Forensic Engineers in Patent Litigation

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Abstract

When patents are challenged in court, technical experts are called upon for several reasons. Patent attorneys are engineers, but depend on experts to help them understand the patents in suit and the state of the art at the time the invention was made. The ideal expert for a particular case will have worked in the same field and be familiar with the technical literature, products and technologies pre-dating the invention. If a product is accused of infringing one or more patents, the engineer must be able to evaluate the accused product with respect to the asserted patent claims. The engineer may review the patent application and prosecution history, perform tests, research prior art patents, literature, and products, and interpret the language used in the patents. Like other types of Forensic Engineering assignments, written reports and court testimony are often required. However, patent cases involve some unique terminology and legal concepts, which will be outlined in this paper.

Keywords


What is a patent?

A Patent grants the inventor a monopoly on his invention for a period of time; seventeen years from the date of issue on most existing patents. The rules changed recently to a period of twenty years from the date of application. Others are prohibited from making, selling or using the invention without permission from the patent owner. If patented products become commercially successful, they are sometimes copied, and patent disputes may occur. The more successful the invention, the greater the potential damages at stake in patent litigation.

Patents are intellectual property, and the “boundaries” of the covered property are defined by the “claims” at the end of a patent. If a patent
holder believes that his “property” has been stolen, he has the option of initiating a lawsuit for patent infringement. A patent holder must prove that the accused device falls within the boundaries of the asserted patent claims. A defendant accused of patent infringement may argue non-infringement based on his own interpretation of the patent claims in suit, or may argue that the patent is invalid, or both. Accordingly, a plaintiff must assume that the validity of his patent(s) may be challenged. When disputes arise, the correct technical interpretation of patent claims becomes a central issue to be resolved.

The role of the expert

Technical experts are usually called upon to interpret the patent claims in suit, review the accused infringing product or process and evaluate the prior art patents and literature that establish the state of the art at the time the invention was made. The law requires a “person of ordinary skill in the art” to understand and interpret patents. Forensic Engineers are well suited to work in patent litigation, especially when their area of technical expertise is a good match with the patent technology.

Although this paper is not intended to be a complete discussion of patents and patent litigation, it should help the Forensic Engineer to be better prepared when interviewing with a patent attorney for an assignment as expert in a patent dispute. Patent attorneys look for experts who have the right technical background. Experience with deposition and court testimony are also important. Prior patent litigation experience and familiarity with patent terms and the patenting process is also of value. The following are a few specialized terms used in patent cases:

The person of ordinary skill in the art is a legal fiction found in patent law. This fictional person is considered to have the normal skills and knowledge in a particular technical field, without being a genius. The patentee is entitled to be his own lexicographer, defining terms within the patent specification. The meaning of terms defined within the patent take precedence over common usage or dictionary definitions.

Patent claims are the part of a patent that defines the scope of protection granted by the patent. The claims define, in technical terms, the extent of the protection conferred by a patent, or the protection sought in a patent application. The claims are of the utmost importance both during prosecution and litigation. There are two basic types of claims:
- the independent claims, which stand on their own, and
- the dependent claims, which depend on a single claim or on several claims and generally express particular embodiments as fall-back positions. Dependent claims are narrower than the independent claim from which it depends.

Prior art (also known as state of the art) constitutes all information that has been made available to the public in any form before a given date that might be relevant to a patent’s claims of originality. If an invention has been described in prior art, a patent on that invention is invalid. Prior art patents are sometimes viewed in combination, to argue that an invention would have been obvious in view of the combined prior art references. Obviousness is one argument for patent invalidity. The fact that a patent examiner has allowed the patent to issue does not prevent it from being challenged.

A patent can be found to be invalid due to indefiniteness, if the disclosure is not sufficient for a person of ordinary skill in the art to make the invention. A patent can also be found to be invalid if the named inventor(s) are proven to be false or incomplete.

Patent infringement is the commission of a prohibited act with respect to a patented invention without permission from the patent holder. Permission may typically be granted in the form of a license.

Claim construction is a term describing the technical interpretation of the patent claims. Opposing parties often disagree on the exact meaning of the claims. Settling disputes over claim construction generally precedes argument over infringement by an accused product.

A Markman hearing is a pretrial hearing during which a judge examines evidence from all parties on the appropriate meanings of relevant key words used in a patent claim. It is also known as a “Claim Construction Hearing”. The evidence considered in a Markman hearing falls into two categories: intrinsic and extrinsic.

Intrinsic evidence consists of the patent itself and prosecution history of the patent.

Extrinsic evidence is testimony, expert opinion, or published literature. Extrinsic evidence may not contradict intrinsic evidence.

The doctrine of equivalents is a legal rule in patent cases that allows a court to hold a party liable for patent infringement even though the infringing device or process does not fall within the literal scope of a patent claim, but nevertheless is equivalent to the claimed invention. If the function is substantially equivalent, the way it achieves the function is substantially equivalent, and the result is substantially equivalent, the doctrine applies.
A preferred embodiment is an example of how the patent can be practiced. A preferred embodiment is only an example and does not limit the claims.

Patent applications are written according to a prescribed format including the following sections:

- Title of the invention
- Cross-reference to related applications
- Background of the invention
- Brief summary of the invention
- Drawings
- Brief description of the several views of the drawing
- Detailed description of the invention
- Description of a preferred embodiment
- A claim or claims
- Abstract of the disclosure

How to review a patent

Patents are often long and detailed, and you may have a large stack of patents to review. In order to make an initial quick review to get a feeling for the content within a few minutes, the following “quick review” method is suggested: Note the issue date, inventor’s name and assignee, if it has been assigned to a company. Next read the abstract and look at the drawings. In many cases, this information will be sufficient to get an overall idea of the content. To understand the scope of patent coverage, review the claims. The entire patent specification can be reviewed in greater detail later, to understand the fine points.

The long haul

Typical Forensic Engineering assignments may go on for months and years, with brief periods of involvement for the engineer and long periods of inactivity. Patent cases tend to take even longer to resolve, require more continuous activity, and place a heavy workload on experts. Accordingly, the Forensic Engineer should consider his workload, and whether sufficient time is available to accept such an assignment. Since these assignments tend to be large in scope, attorneys usually want to meet with potential experts in person before selecting one or more. Compensation for interview time and travel is usually offered. Multiple, overlapping experts covering different aspects of the technology are common in patent cases.
If you are being considered for an assignment in a patent case, there are some preparatory steps you can take to improve your chance of being selected. After a check for conflicts and initial discussion, you may be given the patent number(s) at issue. It would be a good idea to review those patents and whatever you can learn about the accused product. Time for this kind of research may not be compensated, but is a worthwhile investment. After having time to think about the technology, the patent claims, and the accused product, you will be better prepared to interview for the job.

Testing

To determine whether an accused product infringes a patent’s claims, the accused product must be evaluated. Evaluation could include mechanical measurements, laboratory studies, chemical analysis, or any testing that would help to understand the relationship between the accused product and asserted patent claims. An understanding of the materials of construction and manufacturing methods may also be important.

Reports

Unlike most other Forensic Engineering reports, expert reports in patent cases usually need to incorporate some specialized material. Multiple reports from each expert are common. Early in the case, experts may opt on the proper meaning of claim terms (claim construction). Review of the accused product(s) may include inspection, testing, a visit to the manufacturing plant, and review of similar products.
Rebuttal reports and Supplemental reports are also common in patent cases. Because these cases tend to be very technical and document-intensive, you should expect to spend a significant amount of time working alongside patent attorneys to prepare the case.

**Court testimony**

Like other kinds of civil cases, most patent cases are settled before trial. However, when patent cases are tried in court, there are no special qualifications for the judge and jury. The attorneys and experts must teach the court about the technology at issue, the correct interpretation of the patent claim terms, and the accused infringing product or process. The court decides infringement or non-infringement, and awards damages, if appropriate. Half of all patent cases are overturned on appeal, so there is an incentive for both parties to settle if they want fast resolution.

**Conclusions**

The practicing Forensic Engineer is well suited to work as a technical expert in patent litigation. The combination of specific technical expertise and experience working within the legal system make forensic engineers good candidates for this role. Like other specialties, cumulative experience with patents, the patenting process and patent litigation makes an engineer increasingly well qualified with each new assignment. Whether engaged by plaintiff or defendant, the engineer’s mission is no different from engagement in other kinds of litigation – assisting the court to understand technical issues, while maintaining the Professional Forensic Engineer’s ethical responsibilities.