missed reference in an FTO search could lead to costly litigation or a business shutdown. While a missed reference in a validity search could create false confidence about the client's case for enforcing a patent and keep from forestalling expensive and futile patent litigation, it is often considered excusable since the same reference was missed by other professionals or may not have been found due to budget constraints put upon the searcher.

METHODOLOGY FOR INVALIDITY SEARCHES

Given that the goals and much of the actual searching methodology are the same for all searches, I will explore the differences between invalidity searching and other types of searches.

An invalidity search is essentially a late-stage patentability search. The usual patentability search has no time restriction; it is concerned with all art published to date and even patent applications that may not have been laid open to the public yet. An invalidity search has a cut-off date that is usually the earliest priority date for the patent application in question. However, the searcher must be cognizant of patents that are continuations-in-part because they may have more than one priority patent application. Subsequent applications may offer "new matter" upon which the patent claims are based.

In trying to invalidate a patent claim, the searcher should be careful not to use a search cut-off date that is too early, thereby potentially missing references that were filed or published between the earliest priority date and the actual filing date of the target patent claims. Knowledge of patent law and regulations is critical. Cut-off dates are specific to patent authorities and countries, and they could be dependent on either the application date or the patent publication date.

PAY ATTENTION TO HISTORY

An invalidity search is done in the context of prior searches that should provide good prior art and clues on how to proceed. Often the searcher can find the results of searches carried out by patent offices for the target patent or other patent documents in the same family. For example, you may be trying to invalidate claims in a European patent for which there is an international patent search report. There may also be one or more U.S. patents or applications on the same or related technology, for which examiners have carried out searches.

A prosecution history may also provide prior art from the patent applicant's Information Disclosure Statements (IDS) and from details of opposition proceedings. A number of patent office websites make this information available, including U.S. Public Patent Application Information Retrieval (PAIR; <http://portal.uspto.gov/external/portal/pair>) and the European Patent Register. Litigation (www.epo.org/learning-events/materials/litigation.html) on the target or related patents might also provide leads for invalidating art.

The searcher will want to review all available prior art, even that which the examiner cited. The presumption is that the examiner actually did consider all available prior art in granting the patent so that art cannot be brought up again. However, errors can occur. In one matter, my client decided to review a patent that seemed spot-on for invalidating the target patent by retrieving it from the prosecution record on the U.S. Public PAIR site. He found that the document submitted to the examiner was missing several pages that contained information critical to demonstrating

lack of novelty. As a result, the complete document could be admissible as new prior art. In most cases, the prior art cited by the examiner and inventors provides insight on useful patent classification, subject headings, concept descriptors, terminology, and database indexing. You should also carry out further citation searching on the examiners' and inventors' citations in an iterative process known as "citation pearl growing."⁵

SCRUTINIZE PRIOR ART

An invalidity search involves in-depth scrutiny of prior art documents. The searcher acts as a proxy for the patent attorney in evaluating references. Patent searchers make judgments about every prior art reference they find, although they can't make or offer legal opinions unless they are also patent attorneys and are authorized to do so. The search usually involves a document evaluation process that starts with patent titles, database indexing, and abstracts before it moves to full-text documents and patents, sometimes including human or machine translations from other languages.

The detailed review during an invalidity search usually involves consideration of all of the prior art documents by the patent searcher. Examples, experimental details, tables, chemical formula, equations, drawings, and the like may provide the type of detail needed to invalidate a patent claim. Patent attorneys usually delegate such in-depth review to searchers in order to limit the number of references they have to review. In contrast, technical experts and inventors are often inclined to do their own in-depth review

Rules for Invalidation Searching

1. Understand fully the subject and claims to be invalidated.
2. Search broadly.
3. Concentrate on the details.
4. Know when to stop.
5. Report what the client needs.

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of patentability and state-of-the-art search results before passing along their insights to their attorneys. In these cases, the expert or inventor is often just as happy getting a broader set of references than one resulting from a diligent culling process by the patent searcher.

ONE SINGLE REFERENCE

In general, you want to find at least one single reference that, on its own, invalidates the claims on the basis of novelty because it is more difficult to invalidate a patent on obviousness that relies on two or more references to make the argument. Information may have to be pulled from different parts of a document, particularly when the target claim to be invalidated involves numerical limits, physical properties, experimental quantities and conditions, or structural or chemical components and the like.

Critical information in prior art references may be described in the text whereas the numerical values may be tabulated, plotted, implied, or measurable in units different than in the target claims. Some of the most time-consuming searches include claims that disclose ratios, compositional properties, or units of measure. In these cases, the searcher may be asked to do calculations on prior art.

I did one particularly memorable and tedious invalidity search involving three kinds of additives, two of which had elemental compositions within ranges and a third that had to have targeted molar ratios relative to each of the other two. The processes involved identifying additives, some of which simply had trade names and non-specific compositions, and calculating molar compositions and ratios, sometimes based on best guesses. I used a spreadsheet that ended up containing about 50 examples from 20 different patents. Each example seemed to satisfy one or two of the target criteria but not all three. I expected to have to review non-

patent references that would have involved significant document retrieval expense and further delay. Not until the very last calculation of the very last patent did I find what I was looking for.

RULES FOR INVALIDITY SEARCHING

Here are my rules for invalidity searching. They are similar to those written earlier for FTO searches.⁶

1. *Understand fully the subject and claims to be invalidated.* It is critical to know what the technical and patent issues are. Sometimes the client will simply provide a patent number and want to invalidate all claims or just some specific ones. From the client's perspective, invalidating these claims will take care of the matter. However, the search can often be streamlined and costs reduced when the searcher can focus on the specific matters that the client really cares about. For example, it might be critical to the client to invalidate specific dependent claims.

The searcher must be aware that the patent holder may be allowed to change claims or add new ones; this can be done anytime during the lifetime of a European patent or when applying to have a U.S. patent reissued. The searcher must be expansive interpreting the claims. I had a client who was concerned about a potential, new dependent claim that could have been supported by the specification and could have been prosecuted in the future. In effect, I had to invalidate a claim that had not yet been written and allowed by an examiner.

2. *Search broadly.* Important business decisions usually require expensive and detailed searches. The searcher must be creative in using resources and developing strategies, such as classic pearl growing, using many resources. When available, start with prior work such as patent office search reports, prosecution histories, opposition proceedings, and litigation proceedings. Use



patent classifications for the subject patents and others covering the same general technology area.

Build from inventor and examiner citations for the subject patents and others in the same family, and use later patents that cite the subject matter in case any of them cite relevant prior art. Citations from nonpatent references can also be useful. While it is valuable to have yet another set of eyes reviewing the most likely art to be relevant, it is even more valuable to have a first set of eyes review art that has never been seen by the applicant or examiner.

Citation pearl growing paid off well recently on what started as an FTO search. I was given the client's in-force U.S. patent as the basis for the technology the company wanted to practice. I carried out several cycles of citation searching and looked for both forward and backward citations on the subject patent and related ones. I carried out the citation searching without date restrictions because recent patents that would be relevant to FTO frequently cite older art. As a result, I found early prior art that the examiner had missed in granting the client's patent. The attorney's opinion was that a company could practice its technology and save resources by avoiding enforcement of its patent.

3. *Concentrate on the details.* Invalidation searching usually requires examination of the minutiae of patents and literature documents by searchers in ways not usual for other patent searches. Claims must meet stringent standards and must be fully supported by the specification and be clearly interpretable. However, applicant lexicography choices need not be standardized. Applicants can even create units of measure, language descriptors, and the like that are unique to the single patent being reviewed. Therefore, examination of prior art may require considerable interpretation to ensure comparison of "apples to apples" and not "apples to oranges." The searcher's detailed analysis might involve transformation of units of measure, calculation of property values, or elemental or compositional ratios, and evaluation of the specification text, tables, figures, and chemical formulas, especially in the examples.

4. *Know when to stop.* Even with generous budgets and high importance, invalidation searches cannot go on indefinitely. The process requires good communication between client and searcher and usually involves stages and iterations. The client needs to evaluate prior art and understand search parameters before signing off on search completion, especially if critical prior art was not found.

Frequently clients will want to know if the searcher has done "everything" to uncover invalidating art. It can therefore be just as problematic to spend too little time or money in the process as too much. Some law firms do not want to go back to their clients with "limited prior art" and small invoices for searching. If one searcher is perceived as giving up too soon, the client may seek another searcher who could a "better" job. I once encountered a client who had a search done that had not found the magic bullet. The problem was that the attorney had practically guaranteed to this

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client that he would find invalidating prior art. I did not find it for that attorney either. He asked if I could do more, but I responded that I had exhausted my resources. The expectations he set for his client were inappropriate since invalidating prior art probably just did not exist. All a searcher can do is evaluate his processes and recommend further action as appropriate.

5. *Report what the client needs.* The client may not need a detailed cover letter for an invalidation search if the searcher has found critical prior art. A brief explanation including bibliographic information may be sufficient. On the other hand, a full cover letter comparable to a patentability search report might be appropriate if subsequent searching might be requested. Always report to a client in an agnostic and noncharacterizing format because you cannot be certain which side of a litigation case your report might be used for—your comments could end up being used against your client and result in very detrimental results.

FAVORING INVALIDITY SEARCHES

I was surprised earlier in my career to learn that other patent searchers considered invalidation searches as their favorites. I recognized that invalidation searches provide a wonderful opportunity for creativity, many days' work, good remuneration, and highly satisfied clients. Even when you do not find invalidating art, clients can be very appreciative of your good efforts.

However, invalidation searches can be extremely tedious. It is one thing to review thousands of patents by titles, abstracts, indexing, and figures, but it is another to have to evaluate and characterize details of so many prior art documents. When good prior art is not found quickly, these searches can seem to drag on. Only occasionally does the tedious evaluation process lead to a remarkable result. I prefer a variety of searches and consider myself fortunate that I have received all sorts of search requests from wonderful clients.

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