

Electronic *and* Software Patents

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Editors-in-Chief

Steven W. Lundberg

*Schwegman, Lundberg,
Woessner & Kluth
Minneapolis, Minnesota*

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Minneapolis, Minnesota*

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*Dicke, Billig & Czaja
Minneapolis, Minnesota*



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13 Noninfringement, Invalidity, and Unenforceability Opinions

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§13.01 Introduction

Clients routinely ask attorneys to advise them on the issues of patent invalidity, unenforceability, and noninfringement. They want to know whether some past, ongoing, or prospective activity may give rise to liability for infringement of the claims of another's—often a competitor's—patent. As a matter of due diligence and good business sense, clients want to avoid both patent infringement liability and, if possible, the disruption and costs of patent infringement litigation were a patent owner to have even a colorable claim of patent infringement. In response to the client's request, the attorney provides an opinion. The client hears or reads the opinion and decides to take, or to refrain from, some course of action based on the contents of the opinion.

More sophisticated clients, or those who have had the benefit of a patent attorney's counsel, realize that a second reason exists to obtain a competent opinion from an attorney regarding patent invalidity, unenforceability, and noninfringement. Almost every complaint for patent infringement includes a related assertion that the infringement was willful and, therefore, that the patent owner is entitled to increased damages. A competent opinion of counsel is probably the second-best defense against a charge of willful infringement. (The best defense is, of course, absence of liability.) This chapter addresses some of the principal elements of preparing such a competent opinion, focusing on the special considerations raised by electronic and software patents.

This chapter begins with a background section providing a historical context for the role of attorney opinions. That section also addresses the following important question about attorney opinions on patent invalidity, unenforceability, and noninfringement: Why prepare an opinion? With answers to that question in mind, a guide is presented on when an opinion should be prepared; who should prepare the opinion; how to prepare a competent opinion; and what such an opinion should contain. The guide considers the type of investigation the attorney preparing the opinion should conduct, the form of the opinion (written or oral), and the need to follow up after the opinion is rendered.

This chapter then discusses the three substantive law areas that a competent opinion may consider: patent invalidity, unenforceability, and noninfringement. Finally, although an opinion should be written for the trial court, as potentially the ultimate reader, the attorney almost always communicates his or her opinion directly to the client. Indeed, care is taken to avoid dissemination of the opinion to third parties; the attorney and client strive to hold "close to the vest" the privileged communication. The privileged nature of the opinion is discussed in the last section of this chapter.

§13.02 Background

A. Historical Context

1. Pre-1982¹

Today, willful infringement is the principal justification for increased damages in patent infringement actions. The principal defense to an allegation of willful infringement is that the accused infringer obtained advice of counsel. Although both the justification and the defense are found in the case law before 1982,² only a handful of decisions of the Circuit Courts of Appeal ruled on the advice-of-counsel defense to a charge of willful infringement.³ The U.S. Supreme Court has not yet addressed the advice-of-counsel defense to increased patent damages.

One explanation for the earlier absence of reported decisions is that, before 1982, patent infringement cases were commonly tried before a judge and not a jury.⁴ Liability and damages issues were severed in many nonjury trials, a practice that concluded many patent cases without either discovery or trial on damages. If the alleged infringer won on liability, the issue of damages became irrelevant. Settlement often avoided the issue of damages if the patent owner won and obtained a permanent injunction.

Regardless of the explanation, the defense of advice of counsel was not often presented before 1982. From those reported decisions in which the defense was presented, it is clear that the common-law view of willful infringement and the advice-of-counsel defense differed in significant respects from the law since developed by the U.S. Court of Appeals for the Federal Circuit. Before 1982, for example, a patent owner had the burden of proving, to support a charge of willful infringement, the infringer's bad-faith state of mind.⁵ In many regional circuits, the infringer avoided a finding of willfulness merely by presenting a good-faith defense to the action.⁶

¹ The U.S. Court of Appeals for the Federal Circuit was created in 1982. Federal Courts Improvement Act of 1982, Pub. L. No. 97-164, 96 Stat. 25, 37 (codified at 28 U.S.C. §1295(a)). The district courts have exclusive original subject matter jurisdiction over cases "arising under" the patent laws. 28 U.S.C. §1338(a). Whenever the district court's jurisdiction is based "in whole or in part" on Section 1338(a), the Federal Circuit acquires exclusive appellate jurisdiction. 28 U.S.C. §1295(a)(1). Such jurisdiction includes all patent infringement suits.

² See, e.g., *Reed Roller Bit Co. v. Hughes Tool Co.*, 12 F.2d 207, 210 (5th Cir. 1926) ("We have no difficulty in sustaining the finding . . . that the appellants were willful infringers It is apparent from the evidence that [appellants were] not led by the advice of counsel to believe that [their] actions were not infringing.").

³ G. Sirilla, G. Edgell, & A. Hess, *The Advice of Counsel Defense to Increased Patent Damages*, 74 J. PAT. & TRADEMARK OFF. SOC'Y 705, 707 n.8 and 709 n.14 (Oct. 1992) (citing cases). In contrast, during the first 10 years after the Federal Circuit's creation in 1982, there were more than 175 reported patent decisions by the district courts and the Federal Circuit involving the advice-of-counsel defense to enhanced patent damages. *Id.* at 707.

⁴ In the three-year period 1968-1970, only 13 of 382 patent cases going to trial were jury trials. More than half of such suits are now tried to juries. Between 1992 and 1994, 163 of 274 patent trials were tried to a jury. In 1994, 70% of patent trials were tried to juries. *Lockwood v. American Airlines Inc.*, 33 USPQ2d 1907, 1908 n.1 (Fed. Cir. 1995) (Order) (dissent by Judges Nies, Archer, and Plager).

⁵ See, e.g., *Artmoore Co. v. Dayless Mfg. Co.*, 208 F.2d 1, 5, 99 USPQ 306, 309 (7th Cir.), *cert. denied*, 347 U.S. 920 (1954).

⁶ See, e.g., *Deere & Co. v. International Harvester Co.*, 658 F.2d 1137, 1146, 211 USPQ 11, 20 (7th Cir.), *cert. denied*, 454 U.S. 969 (1981); *Wahl v. Carrier Mfg. Co.*, 511 F.2d 209, 214, 184 USPQ 516, 519 (7th Cir. 1975).

2. Enter the Federal Circuit in 1982

An affirmative duty to avoid infringing known patents came into sharp focus with the inception of the Federal Circuit in 1982.⁷ In 1983, the Federal Circuit unequivocally stated:

Where, as here, a potential infringer has actual notice of another's patent rights, he has an affirmative duty to exercise due care to determine whether or not he is infringing. Such an affirmative duty includes, *inter alia*, the duty to seek and obtain competent legal advice from counsel before the initiation of any possible infringing activity.⁸

Within a few years, the Federal Circuit could say, "It is *well settled* that a potential infringer having actual notice of another's patent rights has an affirmative duty of due care" to avoid infringing those rights.⁹ That duty normally entails "the obtaining of competent legal advice before engaging in any potentially infringing activity or continuing such activity."¹⁰

Thus, the Federal Circuit's decisions have significantly reduced the patent owner's burden in proving willful infringement. The patent owner's initial burden is to prove that the infringer (1) knew of the patent, (2) knew or should have known of the patent's relation to its activities, and (3) thereafter commenced or continued infringing acts. These three elements constitute a *prima facie* case of willful infringement, sufficient to impose upon the infringer the burden of going forward with evidence to show compliance with its affirmative duty to exercise care to avoid infringement.¹¹

To demonstrate such compliance when a patent owner meets its initial burden and a court addresses the issue of willful infringement, the infringer must rebut the inference of willfulness by showing nonwillfulness. Nonwillfulness connotes an innocent state of mind. Innocence is evaluated according to a legal standard that has both a subjective component and an objective component: Did the infringer have a good-faith belief of no liability under the patent in question (the subjective component) and, if it did, was that belief reasonable (the objective component)?¹² "It is necessary to look at 'the totality of the circumstances presented in the case' in determining whether a reasonable

⁷ *Underwater Devices, Inc. v. Morrison-Knudsen Co.*, 717 F.2d 1380, 1390, 219 USPQ 569, 576 (Fed. Cir. 1983). *Underwater Devices, Inc.* is the first case in which the Federal Circuit specifically addressed the advice-of-counsel defense.

⁸ *Underwater Devices, Inc. v. Morrison-Knudsen Co.*, 717 F.2d 1380, 1389-90, 219 USPQ 569, 576-77 (Fed. Cir. 1983).

⁹ *Spindelfabrik Suessen-Schurr, Stahlecker & Grill GmbH v. Schubert & Salzer Maschinenfabrik Aktiengesellschaft*, 829 F.2d 1075, 1084, 4 USPQ2d 1044, 1051 (Fed. Cir. 1987) (emphasis added), *cert. denied*, 484 U.S. 1063 (1988). The court has repeated that principle often. *See, e.g.*, *Ortho Pharmaceutical Corp. v. Smith*, 959 F.2d 936, 944, 22 USPQ2d 1119, 1125 (Fed. Cir. 1992) ("Where an infringer has actual notice of a patent owner's rights, the infringer has an affirmative duty of due care.").

¹⁰ *Spindelfabrik, Suessen-Schurr, Stahlecker & Grill GmbH*, 829 F.2d at 1084, 4 USPQ2d at 1051; *Rolls-Royce Ltd. v. GTE Valeron Corp.*, 800 F.2d 1101, 1110, 231 USPQ 185, 191 (Fed. Cir. 1986).

¹¹ *Great Northern Corp. v. Davis Core & Pad Co.*, 782 F.2d 159, 166-67, 228 USPQ 356, 360 (Fed. Cir. 1986); *Ortho Pharmaceutical Corp. v. Smith*, 959 F.2d 936, 944, 22 USPQ2d 1119, 1125 (Fed. Cir. 1992) (where an infringer violates its affirmative duty of care, it can be held liable for willful infringement).

¹² *Studiengesellschaft Kohle, m.b.H. v. Dart Indus., Inc.*, 862 F.2d 1564, 1577-79, 9 USPQ2d 1273, 1285-87 (Fed. Cir. 1988).

person would prudently conduct himself with any confidence that the courts might hold the patent invalid [or not infringed or unenforceable].”¹³

B. Why Obtain an Opinion of Counsel?

Why prepare an opinion analyzing one or more of the factors of noninfringement, invalidity, or unenforceability? The importance of counsel is beyond question in helping a client not only to satisfy its “affirmative duty of due care” to avoid infringing the patent rights of others, but also to ensure, should the client later be found to have violated that duty, that its conduct was not willful. This is true despite the fact that willfulness is a determination of the state of mind of the client, a factor over which counsel has little control, and despite the fact that no particular measure is guaranteed to avoid a finding of willfulness. Rather, it must appear in view of the totality of the circumstances that an infringer did not willfully infringe the patent. There are, however, certain steps that can be taken to reduce the likelihood of being found liable for willful patent infringement. One of those steps—perhaps the most important—is to obtain an opinion of counsel.

1. Avoid Liability

The best defense against a charge of willful patent infringement is an absence of liability for patent infringement. And the best way for a client to avoid liability for patent infringement is to obtain the advice of counsel, on the patent or patents most relevant to the client’s proposed product or process, and to follow counsel’s guidance in designing around those patents.¹⁴ An opinion obtained for the purpose of designing around a patent is perfectly acceptable. The Federal Circuit has stated the following:

[K]eeping track of a competitor’s products and designing new and possibly better or cheaper functional equivalents is the stuff of which competition is made and is supposed to benefit the consumer. One of the benefits of a patent system is its so-called “negative incentive” to “design around” a competitor’s products, even when they are patented, thus

¹³ *Central Soya Co. v. Geo. A. Hormel & Co.*, 723 F.2d 1573, 1577, 220 USPQ 490, 492 (Fed. Cir. 1983); *Ortho Pharmaceutical Corp. v. Smith*, 959 F.2d 936, 944, 22 USPQ2d 1119, 1125 (Fed. Cir. 1992) (the question of willful infringement is resolved by evaluating the totality of the surrounding circumstances to determine the infringer’s intent and reasonable beliefs); *King Instrument Co. v. Otari Corp.*, 767 F.2d 753, 867, 226 USPQ 402, 412 (Fed. Cir. 1985), *cert. denied*, 475 U.S. 1016 (1986). In the words of Judge Newman, “‘willfulness’ in infringement, as in life, is not an all-or-nothing trait, but one of degree.” *Rite-Hite Corp. v. Kelley Co.*, 819 F.2d 1120, 1125-26, 2 USPQ2d 1915, 1919 (Fed. Cir. 1987). Consequently, the potential infringer must be forewarned that no particular measure is guaranteed to avoid a finding of willfulness. Rather, it must appear in view of the totality of the circumstances that an infringer did not willfully infringe the patent.

¹⁴ Even after a patent has been granted, others may learn from the underlying algorithm, ideas, theories, and principles to legitimately “design around” or “program around” the patent owner’s useful application. *See Slimfold Mfg. Co. v. Kinkead Indus., Inc.*, 932 F.2d 1453, 1457, 18 USPQ2d 1842, 1845 (Fed. Cir. 1991). The Federal Circuit has noted that designing around patents to make new inventions is encouraged. *See Westvaco Corp. v. International Paper Co.*, 991 F.2d 735, 739, 26 USPQ2d 1353, 1361 (Fed. Cir. 1993). In fact, the court has stated that evidence of an accused infringer’s attempt to design around a patent is relevant to the question of infringement under the doctrine of equivalents. *Hilton Davis Chem. Co. v. Warner-Jenkinson Co.*, 62 F.3d 1512, 1516, 35 USPQ2d 1641, 1646 (Fed. Cir. 1995) (in banc), *rev’d on other grounds*, 520 U.S. 17 (1997).

bringing a steady flow of innovations to the marketplace. It should not be discouraged by punitive damage awards. . . . [T]he world of competition is full of “fair fights.”¹⁵

Even if good-faith design-around advice is unsuccessful in avoiding infringement, it can go a long way toward avoiding a finding of willfulness.¹⁶

When the potential infringer attempts to design around the patent following advice of counsel, a charge of willfulness or bad faith usually will not prevail.¹⁷ Consequently, the safest and most successful defense against a charge of willfulness may be a competent opinion of counsel suggesting design or software changes that subsequently are implemented by the alleged infringer in an effort to design around the patent. A practical problem may arise with design changes. Design changes that may seem feasible to counsel may not seem feasible to the potential infringer. Therefore, design changes should not be suggested in an opinion of counsel until the client has advised that those design changes are feasible.

Although the costs may be prohibitive, especially for proposed products or processes with limited profit margins or useful lives,¹⁸ patent counsel might propose the following procedure for a client to implement to minimize the risk of patent infringement. First, at the start of the research and development project, a collection search of patents directed to the general field of the development might be done. Patent counsel and the research and development team could review these patents together, with two main goals in mind: (1) absorb the teachings of those patents to further the team’s own development work¹⁹ and (2) identify the development areas that appear to be most sensitive, from a patent infringement vantage, and sensitize the development team to those areas. Such advice might be given on a continuing basis as the team progresses with its work.

Second, upon completion of the research and development project, but before disclosure or divulcation of the results to anyone outside the client company, an expedited noninfringement search should be conducted. That search will be directed specifically to the completed development. If the

¹⁵ *State Indus., Inc. v. A.O. Smith Corp.*, 751 F.2d 1226, 1235-36, 224 USPQ 418, 424 (Fed. Cir. 1985). See chapter 14 for a detailed discussion of design-around techniques.

¹⁶ In order to avoid a finding of willfulness, an alleged infringer must take steps that provide the basis for reasonably believing that the acts of alleged infringement are proper. Exemplary steps may include making a good-faith attempt to alter the design of the allegedly infringing system in order to avoid infringement. *Rolls-Royce Ltd. v. GTE Valeron Corp.*, 800 F.2d 1101, 231 USPQ 185 (Fed. Cir. 1986); *Rite-Hite Corp. v. Kelley Co.*, 819 F.2d 1120, 2 USPQ2d 1915 (Fed. Cir. 1987).

¹⁷ *Yarway Corp. v. Eur-Control USA, Inc.*, 775 F.2d 268, 277, 227 USPQ 352, 355 (Fed. Cir. 1985); *Radio Steel & Mfg. Co. v. MTD Prods., Inc.*, 788 F.2d 1554, 1558-59, 229 USPQ 431, 434 (Fed. Cir. 1986). This is true even when the attempt to design around the patent is not based on advice of counsel. See *Rolls-Royce Ltd. v. GTE Valeron Corp.*, 800 F.2d 1101, 1110, 231 USPQ 185, 191 (Fed. Cir. 1986); *but see Ryco, Inc. v. Ag-Bag Corp.*, 857 F.2d 1418, 1428, 8 USPQ2d 1323, 1331-32 (Fed. Cir. 1988). See generally K. Krosin, *How to Avoid Willful Infringement*, 5 AM. INTELL. PROP. L. ASS’N SELECTED LEGAL PAPERS 2 (Dec. 1987).

¹⁸ The patent statute lists four categories of patentable subject matter: processes, machines, articles of manufacture, and compositions of matter. 35 U.S.C. §101. Because the focus of this treatise is on computer software applications or systems, the term system will be used in the remainder of this chapter—although most of the principles stated are equally applicable to any of the statutory subject matter classifications.

¹⁹ Even Sir Isaac Newton, who is credited with, among other things, the formulation of differential calculus, conceded that he traded in prior ideas, stating, “If I have seen further it is by standing upon the shoulders of Giants.” See Chapter 3 for a detailed discussion of software invention searching.

development entails an invention and if the client is interested in affirmatively protecting its invention through its own patent, a combined patentability and noninfringement search might be done. Counsel should give the client a written noninfringement opinion based on the search results. Thereafter, counsel might provide a patentability opinion and, if warranted, prepare and file a patent application on the invention (if any).

Note that the law does not impose an obligation to perform any patent search before implementing a process or commencing production of a system—unless, of course, the party has reason to believe that the process or system would infringe a certain patent. A search might be recommended, absent reason to believe infringement would occur, only when production will entail a large investment. Under those circumstances, the search is justified as limited insurance against the risk of losing the investment dollars if infringement is later claimed. Note that a search does not provide absolute insurance. The search is not exhaustive and, even if it were, it is possible that a patent later claimed to be infringed would not be discovered. Search systems are imperfect (note that about 7 percent of all patents are missing from the U.S. Patent and Trademark Office (PTO) files) and the search process is time-limited.

2. *Willful Infringement*

Assume that advice of counsel is unsuccessful in avoiding infringement. Whenever infringement is found, the patent owner is entitled to “damages adequate to compensate for the infringement²⁰.”²⁰ The purpose of this compensatory damage award is to compensate the patent owner for the actual losses suffered by reason of the infringement. Enhanced damages and attorney’s fees may be awarded only in cases of willful infringement or bad faith (such as bad-faith conduct during litigation). Unlike compensatory damages, the purposes of an enhanced damage award are to punish the infringer and to deter future infringement.

For a precise definition of *willfulness*, it is best to refer to the Federal Circuit’s own definition: “Willfulness is shown when, upon consideration of the totality of the circumstances, clear and convincing evidence establishes that the infringer acted in disregard of the patent, that the infringer had no reasonable basis for believing it had a right to engage in the infringing acts.”²¹ The test is whether a reasonable person would prudently conduct himself or herself with any confidence that a court might hold the patent invalid, unenforceable, or not infringed.²² In essence, *willfulness* is a determination as to a state of mind,²³ which must be made by examining the totality of the

²⁰ 35 U.S.C. §284.

²¹ *Electro Medical Sys., S.A. v. Cooper Life Sciences, Inc.*, 34 F.3d 1048, 1052, 32 USPQ2d 1017, 1023 (Fed. Cir. 1994).

²² *Rosemount, Inc. v. Beckman Instruments, Inc.*, 727 F.2d 1540, 1548, 221 USPQ 1, 8 (Fed. Cir. 1984) (infringer must have “honest doubt” of validity or infringement to avoid finding of willfulness); *Central Soya Co. v. Geo. A. Hormel & Co.*, 723 F.2d 1573, 1577, 220 USPQ 490, 493 (Fed. Cir. 1983).

²³ *Read Corp. v. Portec, Inc.*, 970 F.2d 816, 833, 23 USPQ2d 1426, 1436 (Fed. Cir. 1992). As the term implies, *willful patent infringement* denotes a deliberate and intentional act. *Power Life, Inc. v. Lang Tools, Inc.*, 774 F.2d 478, 482, 227 USPQ 435, 438 (Fed. Cir. 1985).

circumstances.²⁴ The question of willfulness is one of fact²⁵; the patent owner bears the burden of proving willfulness by clear and convincing evidence.²⁶

Thus, where a potential infringer has actual notice of another's patent rights, it has an affirmative duty of due care to avoid infringement. That duty normally includes an obligation to seek and obtain competent legal advice from counsel regarding the potential infringement.²⁷ The duty may be met, however, even without advice of counsel, if the infringer mounts a good-faith and substantial challenge to the existence of infringement or to the patent's validity or enforceability.²⁸ If an infringer adequately meets its duty by determining, for example, that the asserted patent is invalid or unenforceable, that there is no infringement, or that its conduct is covered by licensing agreements, it will not be held liable for increased damages. Even if a party is subsequently found to be infringing the claims of another's patent despite its investigations, it will be liable only for compensatory damages, not increased damages, if it performed the affirmative duty in good faith.²⁹

²⁴ See, e.g., *American Medical Sys., Inc. v. Medical Eng'g Corp.*, 6 F.3d 1523, 1530, 28 USPQ2d 1321, 1325 (Fed. Cir. 1993), *cert. denied*, 114 S. Ct. 1647 (1994) (in making a determination of willfulness, the court is also required to consider mitigating or ameliorating factors); *Minnesota Min. & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1580, 24 USPQ2d 1321, 1339 (Fed. Cir. 1992); *Braun Inc. v. Dynamics Corp.*, 975 F.2d 815, 822, 24 USPQ2d 1121, 1127 (Fed. Cir. 1992).

²⁵ *Westvaco Corp. v. International Paper Co.*, 991 F.2d 735, 739, 26 USPQ2d 1353, 1360 (Fed. Cir. 1993); *Ryco, Inc. v. Ag-Bag Corp.*, 857 F.2d 1418, 1428, 8 USPQ2d 1323, 1332 (Fed. Cir. 1988); *Bott v. Four Star Corp.*, 807 F.2d 1567, 1572, 1 USPQ2d 1210, 1213 (Fed. Cir. 1986). The "exceptionality" required for an award of attorney's fees is also a fact issue. See, e.g., *S.C. Johnson & Son, Inc. v. Carter-Wallace, Inc.*, 781 F.2d 198, 201, 228 USPQ 367, 369 (Fed. Cir. 1986). These fact issues are commonly tried to a jury. Whether they should be is another question. J. Pegram, *Preserving Privilege in the Face of a Willful Infringement Charge*, 73 J. PAT. & TRADEMARK OFF. SOC'Y 286 (April 1991).

²⁶ See, e.g., *Minnesota Min. & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 24 USPQ2d 1321 (Fed. Cir. 1992); *Shatterproof Glass Corp. v. Libbey-Owens Ford Co.*, 758 F.2d 613, 628, 225 USPQ 634, 644 (Fed. Cir.), *cert. dismissed*, 474 U.S. 976 (1985).

²⁷ *Minnesota Min. & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1580, 24 USPQ2d 1321, 1339 (Fed. Cir. 1992); *Read Corp. v. Portec, Inc.*, 970 F.2d 816, 826, 23 USPQ2d 1426, 1435 (Fed. Cir. 1992); *Ortho Pharmaceutical Corp. v. Smith*, 959 F.2d 936, 944, 22 USPQ2d 1119, 1125 (Fed. Cir. 1992) ("[A]n opinion of counsel letter is an important factor in determining the willfulness of infringement"); *Ryco, Inc. v. Ag-Bag Corp.*, 857 F.2d 1418, 1429, 8 USPQ2d 1323, 1332 (Fed. Cir. 1988); *Avia Group Int'l, Inc. v. L.A. Gear Calif., Inc.*, 853 F.2d 1557, 1566, 7 USPQ2d 1548, 1555-56 (Fed. Cir. 1988); *Spindelfabrik SuessenSchurr, Stahlecker & Grill GmbH v. Schubert & Salzer Maschinenfabrik Aktiengesellschaft*, 829 F.2d 1075, 1084, 4 USPQ2d 1044, 1051-52 (Fed. Cir. 1987), *cert. denied*, 484 U.S. 1063 (1988); *Bott v. Four Star Corp.*, 807 F.2d 1567, 1572, 1 USPQ2d 1210, 1212-13 (Fed. Cir. 1986); *Rolls-Royce Ltd. v. GTE Valeron Corp.*, 800 F.2d 1101, 1109, 231 USPQ 185, 191-92 (Fed. Cir. 1986); *Great Northern Corp. v. Davis Core & Pad Co.*, 782 F.2d 159, 166-67, 228 USPQ 356, 360 (Fed. Cir. 1986); *Ralston Purina Co. v. Far-Mar-Co.*, 772 F.2d 1570, 1577, 227 USPQ 177, 181 (Fed. Cir. 1985); *Bandag, Inc. v. Al Bolster's Tire Stores, Inc.*, 750 F.2d 903, 921, 223 USPQ 982, 998 (Fed. Cir. 1984); *Rosemount, Inc. v. Beckman Instruments, Inc.*, 727 F.2d 1540, 1548, 221 USPQ 1, 8 (Fed. Cir. 1984); *Central Soya Co. v. Geo. A. Hormel & Co.*, 723 F.2d 1573, 1577, 220 USPQ 490, 492 (Fed. Cir. 1983); *Underwater Devices, Inc. v. Morrison-Knudsen Co.*, 717 F.2d 1380, 1390, 219 USPQ 569, 576 (Fed. Cir. 1983). But see *King Instrument Corp. v. Otari Corp.*, 767 F.2d 853, 867, 226 USPQ 402, 412 (Fed. Cir. 1985), *cert. denied*, 475 U.S. 1016 (1986). See generally G. Sirilla, G. Edgell, & A. Hess, *The Advice of Counsel Defense to Increased Patent Damages*, 74 J. PAT. & TRADEMARK OFF. SOC'Y 705 (Oct. 1992).

²⁸ *Electro Medical Sys., S.A. v. Cooper Life Sciences, Inc.*, 34 F.3d 1048, 1052, 32 USPQ2d 1017, 1023 (Fed. Cir. 1994).

²⁹ *Jurgens v. CBK, Ltd.*, 38 USPQ2d 1397, 1400 (Fed. Cir. 1996).

The Federal Circuit cases have outlined the factors that a court should consider in deciding whether infringement is willful. One factor is, as mentioned previously, whether sound legal advice was timely obtained. Additional factors include at least the following: whether the actions taken by the infringer were reasonable, whether there was copying or independent development by the infringer, and various aspects of the actual relationship between the patent owner and the infringer.³⁰

3. *Increased Damages*

If infringement is found, the failure to make a good-faith effort to satisfy the duty established by the Federal Circuit may lead to a finding that the infringement was willful. Such a finding may lead, in turn, to the possibility of an award of multiple (up to three times actual) damages under 35 U.S.C. §284.³¹ The court also may award attorney's fees under 35 U.S.C. §285 if it finds the case "exceptional."³² A willfulness finding is one factor that is considered in determining whether exceptional circumstances are present to justify an award of attorney's fees. Thus, a finding of willful patent infringement may have considerably more economic impact than the fact of patent infringement itself.

The risks of additional monetary penalties are made more substantial by developments that have occurred since the inception of the Federal Circuit. Those developments significantly raise the stakes on the advice an attorney renders. In particular, these developments include greater judicial respect for patent rights.³³ That increased respect has translated into increased compensatory damage awards.³⁴ Of course, as compensatory awards have increased, interest in multiplied awards based on those compensatory awards has escalated correspondingly.

³⁰ *Gustafson, Inc. v. Intersystems Indus. Prods., Inc.*, 897 F.2d 508, 510, 13 USPQ2d 1972, 1974 (Fed. Cir. 1990) (good review of law); *Datascope Corp. v. SMEC, Inc.*, 879 F.2d 820, 828, 11 USPQ2d 1321, 1327 (Fed. Cir. 1989), *cert. denied*, 493 U.S. 1024 (1990); *Ryco, Inc. v. AgBag Corp.*, 857 F.2d 1418, 1428, 8 USPQ2d 1323, 1332 (Fed. Cir. 1988); *Avia Group Int'l, Inc. v. L.A. Gear Calif., Inc.*, 853 F.2d 1557, 1566, 7 USPQ2d 1548, 1555 (Fed. Cir. 1988).

³¹ Section 284 of the patent statute states (emphasis added):

Upon finding for the claimant the court shall award the claimant damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer, together with interest and costs as fixed by the court. When damages are not found by a jury, the court shall assess them. In either event the court may increase the damages up to three times the amount found or assessed.

Willful infringement is a proper basis for the grant of enhanced damages under Section 284. *Ryco, Inc. v. Ag-Bag Corp.*, 857 F.2d 1418, 1429, 8 USPQ2d 1323, 1333 (Fed. Cir. 1988).

³² "The court in exceptional cases may award reasonable attorney fees to the prevailing party." 35 U.S.C. §285. When a court finds that infringement was willful, it may properly find exceptional circumstances within the meaning of Section 285. *Kloster Speedsteel AB v. Crucible Inc.*, 793 F.2d 1565, 1580, 230 USPQ 81, 91 (Fed. Cir. 1986), *cert. denied*, 479 U.S. 1034 (1987). Consequently, courts may award attorney's fees to the patent owner when the defendant is found to have committed willful infringement.

³³ G. Sirilla, G. Edgell, & A. Hess, *The Advice of Counsel Defense to Increased Patent Damages*, 74 J. PAT. & TRADEMARK OFF. SOC'Y 705, 705 & n.2 (Oct. 1992). The Federal Circuit has created what many interpret as being a pro-patent atmosphere under which enormous damage awards often are granted.

³⁴ See, e.g., E. Andrews, *Protecting Microbes and Mathematics-A New Federal Appeals Court Is Expanding the Power of Patents*, N.Y. TIMES, May 13, 1990 ("[A] recent 1970-1989 survey by the Boston University School of Law found that the number of reported awards and monetary settlements increased sharply after the Federal Circuit

Since the inception of the Federal Circuit, courts have tended toward lost profits as a measure of damages rather than reasonable royalty calculations.³⁵ Recent decisions of the Federal Circuit seem to foster that trend. The Federal Circuit clarified, for example, that a patent owner is entitled to all the profits it would have made on *any* of its systems, including systems not covered by the patent-in-suit and accused of infringement, “but for” the infringement. It may be critical, however, that the system not covered by the patent-in-suit be covered by some other patent. The key is whether a particular injury was or should have been “reasonably foreseeable” by an infringing competitor.³⁶ This “but for” measure of damages, which can enlarge significantly the amount of a compensatory patent damage award, may include amounts for collateral sales and price erosion.

Under the theory of price erosion, the patent owner is entitled to recover additional damages if it can show to a reasonable probability that, but for the infringement, the patent owner would have been able to charge higher prices for its patented systems. In that case, the court also may award as additional damages the amount represented by the difference between the amount of profits the patent owner would have made by selling its system at the higher price and the amount of profits the patent owner actually made by selling its system at the lower price. This type of damage is referred to as price erosion damage. It is in addition to any lost profits damages.³⁷

In the case of collateral sales, the patent owner contends that the patented system ordinarily is sold along with additional collateral systems. If the court finds that the patent owner lost sales of its patented system because of the infringer’s infringement, the court may then consider whether the infringement also caused the patent owner to lose sales of its collateral systems. In addition to recovering damages for lost sales of its patented systems, the patent owner may recover lost profits for lost sales of its collateral systems, if the court finds that the patent owner reasonably would have sold its collateral systems but for the infringement. If, but for the infringement, in all reasonable probability, the patent owner would have made the additional sales of its collateral systems, the profit that the patent owner would have made from those collateral sales (or convoyed sales) may be part of the damages awarded to the patent owner. Damages for lost profits on lost collateral sales, if any, are calculated in the same manner as that for calculating lost profits.³⁸

was set up by Congress in 1982. Awards have climbed from an average of \$2 million in the early 1970s to \$18 million in each of the last three years.”).

³⁵ D. Fairbairn & G. Chapman, *Lost Profits—Demand, Capacity, Price Erosion*, 12 AM. INTELL. PROP. LAW ASS’N SELECTED LEGAL PAPERS 353 (April 1995) (good summary of lost profits calculations).

³⁶ See *Rite-Hite Corp. v. Kelley Co.*, 56 F.3d 1538, 1572, 35 USPQ2d 1065, 1097 (Fed. Cir.) (in banc), *cert. denied*, 516 U.S. 867 (1995). See also *King Instrument Corp. v. Perego*, 65 F.3d 941, 952-53, 36 USPQ2d 1129, 1141 (Fed. Cir. 1995) (patent owner that lost profits on sales of unpatented products is entitled to those lost profits even though it has not made, used, or sold the patented device).

³⁷ *Brooktree Corp. v. Advanced Micro Devices, Inc.*, 977 F.2d 1551, 1560, 24 USPQ2d 1401, 1419 (Fed. Cir. 1992); *Minnesota Min. & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1578-79, 24 USPQ2d 1321, 1336-37 (Fed. Cir. 1992); *Lam, Inc. v. JohnsManville Corp.*, 718 F.2d 1056, 1065-67, 219 USPQ 670, 672-73 (Fed. Cir. 1983); *In re Mahurkar Patent Litigation*, 831 F. Supp. 1354, 1384-85, 28 USPQ2d 1801, 1831 (N.D. 111. 1993) (entering award of \$5.3 million based in part on price erosion theory of damages); *Micro Motion, Inc. v. Exac Corp.*, 761 F. Supp. 1420, 1430, 19 USPQ2d 1001, 1010 (N.D. Cal. 1991).

³⁸ *Carborundum Co. v. Molten Metal Equip. Innovations, Inc.*, 72 F.3d 872, 876, 37 USPQ2d 1169, 1175 n.8 (Fed. Cir. 1995) (the expression “convoyed sales” should be limited to sales made simultaneously with a basic item; spare parts should be called “derivative sales”). In order to invoke the “collateral sales” doctrine, the plaintiff must

The entire market value rule (a corollary of the need to apportion lost profits) allows a patent owner to recover damages based on the value of an entire apparatus containing several features, when the feature patented constitutes the basis for customer demand.³⁹ Moreover, the unpatented components must function together with the patented component in some manner to produce a desired end system or result.⁴⁰

With the possibility that an already significant compensatory damage award may be increased, the accused infringer may face financial ruin. Because increased damages are punitive,⁴¹ the requisite conduct for imposing them must include some degree of culpability.

One should distinguish a finding of willful infringement from a finding of bad faith. An act of *willful infringement* satisfies this culpability requirement and is, without doubt, sufficient to meet the first requirement (a finding that the infringer is guilty of conduct on which increased damages may be based) to increase a compensatory damages award. (The second requirement is that the court determine, exercising sound discretion, whether and to what extent to increase the damages award given the totality of the circumstances.)⁴² Increased damages also may be awarded because of the *bad faith* of the opposing party. Bad-faith conduct includes inequitable conduct, bringing unjustified suits, attorney or client misconduct during litigation, or unnecessarily prolonging litigation. These acts by themselves, however, are not independently sufficient for an increased damages award *under Section 284* because they are not related to the underlying act of infringement and say nothing about the culpability of the infringer (nor is a finding of bad faith *required* for a finding of willful infringement). The acts may be evaluated, however, to determine if the infringer acted willfully in light of the totality of the circumstances.⁴³

In addition to the increased amount of compensatory damage awards since the inception of the Federal Circuit, courts have enhanced (often trebled) damage awards for willful infringement (35 U.S.C. §284) and awarded attorney's fees in "exceptional" cases (35 U.S.C. §285) with increasing frequency. Certainly, greater attention is now being given to enhanced damages under 35 U.S.C.

show that the patented product was actually responsible for the defendant's sales of the nonpatented products. *Deere & Co. v. International Harvester Co.*, 710 F.2d 1551, 1555, 218 USPQ 481, 487 (Fed. Cir. 1983).

³⁹ *Slimfold Mfg. Co. v. Kinkead Indus., Inc.*, 932 F.2d 1453, 1459, 18 USPQ2d 1842, 1847 (Fed. Cir. 1991).

⁴⁰ *Rite-Hite Corp. v. Kelley Co.*, 56 F.3d 1538, 35 USPQ2d 1065 (Fed. Cir.) (in banc) (good general discussion of rule and collection of cases), *cert. denied*, 516 U.S. 867 (1995).

⁴¹ *Sensonics, Inc. v. Aerosonic Corp.*, 38 USPQ2d 1551, 1558 (Fed. Cir. 1996) ("enhanced damages are punitive, not compensatory").

⁴² The usual prerequisite for awarding increased damages is a finding of willful infringement. Such a finding, however, does not necessarily mandate an award of treble damages. Rather, as the patent damage statute specifically provides, "the court may increase the damages up to three times the amount found or assessed." 35 U.S.C. §284 (emphasis added).

⁴³ Courts have other tools (beyond Section 284) to punish egregious conduct. Bad-faith actions are typical of "exceptional case" conduct on which an award of attorney's fees may be based under 35 U.S.C. §285. Other sanctions include attorney's fees pursuant to FED. R. Civ. P. 11, FED. R. App. P. 38, or 28 U.S.C. §1927. *See also* FED. R. Civ. P. 37; *Jurgens v. CBK, Ltd.*, 38 USPQ2d 1397, 1402 (Fed. Cir. 1996). As a general rule, attorney's fees under Section 285 may be justified by any valid basis for awarding increased damages under Section 284. Conduct a court may deem "exceptional" and a basis for awarding attorney's fees may not qualify, however, for an award of increased damages. Even when damages are increased under Section 284, a court may decline to award attorney's fees under Section 285. *Jurgens v. CBK, Ltd.*, 80 F.3d 1566, 1573 n.4, 38 USPQ2d 1397, 1402 n.4 (Fed. Cir. 1996).

§284 in patent infringement cases. A court may not increase damages under Section 284 unless there is willful infringement or the infringer acts in bad faith; the court cannot enhance damages as additional compensation for infringement.⁴⁴

Once a court has decided to enhance damages under 35 U.S.C. §284, the question becomes, “By how much?” A list of factors courts consider in deciding the extent of enhancement (e.g., no enhancement, double damages, triple damages, etc.) includes: (1) whether the infringer deliberately copied; (2) whether the infringer investigated and formed a good-faith belief of invalidity, unenforceability, or noninfringement; (3) the infringer’s litigation behavior; (4) the defendant’s size and financial condition; (5) the closeness of the case; (6) the duration of the defendant’s misconduct; (7) remedial action by the defendant; (8) the defendant’s motivation for harm (e.g., customers pressured the defendant to infringe); and (9) whether the defendant attempted to conceal its misconduct.⁴⁵ Courts often exercise their discretion to double, triple, or increase damages by some intermediate amount.⁴⁶

Awards of attorney’s fees under Section 285 also seem more prevalent today than 18 years ago. The trial judge has discretion “to weigh intangible as well as tangible factors: the degree of culpability of the infringer, the closeness of the question, litigation behavior, and any other factors whereby fee shifting may serve as an instrument of justice.”⁴⁷ In exercising such discretion, courts have awarded attorney’s fees based on a wide variety of conduct.⁴⁸

Given the increases in compensatory damage awards and in enhanced damage awards, it is perhaps not surprising that total damage awards in the tens of millions of dollars are common, awards in the hundreds of millions of dollars are not unusual, and at least one award has approached or exceeded a billion dollars.⁴⁹ An exemplary list of some of the awards is shown in Exhibit 13.01.

Exhibit 13.01

Damages Awards* in Jury & Nonjury Patent Cases Since 1982⁵⁰

⁴⁴ *Beatrice Foods Co. v. New England Printing & Lithographing Co.*, 923 F.2d 1576, 1579, 17 USPQ2d 1553, 1555 (Fed. Cir. 1991). Even if willfulness is found, the court need not increase the damage award. *State Indus., Inc. v. Mor-Flo Indus., Inc.*, 948 F.2d 1573, 1575, 20 USPQ2d 1738, 1740-41 (Fed. Cir. 1991).

⁴⁵ *Read Corp. v. Portec, Inc.*, 970 F.2d 816, 826, 23 USPQ2d 1426, 1435-36 (Fed. Cir. 1992) (case also includes a list of cases where courts enhanced damages to some intermediate level (e.g., doubled)).

⁴⁶ *See, e.g., National Presto Indus. v. West Bend Co.*, 76 F.3d 1185, 1193-94, 37 USPQ2d 1685, 1690-91 (Fed. Cir. 1996) (increasing damages by one-half under Section 284); *American Medical Sys., Inc. v. Medical Eng’g Corp.*, 6 F.3d 1523, 1530, 28 USPQ2d 1321, 1326 (Fed. Cir. 1993) (1.5 times enhancement), *cert. denied*, 114 S. Ct. 1647 (1994).

⁴⁷ *National Presto Indus. v. West Bend Co.*, 76 F.3d 1185, 1197, 37 USPQ2d 1685, 1693 (Fed. Cir. 1996).

⁴⁸ *Beckman Indus., Inc. v. LKB Produkter AB*, 892 F.2d 1547, 1551, 13 USPQ2d 1301, 1303 (Fed. Cir. 1989) (lists types of conduct justifying fee, types of fees awarded); *Water Technologies, Inc. v. Calco, Ltd.*, 850 F.2d 660, 674, 7 USPQ2d 1097, 1108 (Fed. Cir. 1988); *Avia Group Int’l, Inc. v. L.A. Gear Calif., Inc.*, 853 F.2d 1557, 1566, 7 USPQ2d 1548, 1556 (Fed. Cir. 1988).

⁴⁹ The Federal District Court awarded judgment in excess of \$909 million for infringement of instant photography patents in *Polaroid Corp. v. Eastman Kodak Co.*, 16 USPQ2d 1481, 1541 (D. Mass. 1990), *amended to correct clerical errors*, 17 USPQ2d 1711 (D. Mass. 1991).

⁵⁰ Citations to each of the cases listed in the table are: *Litton Sys., Inc. v. Honeywell Inc.*, 1995 WESTLAW 366468 (C.D. Cal. Jan. 6, 1995); *Polaroid Corp. v. Eastman Kodak Co.*, 16 USPQ2d 1481 (D. Mass. 1990), *amended to correct clerical errors*, 17 USPQ2d 1711 (D. Mass. 1991); *Smith Int’l, Inc. v. Hughes Tool Co.*, 229

No.	Case	Damages	Year	Jury?
1	<i>Litton v. Honeywell</i>	\$1,200,000,000	1995	Yes
2	<i>Polaroid v. Kodak</i>	\$873,158,971	1991	No
3	<i>Smith v. Hughes</i>	204,810,349	1986	No
4	<i>3M v. Johnson & Johnson</i>	107,272,696	1991	No
5	<i>Exxon v. Lubrizol</i>	128,787,339	1994	Yes
6	<i>Pfizer v. Int'l Rectifier</i>	55,805,855	1983	No
7	<i>Shiley v. Bentley</i>	44,248,137	1986	Yes
8	<i>Studiengesellschaft v. Dart</i>	43,756,784	1988	No
9	<i>B&H Mfg. v. Owens-Illinois</i>	36,485,400	1991	Yes
10	<i>Syntex v. Paragon Opt.</i>	36,105,678	1987	No
11	<i>TWM v. Dura</i>	31,288,496	1986	No
12	<i>Deere v. Int'l Harvester</i>	28,462,664	1982	No
13	<i>Eli Lilly Medtronic</i>	26,666,000	1988	Yes
14	<i>Mirco Motion v. Exac</i>	26,231,006	1991	No
15	<i>Scott Paper v. Moore</i>	25,043,184	1984	No
16	<i>Brooktree v. Adv. Micro</i>	25,000,000	1990	Yes
17	<i>Devex v. GM</i>	19,836,800	1988	No
18	<i>Howes v. Medical Compon.</i>	17,230,432	1990	Yes
19	<i>Construction Tech. v. Lockformer</i>	17,628,700	1991	Yes
20	<i>Beloit v. J.M. Voith</i>	17,200,000	1993	Yes

*Exclusive of interest and attorney's fees.

Other, nonfinancial consequences also may result when an accused infringer acts without an opinion of counsel. Specifically, a court may deny to the accused infringer an affirmative defense such as laches. This has occurred in a number of reported decisions.⁵¹

USPQ 81 (C.D. Cal. 1986); *Minnesota Min. & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 24 USPQ2d 1321 (Fed. Cir. 1992) (Special Master's award of \$53 million, doubled for willfulness, plus prejudgment interest of \$9 million is affirmed by district court and Federal Circuit); *Exxon Chem. Patents Inc., v. Lubrizol Corp.*, 64 F.3d 1553, 35 USPQ2d 1801 (Fed. Cir. 1995); *Pfizer Inc. v. Int'l Rectifier Corp.*, 218 USPQ 586 (C.D. Calif. 1983); *Shiley, Inc. v. Bentley Laboratories, Inc.*, 794 F.2d 1561, 230 USPQ 112 (Fed. Cir. 1986), *cert. denied*, 479 U.S. 1087 (1987); *Studiengesellschaft Kohle, m.b.H. v. Dart Indus., Inc.*, 862 F.2d 1564, 9 USPQ2d 1273 (Fed. Cir. 1988); *B&H Mfg., Inc. v. Owens-Illinois Glass Container Inc.*, 22 USPQ2d 1551 (N.D. Ga. 1991); *Syntex (U.S.A.) Inc. v. Paragon Optical, Inc.*, 7 USPQ2d 1001 (D. Ariz. 1987); *TWM Mfg. Co. v. Dura Corp.*, 789 F.2d 895, 229 USPQ 525 (Fed. Cir. 1986), *cert. denied*, 479 U.S. 852 (1986); *Deere & Co. v. International Harvester Co.*, 218 USPQ 481 (C.D. Ill. 1982), *affd*, 710 F.2d 1551 (Fed. Cir. 1983); *Eli Lilly & Co. v. Medtronic Inc.*, 696 F. Supp. 1033, 7 USPQ2d 1447 (E.D. Pa. 1988); *Micro Motion, Inc. v. Exac Corp.*, 761 F. Supp. 1420, 19 USPQ2d 1001 (N.D. Cal. 1991); *Scott Paper Co. v. Moore Business Forms, Inc.*, 594 F. Supp. 1051, 224 USPQ 11 (D. Del. 1984); *Brooktree Corp. v. Advanced Micro Devices, Inc.*, 977 F.2d 1555, 24 USPQ2d 1401 (Fed. Cir. 1992); *Devex Corp. v. General Motors Corp.*, 857 F.2d 197, 8 USPQ2d 1151 (3d Cir. 1988); *Howes v. Medical Components, Inc.*, 227 USPQ 246 (E.D. Pa. 1985); *Construction Technology, Inc. v. Lockformer Co.*, 20 USPQ2d 1940 (S.D.N.Y. 1991); *Beloit Corp. v. J.M. Voith, GmbH*, 626 F. Supp. 991, 228 USPQ 785 (E.D. Va. 1986).

⁵¹ See, e.g., *Bott v. Four Star Corp.*, 807 F.2d 1567, 1572, 1 USPQ2d 1210, 1216 (Fed. Cir. 1986) (failure to obtain and act on advice of counsel, together with copying the patented product or process and accelerating the rate of infringing sales even after a district court decision on liability had been affirmed (i.e., egregiously ignoring the duty to avoid infringement), foreclosed an accused infringer from equitable defense of laches); *Cover v. Hydramatic*

4. Effect of an Opinion

Some of the Federal Circuit's earlier opinions appeared to suggest that an attorney's opinion was required in practically every case to defeat a willfulness claim. For example, the Federal Circuit stated that "a reasonably prudent person. . . 'would have obtained a written opinion of counsel for the inevitable day in court.'"⁵² Although more recent Federal Circuit decisions have placed greater emphasis on the totality of the circumstances, treating the existence and nature of an attorney opinion as just one element of the whole,⁵³ a competent attorney opinion remains the best defense against a finding of willfulness once infringement is found.

Although an opinion from counsel as to invalidity, unenforceability, or noninfringement of a patent is important in avoiding a determination of willful infringement, there is no per se rule requiring an alleged infringer to obtain an opinion from counsel.⁵⁴ Conversely, there is no per se rule that an opinion letter from patent counsel will necessarily preclude a finding of willful infringement.⁵⁵ That advice is obtained at all is of primary importance, of course, but that is only the start. Beginning with *Underwater Devices, Inc.*, the Federal Circuit made it clear that it would examine such opinions for objectivity and competency. Therefore, what matters is the nature of the opinion and the effect it had on an infringer's actions.

Attorney opinions may be protected from discovery under both the attorney-client privilege and the attorney work product doctrine. Neither of these bases for protection provides absolute immunity; either or both of these protections may be waived under appropriate circumstances. This topic is addressed in detail in Section 13.06 of this chapter. Relevant to the discussion of the effect

Packing Co., 34 USPQ2d 1128, 1130 (E.D. Pa. 1994) (continuing to manufacture a product after receiving notice of its possible infringement without conducting a reasonable inquiry into the validity of the subject patent constituted egregious conduct that precluded laches as an affirmative defense).

⁵² Paper Converting Mack Co. v. Magna-Graphics Corp., 785 F.2d 1013, 1015, 228 USPQ 938, 939 (Fed. Cir. 1986).

⁵³ See, e.g., Minnesota Min. & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc., 976 F.2d 1559, 1580, 24 USPQ2d 1321, 1339 (Fed. Cir. 1992); Read Corp. v. Portec, Inc., 970 F.2d 816, 828, 23 USPQ2d 1426, 1437 (Fed. Cir. 1992); Ortho Pharmaceutical Corp. v. Smith, 959 F.2d 936, 944, 22 USPQ2d 1119, 1125 (Fed. Cir. 1992).

⁵⁴ Rolls-Royce Ltd. v. GTE Valeron Corp., 800 F.2d 1101, 1109, 231 USPQ 185, 190 (Fed. Cir. 1986); Studiengesellschaft Kohle, m.b.H. v. Dart Indus., Inc., 862 F.2d 1564, 1574, 9 USPQ2d 1273, 1282 (Fed. Cir. 1988); Nickson Indus., Inc. v. Rol. Mfg. Co., 847 F.2d 795, 800, 6 USPQ2d 1878, 1881 (Fed. Cir. 1988) (absence of an opinion of counsel does not in every case require a finding of bad faith); Delta-X Corp. v. Baker Hughes Production Tools, Inc., 984 F.2d 410, 414, 25 USPQ2d 1447, 1450 (Fed. Cir. 1993) (denial of enhanced damages was found proper when there was no evidence of intentional infringement or copying the patent-in-suit, and defendant presented evidence that it acted in good faith); Kloster Speedsteel AB v. Crucible Inc., 793 F.2d 1565, 1579, 230 USPQ 81, 91 (Fed. Cir. 1986) ("not every failure to seek an opinion of competent counsel will mandate an ultimate finding of willfulness"), *cert. denied*, 479 U.S. 1034 (1987); American Original Corp. v. Jenkins Food Corp., 774 F.2d 459, 465, 227 USPQ 299, 303 (Fed. Cir. 1985).

⁵⁵ Spindelfabrik Suessen-Schurr, Stahlecker & Grill GmbH v. Schubert & Salzer Maschinenfabrik Aktiengesellschaft, 829 F.2d 1075, 1084 n.13, 4 USPQ2d 1044, 1051 n.13 (Fed. Cir. 1987) ("[T]hat an opinion of counsel was obtained does not 'always and alone' dictate a finding that the infringement was not willful.") (citation omitted) (defendant's unsuccessful efforts to engineer its own device more than six years before it began infringement led to a finding of willfulness; the defendant's reliance on the advice of German in-house counsel was insufficient to shield the defendant), *cert. denied*, 484 U.S. 1063 (1988); Rite-Hite Corp. v. Kelly Co., 819 F.2d 1120, 1125, 2 USPQ2d 1915, 1919 (Fed. Cir. 1987); Central Soya Co. v. Geo. A. Hormel & Co., 723 F.2d 1573, 1577, 220 USPQ 490, 492 (Fed. Cir. 1983).

of an attorney's opinion, however, is the point that the Federal Circuit permits an adverse inference to be drawn from the infringer's failure to introduce an exculpatory opinion even when a privilege is claimed: "Where the infringer fails to introduce an exculpatory opinion of counsel at trial, a court must be free to infer that either no opinion was obtained or, if an opinion were obtained, it was contrary to the infringer's desire to initiate or continue its use of the patent owner's invention."⁵⁶

§13.03 Preparation of Opinions

Having answered the question "why" an opinion should be obtained, this chapter now turns to the practical questions of "when" and "how" a practitioner prepares an opinion, "who" should prepare it, and "what" that opinion should contain. Before preparing an opinion, counsel should have the answer to at least the following question: What does a client need in an infringement opinion to avoid being held liable for willful infringement where it is subsequently determined that the system or process infringes another's patent?⁵⁷

It would seem that an attorney's duties with respect to advising the client about how to avoid infringement are relatively simple: When asked for such advice, study the matter in a professional manner and advise the client accordingly. Among the difficulties with this simplistic answer are that often the client does not know when it needs advice (i.e., when the affirmative duty to avoid infringement arises) and may not fully understand the advice or the law on which the advice is based (and the client has a subsumed duty to judge the quality of the advice received and to act in accordance with that advice). In addition, cost, time, and commercial circumstances may pressure the client not to seek, or worse to disregard, that advice and the attorney to do less than a complete study, omitting, for example, a study of invalidity or noninfringement under the doctrine of

⁵⁶ *Fromson v. Western Litho Plate & Supply Co.*, 853 F.2d 1568, 1572-73, 7 USPQ2d 1606, 1611 (Fed. Cir. 1988); *American Medical Sys., Inc. v. Medical Eng'g Corp.*, 6 F.3d 1523, 1530, 28 USPQ2d 1321 (Fed. Cir. 1993), *cert. denied*, 114 S. Ct. 1647 (1994).

⁵⁷ An important related question is: What must a patent infringement opinion include to constitute competent, reasonable advice to avoid malpractice? To set forth a legal malpractice cause of action for giving a negligent opinion in Pennsylvania, for example, three elements must be established: (1) the employment of the attorney or some other basis creating a duty; (2) the failure of the attorney to exercise ordinary skill and knowledge; and (3) that such negligence was the proximate cause of damage to a plaintiff. *Composition Rovers Local 30/30B v. Katz*, 581 A.2d 607, 609 (Pa. Super. 1990). An opinion is negligent, for purposes of a malpractice case, if an attorney failed to use ordinary skill, knowledge, and care that would normally be possessed and exercised under the circumstances by members of the legal profession. *Id.* at 609-10. Counsel is not negligent if he or she makes an informed judgment that is subsequently proven erroneous. *Id.* at 610. For a patent attorney or agent, the standard of care would be that of an ordinary patent attorney skilled in the art as opposed to an ordinary practitioner. No cases were found that set forth the standard for a patent attorney when rendering an invalidity, unenforceability, or noninfringement opinion. But, in analyzing noninfringement opinions as part of its willful infringement analysis, the Federal Circuit has set forth "the steps normally considered to be *necessary and proper* in preparing [a noninfringement and invalidity] opinion." *Underwater Devices, Inc. v. Morrison-Knudsen Co.*, 717 F.2d 1380, 1390, 219 USPQ 569, 576 (Fed. Cir. 1983) (emphasis added). Those steps are discussed later. The standards articulated by the Federal Circuit most likely will be the standards applied in making a determination of whether an attorney was negligent in rendering his or her opinion. See *Jackson Jordan Inc. v. Leydig, Voit, & Mayer, No. 70410* (Ill. Sup. Ct. 1992) (A client's malpractice claim against a patent firm for negligently failing to advise the client of its potential patent infringement (in a noninfringement opinion letter that failed to consider a known reference) accrued when the client was threatened with an infringement suit for purposes of the statute of limitations period.).

equivalents. Any of these factors may lead to a finding that an infringement was willful and, consequently, enhancement of the damage award and an award of attorney's fees.

An opinion of counsel is an important factor in determining the willfulness of an infringement when the opinion is sufficiently thorough, as combined with other factors, to instill a belief in the infringer that a court might reasonably hold the patent invalid, not infringed, or unenforceable. Factors considered in determining whether the infringer's reliance upon counsel's opinion is reasonable include: (1) whether the opinion was obtained from experienced patent counsel, (2) whether the opinion was obtained from in-house counsel as opposed to independent outside counsel, (3) whether the opinion clearly discusses its reasons for supporting counsel's conclusions, (4) whether counsel's opinion was oral, (5) whether counsel's advice was unequivocal, and (6) whether the infringer exercised reasonable and good-faith adherence to the analysis and advice given in counsel's opinion. Each of these factors is considered in the following sections.

A. *When to Obtain the Opinion*

When should an opinion be prepared? The *timing* of an opinion is important. Several of the Circuit Courts of Appeal recognized the importance of the timing for securing advice of counsel even before the Federal Circuit began developing the law in 1982.⁵⁸ In view of the importance placed on exculpatory opinions by the Federal Circuit, perhaps the best advice is to obtain an opinion at the earliest possible time.⁵⁹

No duty to exercise due care arises unless a party has knowledge of the particular patent in question or of the contents of a pending patent application.⁶⁰ More specifically, no duty arises from a "patent pending" or "patent applied for" marking on a system when the infringer has no other knowledge of the contents of any such pending application.⁶¹ A potential infringer who has actual notice of another's patent rights has an affirmative duty of due care, however, that normally requires

⁵⁸ See, e.g., *Lam, Inc. v. Johns-Manville Corp.*, 668 F.2d 462, 475, 213 USPQ 1061, 1071 (10th Cir.), *cert. denied*, 456 U.S. 1007 (1982); *Dickey-John Corp. v. International Tapetronics Corp.*, 710 F.2d 329, 348, 219 USPQ 402, 418 (7th Cir. 1983); *Wilden Pump & Eng'g Co. v. Pressed & Welded Prods. Co.*, 655 F.2d 984, 989-90, 213 USPQ 282, 286-87 (9th Cir. 1981) (court noted that, before starting the infringing activity, the defendants received advice from counsel advising them that the later-asserted patent claim was either inapplicable or invalid).

⁵⁹ Advice of counsel should be obtained as quickly as possible because willfulness has been found when as little as nine days elapsed from the time of the notice of infringement to the filing of the complaint. *Power Lift, Inc. v. Lang Tools, Inc.*, 774 F.2d 478, 482, 227 USPQ 435, 438 (Fed. Cir. 1985). Although in *Power Lift* other factors supported a finding of willfulness, such as intentional copying and refusal to accept a license, the case is significant for its illustration of the need to act promptly.

⁶⁰ *State Indus., Inc. v. A.O. Smith Corp.*, 751 F.2d 1226, 1236, 224 USPQ 418, 424 (Fed. Cir. 1985) ("To willfully infringe a patent, the patent must exist and one must have knowledge of it.").

⁶¹ Although mere notice of a pending patent has been held insufficient to amount to actual notice of a patent in the context of willful infringement, *State Indus., Inc. v. A.O. Smith Corp.*, 751 F.2d 1226, 1227, 224 USPQ 418, 425 (Fed. Cir. 1985), notice of a pending patent must be a concern to the potential infringer. Notice of a pending patent may be considered by a court as a factor in the totality of the circumstances supporting willful infringement. *Gustafson, Inc. v. Intersystems Indus. Prods., Inc.*, 897 F.2d 508, 510, 13 USPQ2d 1972, 1974 (Fed. Cir. 1990). In addition, notice of a pending patent combined with notice of the issued patent only days after it issued has been found to support willfulness. *Power Lift, Inc. v. Lang Tools, Inc.*, 774 F.2d 478, 482, 227 USPQ 435, 438 (Fed. Cir. 1985). Consequently, a potential infringer may best be advised to treat notice of a pending patent as actual notice, giving rise to an affirmative duty of due care to avoid infringement.

obtaining competent legal advice before initiation or continuation of possible infringing activity.⁶² Unlike notice of infringement under 35 U.S.C. §287,⁶³ which requires notice from the patent owner to initiate liability for damages in many cases, the “actual notice” contemplated by the willfulness case law may be as little as knowledge of the patent and knowledge that it has some relevance to the infringer’s activity. Thus, the notice requirement for willful infringement is a different, lower standard than that for damages under Section 287. No direct or indirect communication from the patent owner is required (although the patent owner may notify the alleged infringer of the existence of a pertinent patent directly, for example, through a cease-and-desist letter). In fact, a party may acquire knowledge of the patent through a variety of sources other than the patent owner.

The potential infringer may acquire notice through its own inhouse monitoring of patents (typically, by reviewing the weekly *Official Gazette* published by the PTO).⁶⁴ Notice also may be provided by employee knowledge; a corporate employee may obtain a copy of a patent or be informed about the patent in a context unrelated to in-house monitoring activities (e.g., he or she picks up a copy at a seminar or trade show or learns that the patent exists from a trade article).⁶⁵ The knowledge of at least some employees may be imputed to the company. Prudence suggests, therefore, that employees be made aware that they are an important part of the patent monitoring efforts of the company, both in-house and external, and that early detection of potential patent problems is of the utmost importance.

Actual notice may be implied in an offer of a license extended by the patent owner.⁶⁶ Accordingly, any license negotiations with the patent owner must be considered actual notice of the subject patent. This should be the case regardless of whether the patent is still pending or whether a copy of the patent is actually produced. A typical situation in which an offer of a license may best be considered actual notice is when licensing negotiations fall through but the potential infringer nevertheless decides to proceed with the potentially infringing activities. Under such circumstances,

⁶² *Ryco, Inc. v. Ag-Bag Corp.*, 857 F.2d 1418, 1428, 8 USPQ2d 1323, 1332 (Fed. Cir. 1988); *Avia Group Int’l, Inc. v. L.A. Gear Calif., Inc.*, 853 F.2d 1557, 1566, 7 USPQ2d 1548, 1555 (Fed. Cir. 1988); *Underwater Devices, Inc. v. Morrison-Knudsen Co.*, 717 F.2d 1380, 1390, 219 USPQ 569, 576 (Fed. Cir. 1983).

⁶³ Section 287, which does not apply to method or process claims, *Bandag, Inc. v. Gerrard Tire Co.*, 704 F.2d 1578, 1581, 217 USPQ 977, 979 (Fed. Cir. 1983), requires either marking of products or actual notice of infringement. *Devices for Medicine, Inc. v. Boehl*, 822 F.2d 1062, 1066, 3 USPQ2d 1288, 1292 (Fed. Cir. 1987). Of course, willfulness as a basis for enhanced damages can have no effect on damages for acts occurring before the infringer receives notice under Section 287. In contrast, notice for purposes of willful infringement could be received long before notice under Section 287, rendering the infringer liable for attorney’s fees, even though not liable for damages. See generally *American Medical Sys., Inc. v. Medical Eng’g Corp.*, 6 F.3d 1523, 1530-31, 28 USPQ2d 1321, 1329 (Fed. Cir. 1993) (good discussion in general of marking requirement and limitation of damages under 35 U.S.C. §287), *cert. denied*, 114 S. Ct. 1647 (1994); J. Voelzke, *Patent Marking Under 35 U.S.C. §287(a): Products, Processes, and the Deception of the Public*, 5 FED. CIR. B.J. 317 (Fall 1995).

⁶⁴ *Shatterproof Glass Corp. v. Libbey-Owens Ford Co.*, 758 F.2d 613, 628, 225 USPQ 634, 644 (Fed. Cir. 1985) (stating that actual notice may include notice obtained by an employee through routine monitoring of patents, although in-house monitoring of patents found not to rise to the level of actual notice in this case); *Studiengesellschaft Kohle, m.b.H. v. Dart Indus., Inc.*, 862 F.2d 1564, 1576 n.4, 9 USPQ2d 1273, 1284 n.4 (Fed. Cir. 1988) (patent discovered by attorney reviewing patents in relevant field).

⁶⁵ *Bott v. Four Star Corp.*, 807 F.2d 1567, 1572, 1 USPQ2d 1210, 1213 (Fed. Cir. 1986).

⁶⁶ *Ralston Purina Co. v. Far-Mar-Co.*, 772 F.2d 1570, 1577, 227 USPQ 177, 181 (Fed. Cir. 1985); *Leinoff v. Louis Milona & Sons, Inc.*, 726 F.2d 734, 743, 220 USPQ 845, 850 (Fed. Cir. 1984).

the potential infringer must take measures to form a reasonable basis supporting a belief that the subject activities are proper.

Actual notice also may come from a third party unassociated with either the patent owner or the potential infringer.⁶⁷ A customer or supplier may advise a manufacturer of the existence of a patent. In cases such as these, the potential infringer may be considered to have actual notice of the pertinent patent and, therefore, be under an affirmative duty of due care to avoid infringement.

A party should seek an opinion immediately upon learning of a patent that could be infringed.⁶⁸ When a party knows of a potentially applicable patent before or during its own system development, testing, demonstrations, or experiments, practitioners should advise their clients to secure the advice of counsel before marketing any such system and before beginning any potentially infringing commercial activity, such as production.⁶⁹ In short, a party should seek the opinion regardless of whether commercialization has started.⁷⁰

If the patent is not discovered until after the alleged infringing activity has begun, the potential infringer must act promptly to provide a defense to a charge of willful infringement.⁷¹ The alleged infringer need not immediately cease all activities, however, and obtain an opinion of counsel before resuming its activities. As long as the alleged infringer takes prompt steps to fulfill its duty of due care, the interim activity between receiving notice of the patent and receiving an opinion of counsel should not be considered willful infringement. Continued making, using, importing, offering to sell, or selling while obtaining an opinion of counsel should not suggest that the infringer reacted in disregard of the patent.⁷²

⁶⁷ See, e.g., *American Original Corp. v. Jenkins Food Corp.*, 774 F.2d 459, 465, 227 USPQ 299, 303 (Fed. Cir. 1985) (patent discovered by inventor working with defendant); *Great Northern Corp. v. Davis Core & Pad Co.*, 782 F.2d 159, 166-67, 228 USPQ 356, 360 (Fed. Cir. 1986) (finding actual notice existed when notification came from a party associated with neither the patent owner nor the potential infringer).

⁶⁸ *Underwater Devices, Inc. v. Morrison-Knudsen Co.*, 717 F.2d 1380, 1390, 219 USPQ 569, 576 (Fed. Cir. 1983); *Power Lift, Inc. v. Lang Tools, Inc.*, 774 F.2d 478, 482, 227 USPQ 435, 438 (Fed. Cir. 1985).

⁶⁹ *Kori Corp. v. Wilco Marsh Buggies & Draglines, Inc.*, 761 F.2d 649, 656-57, 225 USPQ 985, 989 (Fed. Cir.), *cert. denied*, 474 U.S. 902 (1985). See also *Underwater Devices, Inc. v. Morrison-Knudsen Co.*, 717 F.2d 1380, 1390, 219 USPQ 569, 576 (Fed. Cir. 1983).

⁷⁰ *Pacific Furniture Mfg. Co. v. Preview Furniture Corp.*, 800 F.2d 1111, 1114, 231 USPQ 67, 69 (Fed. Cir. 1986); *American Medical Sys., Inc. v. Medical Eng'g Corp.*, 6 F.3d 1523, 1530, 28 USPQ2d 1321, 1326 (Fed. Cir. 1993) (opinion of second counsel, though credible, came too late to be reasonably relied upon because it was not rendered until after the party had been infringing for 20 months), *cert. denied*, 114 S. Ct. 1647 (1994).

⁷¹ *American Original Corp. v. Jenkins Food Corp.*, 774 F.2d 459, 465, 227 USPQ 299, 303 (Fed. Cir. 1985); *State Indus., Inc. v. A.O. Smith Corp.*, 751 F.2d 1226, 1236-37, 224 USPQ 418, 424-25 (Fed. Cir. 1985); *Shirley, Inc. v. Bentley Laboratories, Inc.*, 601 F. Supp. 964, 968, 225 USPQ 1013, 1016 (C.D. Cal. 1985), *aff'd*, 794 F.2d 1561, 230 USPQ 112 (Fed. Cir. 1986), *cert. denied*, 479 U.S. 1087 (1987). See also *H.B. Fuller Co. v. National Starch & Chem. Corp.*, 689 F. Supp. 923, 952, 7 USPQ2d 1753, 1775-76 (D. Minn. 1988) (finding willful infringement, even though defendant obtained thorough opinion of counsel, when defendant made decision to continue infringement *before* obtaining opinion); *Phillip Morris Inc. v. Brown & Williamson Tobacco Corp.*, 641 F. Supp. 1438, 1486-87, 231 USPQ 321, 358-59 (M.D. Ga. 1986) (finding willful infringement when opinions were rendered *after* defendant had started infringing activity).

⁷² *Gustafson, Inc. v. Intersystems Indus. Prods., Inc.*, 897 F.2d 508, 511, 13 USPQ2d 1972, 1974-75 (Fed. Cir. 1990) (“Nor is there a universal rule that to avoid willfulness one must cease manufacture of a product immediately upon learning of a patent, or upon receipt of a patent owner’s charge of infringement, or upon the filing

The point is to act promptly upon receiving notice of a patent that might be infringed. It is not wise to wait until litigation can be anticipated.⁷³ Finally, opinions of counsel after the patent owner files suit, no matter how promptly secured, are likely to violate the duty of care if the infringer was aware of the patent before the suit was filed and failed to secure advice of counsel until after it was sued.⁷⁴

B. Who Should Provide the Opinion?

The *competency* of an opinion is important. “The competency requirement applies to both the qualifications of the person giving the opinion and to the content of the opinion itself.”⁷⁵ The person who provides an opinion analyzing one or more of noninfringement, invalidity, or unenforceability could potentially be anyone along the continuum, from a layperson to an attorney to a patent attorney to a patent attorney experienced in U.S. patent litigation. Another frequently asked question is whether the opinion should be provided by an in-house or an outside patent attorney. Simply answered, the opinion should be provided by the person whose opinion will be most credible to the factfinder.

The Federal Circuit occasionally has addressed willful infringement charges for which a layperson’s opinion on noninfringement, invalidity, or unenforceability was offered in defense. Such opinions were provided, for example, by corporate executives, engineers, and product dealers. A review of those cases indicates that a layperson’s opinion is of dubious value and usually is given little weight⁷⁶; therefore, prudent advice is that a client should rely on advice of counsel unless special circumstances exist.

of suit. Exercising due care, . . . a party may continue to manufacture and may present what in good faith it believes to be a legitimate defense without risk of being found on that basis alone a willful infringer.”).

⁷³ *Therma-Tru Corp. v. Peachtree Doors, Inc.*, 44 F.3d 988, 997, 33 USPQ2d 1274, 1280-81 (Fed. Cir. 1995) (willfulness found in face of opinion of counsel because opinion was written “in anticipation of litigation”). In *Underwater Devices, Inc.*, the defendant’s in-house attorney had actual notice of the patents in question before beginning infringing activities. The defendant had ordered a patent search, but did not review the prosecution history or perform an invalidity or noninfringement analysis until months after infringement began, and the defendant did not receive an opinion of patent counsel until after the patent owner filed its lawsuit. The patent owner was awarded trebled damages for willful infringement. *Underwater Devices, Inc. v. Morrison-Knudsen Co.*, 717 F.2d 1380, 1389-90, 219 USPQ 569, 576-77 (Fed. Cir. 1983).

⁷⁴ *Del Mar Avionics, Inc. v. Quinton Instrument Co.*, 836 F.2d 1320, 1328, 5 USPQ2d 1255, 1261-62 (Fed. Cir. 1987); *Kori Corp. v. Wilco Marsh Buggies & Draglines, Inc.*, 761 F.2d 649, 656, 225 USPQ 985, 989 (Fed. Cir. 1985) (opinion of counsel received after start of litigation inadequate), *cert. denied*, 474 U.S. 902 (1985); *Leinoff v. Louis Milona & Sons, Inc.*, 726 F.2d 734, 743, 220 USPQ 845, 851 (Fed. Cir. 1984); *Underwater Devices Inc. v. Morrison-Knudsen Co.*, 717 F.2d 1380, 1389-90, 219 USPQ 569, 576-88 (Fed. Cir. 1983).

⁷⁵ *Jurgens v. CBK, Ltd.*, 80 F.3d 1566, 1572, 38 USPQ2d 1397, 1402 (Fed. Cir. 1996).

⁷⁶ *See, e.g., Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1580, 1 USPQ2d 1081, 1091-92 (Fed. Cir. 1986) (holding reliance upon product dealer’s report that district court had held patent-in-suit invalid insufficient to meet duty of due care); *Kloster Speedsteel AB v. Crucible Inc.*, 793 F.2d 1565, 1580, 230 USPQ 81, 91 (Fed. Cir. 1986) (holding internal memorandum from nonlawyer that merely charted strategy to contest patent validity, get defendant’s product into the market, and evaluate costs of litigation insufficient to meet duty of due care), *cert. denied*, 479 U.S. 1034 (1987); *CPG Prods. Corp. v. Pegasus Luggage, Inc.*, 776 F.2d 1007, 1014-15, 227 USPQ 497, 302 (Fed. Cir. 1985) (holding corporate president’s advice that there was no infringement insufficient to meet duty of due care); *Rolls-Royce Ltd. v. GTE Valeron Corp.*, 800 F.2d 1101, 1110, 231 USPQ 185, 191 (Fed. Cir. 1986) (“Infringers should not escape a finding of willfulness merely by denying themselves counsel’s advice

Because it must address issues of patent law, the opinion should be given by someone experienced in that field of law. An opinion rendered by a nonpatent attorney raises the question of whether the infringer sought legal advice in good faith.⁷⁷ Accordingly, a client is best advised not to rely on the opinion of any attorney who does not specialize in patents but should, whenever possible, select a patent attorney to provide the opinion.⁷⁸ Also, the patent attorney's experience should be appropriate to the legal issues. The competency of an attorney experienced only in patent application matters may be questioned, for example, when the opinion raises questions of noninfringement. The patent attorney must be knowledgeable in U.S. patent law; the courts have criticized opinions obtained from foreign patent attorneys.⁷⁹ Preferably, the patent attorney also should have some experience in patent litigation.⁸⁰

The attorney can be a corporate patent attorney. In fact, the Federal Circuit has expressly rejected the view that use of in-house counsel to provide an opinion is inherently wrong and has found acceptable an opinion from in-house patent counsel to avoid a charge of willful infringement.⁸¹ The key concern in the choice of a patent attorney is whether he or she can exercise the required level of independence from the client. The problem with an in-house patent counsel's opinion is the belief, held by some, that a corporate patent attorney is more likely to render a nonobjective, biased opinion than an outside lawyer. This could occur because of pressure, coercion from the corporation, or personal interests at stake.⁸² Of course, those factors may apply to the opinion of any attorney, and an opinion by in-house patent counsel is not necessarily of dubious credibility.⁸³

while relying on opinions of lay-employees.”); *Rosemount, Inc. v. Beckman Instruments, Inc.*, 727 F.2d 1540, 1548, 221 USPQ 1, 8 (Fed. Cir. 1984). Nevertheless, the opinions of nonlawyers have been relied on as a basis for a finding of nonwillfulness. See *Nickson Indus., Inc. v. Rol. Mfg. Co.*, 847 F.2d 795, 800, 6 USPQ2d 1878, 1881 (Fed. Cir. 1988); *Rolls-Royce Ltd. v. GTE Valeron Corp.*, 800 F.2d 1101, 1109-10, 231 USPQ 185, 191 (Fed. Cir. 1986).

⁷⁷ *Acoustical Design, Inc. v. Control Elecs. Co.*, 932 F.2d 939, 942, 18 USPQ2d 1707, 1710 (Fed. Cir.) (affirming finding of willful infringement when infringer relied only on advice of nonpatent counsel), cert. denied, 502 U.S. 863 (1991); *Underwater Devices, Inc. v. Morrison-Knudsen Co.*, 717 F.2d 1380, 1390, 219 USPQ 569, 576 (Fed. Cir. 1983) (affirming finding of willful infringement when infringer relied upon in-house counsel who was not a patent attorney).

⁷⁸ *Underwater Devices Inc. v. Morrison-Knudsen Co.*, 717 F.2d 1380, 1390, 219 USPQ 569, 576 (Fed. Cir. 1983).

⁷⁹ See, e.g., *Spindelfabrik Suessen-Schurr, Stahlecker & Grill GmbH v. Schubert & Salzer Maschinenfabrik Aktiengesellschaft*, 829 F.2d 1075, 1084, 4 USPQ2d 1044, 1051 (Fed. Cir. 1987) (criticizing use of German patent counsel), cert. denied, 484 U.S. 1063 (1988); *Ethyl Molded Prods. Co. v. Betts Package, Inc.*, 9 USPQ2d 1001, 1021-22 (E.D. Ky. 1988) (finding English patent agent not qualified to give competent opinion); *McDermott v. Omid Int'l*, 723 F. Supp. 1228, 1233, 13 USPQ2d 1147, 1150 (S.D. Ohio 1988) (criticizing use of German patent counsel), *aff'd*, 883 F.2d 1026 (Fed. Cir. 1989).

⁸⁰ *S.C. Johnson & Son, Inc. v. Carter-Wallace, Inc.*, 614 F. Supp. 1278, 1309, 225 USPQ 1022, 1042 (S.D.N.Y. 1985) (finding advice from in-house counsel inadequate when “[h]ouse counsel did not have actual court experience in patent litigation . . . the arena where patent infringement questions are determined”), *vacated on other grounds*, 781 F.2d 198, 228 USPQ 367 (Fed. Cir. 1986).

⁸¹ *Studiengesellschaft Kohle, m.b.H. v. Dart Indus., Inc.*, 862 F.2d 1564, 1574, 9 USPQ2d 1273, 1282 (Fed. Cir. 1988).

⁸² *Studiengesellschaft Kohle, m.b.H. v. Dart Indus., Inc.*, 862 F.2d 1564, 1576 n.4, 9 USPQ2d 1273, 1284 n.4 (Fed. Cir. 1988); *Minnesota Min. & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 24 USPQ2d 1321 (Fed. Cir. 1992); *Underwater Devices, Inc. v. Morrison-Knudsen Co.*, 717 F.2d 1380, 1390, 219 USPQ 569,

Nevertheless, the use of in-house counsel is a factor that has been weighed in the determination of good faith.⁸⁴ Given a choice, therefore, an opinion from independent outside counsel is preferable because it generally avoids even the appearance of bias.⁸⁵ Finally, in certain circumstances, the accused infringer may have a duty to obtain an opinion from an outside attorney.⁸⁶

Regardless of who is selected to provide an opinion, that person must be allowed independence in preparing the opinion and reaching a conclusion.⁸⁷ Factors demonstrating independence of a patent attorney include whether (1) the attorney monitors patents in the relevant field; (2) upon discovering the patent, the attorney proceeded to study it; (3) there is evidence of independence, such as the attorney previously recommending that the company license other patents; (4) there is evidence that the attorney was under pressure to recommend for or against licensing any patent; and (5) the attorney relied on significant scientifically based objective factors in justifying the conclusions reached.⁸⁸ In summary, counsel selected to provide an opinion should preferably be an independent outside patent attorney experienced in U.S. patent litigation.

C. How Should an Opinion Be Prepared?

Studying the possible noninfringement, invalidity, and unenforceability of a patent is a complex multistep process. Of course, because applying the principles of patent law is not an exact science, different reasonable conclusions may be reached by different people following the same process. But following the process is just as important, if not more important, than the actual correctness of the conclusion. In fact, if steps in the process are bypassed or eliminated, not only may counsel reach an incorrect or unsupported determination of noninfringement, invalidity, or unenforceability, but the client may be unable to rely upon that determination when attempting to avoid a finding of willful infringement. The different steps in rendering an opinion lead the practitioner through a process that, when complete, provides a well-reasoned opinion supported by fact. A client is unequivocally entitled to rely on such an opinion. The steps in the process are described in the following sections.

576 (Fed. Cir. 1983) (affirming finding of willful infringement when infringer relied upon in-house counsel who was not a patent attorney).

⁸³ *Studiengesellschaft Kohle, m.b.H. v. Dart Indus., Inc.*, 862 F.2d 1564, 1573-76, 9 USPQ2d 1273, 1282-84 (Fed. Cir. 1988) (opinion of inside counsel may be relied upon).

⁸⁴ *Studiengesellschaft Kohle, m.b.H. v. Dart Indus., Inc.*, 862 F.2d 1564, 1574-75, 9 USPQ2d 1273, 1282-83 (Fed. Cir. 1988); *Underwater Devices, Inc. v. Morrison-Knudsen Co.*, 717 F.2d 1380, 1390, 219 USPQ 569, 576 (Fed. Cir. 1983).

⁸⁵ See generally Ronald B. Cooley, *Attorney's Opinions: Their Content and Can Corporate Counsel Write Them?*, 73 J. PAT. & TRADEMARK OFF. SOC'Y 261 (April 1991).

⁸⁶ See, e.g., *Minnesota Min. & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1582, 24 USPQ2d 1321, 1340 (Fed. Cir. 1992) (the in-house patent counsel was involved in attempting to patent stolen technology and the accused infringer wrongfully acquired and misappropriated the patent owner's inventions).

⁸⁷ *Underwater Devices, Inc. v. Morrison-Knudsen Co.*, 717 F.2d 1380, 1390, 219 USPQ 569, 576-77 (Fed. Cir. 1983).

⁸⁸ *S.C. Johnson & Son, Inc. v. Carter-Wallace, Inc.*, 614 F. Supp. 1278, 1309, 225 USPQ 1022, 1042-43 (S.D.N.Y. 1985), *vacated*, 781 F.2d 198, 228 USPQ 367 (Fed. Cir. 1986).

I. Investigation

The decisions before 1982 provide little or no meaningful insight into the question of the adequacy of counsel's investigation required to successfully invoke the advice-of-counsel defense to a charge of willful infringement.⁸⁹ Nor is the investigation required before giving an opinion discussed either often or in any detail in speeches or articles on the subject.⁹⁰ Nevertheless, the investigation is probably the most important element of the opinion; it should be sufficiently thorough so that an opinion can be rendered as to each of the patent claims.

Perhaps the first point to be made is that an investigation should be started immediately after receiving notice of a patent that raises infringement concerns.⁹¹ As a corollary matter, the potential infringer who receives notice of infringement or an offer of a license from the patent owner should respond, concurrently with the start of an investigation, in writing. A failure to respond might be viewed as disregarding the notice and, therefore, as one factor supporting a finding of willfulness. The written response to the patent owner and the investigation both should be conducted either through or with the assistance of counsel.⁹² The response should assure the patent owner that the potential infringer has no intention of infringing valid and enforceable patent rights and that it will investigate the allegation.

a. Facts. As with almost any legal investigation, the best place for counsel to begin is with his or her own client. Counsel should thoroughly and completely discuss the pertinent facts with the potential infringer in detail.⁹³ Although willfulness is generally based on conduct that occurred after a patent issued, the investigation should consider earlier events when such events are pertinent. Prepatent conduct can be used to support a finding of willfulness-especially if it is egregious.⁹⁴ Both

⁸⁹ G. Sirilla, G. Edgell, & A. Hess, *The Advice of Counsel Defense to Increased Patent Damages*, 74 J. PAT. & TRADEMARK OFF. Soc'y 705, 798 (Oct. 1992). At least one early decision noted, however, that a circumstance bearing on the good-faith issue is whether the defendant informed counsel "of important and material facts" known to the defendant. *Brian Jackson Assocs., Inc. v. San Manuel Copper Corp.*, 305 F. Supp. 66, 72, 163 USPQ 198,202 (D. Ariz. 1969).

⁹⁰ The Federal Circuit has indicated, however, that it will closely examine the adequacy of counsel's investigation on which an opinion is based. *S.C. Johnson & Son, Inc. v. CarterWallace, Inc.*, 614 F. Supp. at 1309 ("The Court must examine (i) the substance of the opinions rendered; and (ii) the adequacy of counsel's investigation.") (citing *Central Soya Co. v. Geo. A. Hormel & Co.*, 723 F.2d 1573,1576-77,220 USPQ 490,492 (Fed. Cir. 1983)); see also *Underwater Devices, Inc. v. Morrison-Knudsen Co.*, 717 F.2d 1380, 1390, 219 USPQ 569, 576 (Fed. Cir. 1983); *Ortho Pharmaceutical Corp. v. Smith*, 959 F.2d 936, 944, 22 USPQ2d 1119, 1125 (Fed. Cir. 1992).

⁹¹ See Section 13.03.A above.

⁹² An accused infringer who responds to a charge of infringement without the assistance of counsel may worsen the situation. An example of an inadvisable response is, "Before I would pay you a nickel, I'll see you in the courthouse." That statement cost the infringer attorney's fees in *Power Lift, Inc. v. Lang Tools, Inc.*, 774 F.2d 478, 481, 227 USPQ 435, 438 (Fed. Cir. 1985). Similarly, an infringer's decision to reject a patent owner's offer of a license without consulting patent counsel led to a finding of willful infringement in *Ralston Purina Co. v. FarMar-Co.*, 772 F.2d 1570, 1577, 227 USPQ 177, 181-82 (Fed. Cir. 1985).

⁹³ See *Read Corp. v. Portec, Inc.*, 970 F.2d 816, 833, 23 USPQ2d 1426, 1437 (Fed. Cir. 1992) ("That an opinion is 'incompetent' must be shown by objective evidence. For example, an attorney may not have looked into the necessary facts and, thus, there would be no foundation for his opinion.").

⁹⁴ The Federal Circuit has affirmed a finding of willful infringement when the accused infringer wrongfully acquired and misappropriated an invention before the patent issued. *Minnesota Min. & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1582, 24 USPQ2d 1321, 1340 (Fed. Cir. 1992).

the client and counsel must approach the discussion with candor, with full disclosure, and with a critical eye toward the information conveyed.

A party that withholds material information from counsel in seeking an opinion as to potential infringement may be committing an act of bad faith.⁹⁵ The party may be barred, therefore, from subsequently claiming good-faith reliance upon that opinion as a defense to a charge of willful infringement.⁹⁶ An opinion of counsel based on anything other than the facts as the potential infringer knows them will be worthless. The potential infringer should be as candid with its counsel as possible, particularly regarding potentially harmful facts, such as copying of the patent owner's system.

In turn, counsel must base the opinion on objective facts. The rationale behind that suggestion is objectivity is tantamount to reliability. An attorney cannot rely upon information that is inherently suspect.⁹⁷ Similarly, an accused infringer cannot rely upon an opinion it knows to be wrong or to be founded on false information.⁹⁸ Both the client and counsel have a duty to assure that the information on which counsel will rely in formulating an opinion is correct.

b. Searching. With respect to noninfringement, the investigation should include a review of the specification and prosecution history of the patent and the art cited during prosecution.⁹⁹ With respect to unenforceability of a patent on the ground that the patent owner committed inequitable conduct during prosecution of the patent application, that issue is purely equitable.¹⁰⁰ There are

⁹⁵ A client must not withhold material information from counsel. *Scott Paper Co. v. Moore Business Forms, Inc.*, 594 F. Supp. 1051, 1084, 224 USPQ 11, 37 (D. Del. 1984) (the court found the infringement to be willful because “there is nothing in the record to even suggest that the outside firms were supplied with all relevant facts”); *accord United States Surgical Corp. v. Hospital Prods. Int’l Pty. Ltd.*, 701 F. Supp. 314, 351, 9 USPQ2d 1241, 1263 (D. Conn. 1988).

⁹⁶ *Amsted Indus., Inc. v. National Castings, Inc.*, 16 USPQ2d 1737, 1742 (N.D. Ill. 1990).

⁹⁷ *Minnesota Min. & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1581, 24 USPQ2d 1321, 1339 (Fed. Cir. 1992) (opinion founded on information from a person with a stake in the outcome of the infringement determination found nonobjective and, therefore, incompetent).

⁹⁸ *Minnesota Min. & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1581, 24 USPQ2d 1321, 1339 (Fed. Cir. 1992); *Kloster Speedsteel AB v. Crucible Inc.*, 793 F.2d 1565, 1580 n.11, 230 USPQ 81, 91 n.11 (Fed. Cir. 1986) (“An alleged infringer who intentionally blinds himself to the facts and law . . . can hardly be surprised when his infringement is found to have been willful.”), *cert. denied*, 479 U.S. 1034 (1987).

⁹⁹ *Datascope Corp. v. SMEC, Inc.*, 879 F.2d 820, 828, 11 USPQ2d 1321, 1327 (Fed. Cir. 1989), *cert. denied*, 493 U.S. 1024 (1990); *Studiengesellschaft Kohle, m.b.H. v. Dart Indus., Inc.*, 862 F.2d 1564, 1578, 9 USPQ2d 1273, 1286 (Fed. Cir. 1988) (holding counsel’s opinion on infringement adequate when it referred to file history examination, scientific study, and related patent); *Central Soya Co. v. Geo. A. Hormel & Co.*, 723 F.2d 1573, 1577, 220 USPQ 490, 492 (Fed. Cir. 1983); *Underwater Devices, Inc. v. Morrison-Knudsen Co.*, 717 F.2d 1380, 1390, 219 USPQ 569, 576 (Fed. Cir. 1983). *See also Uniroyal Inc. v. Rudkin-Wiley Corp.*, 939 F.2d 1540, 1546-47, 19 USPQ2d 1432, 1438 (Fed. Cir. 1991) (holding counsel’s opinion adequate when he “reviewed the patent, its file history, and the pertinent prior art, as well as tests, experiments, and studies performed in connection with this proceeding”); *State Indus. Inc. v. Mor-Flo Indus. Inc.*, 17 USPQ2d 1706, 1708 (E.D. Tenn. 1990) (finding counsel’s opinion on infringement competent when his investigation included the patent, its prosecution history, prior art cited therein, defendant’s description of process, conversations with defendant’s engineers, and view of accused process).

¹⁰⁰ Because the defense of inequitable conduct is purely equitable, the issue is committed to the sound discretion of the trial court and is reviewed by the Federal Circuit under an abuse of discretion standard. *Kingsdown Medical Consultants Ltd. v. Hollister Inc.*, 863 F.2d 867, 876, 9 USPQ2d 1384, 1392 (Fed. Cir. 1988) (in banc), *cert. denied*, 490 U.S. 1067 (1989).

myriad factual scenarios that might give rise to such a defense¹⁰¹; counsel should be certain to obtain all of the records in the PTO relevant to the issue.

The Federal Circuit has not yet ruled on whether a validity search of prior art *must* be conducted as part of the advice-of-counsel defense in every case to avoid a finding of willful infringement.¹⁰² When an invalidity determination under 35 U.S.C. §102 (anticipation) or Section 103 (obviousness) will be made, however, a review is necessary of the specification and prosecution history of the patent and the art cited during prosecution.¹⁰³ In addition, there should preferably be a diligent search and analysis of prior art not cited by the Examiner at the PTO during prosecution of the patent.¹⁰⁴ An opinion of invalidity founded solely on prior art considered by the Examiner is weak evidence of good faith.¹⁰⁵ Thus, it is preferable to have an opinion based on prior art other than that cited during the prosecution of the patent-in-suit.

c. Determining the Status of the Patent. An important first step in an investigation relating to a patent is to determine the status of the patent. This can be accomplished by “shepardizing” the patent. The process of shepardizing the patent provides valuable information relating to the scope and status of the claims of the patent. For example, answers may be obtained to questions such as the following: Was the patent previously litigated, reexamined, or reissued? Did the owner fail to pay maintenance fees? Do opinions exist from foreign counsel on foreign counterpart patents? Do continuing applications (continuation, continuation-in-part, or divisional applications) or patents based on such applications exist? With knowledge about the patent’s current status as background, the opinion preparation can begin from a proper foundation.¹⁰⁶

¹⁰¹ *Molins PLC v. Textron, Inc.*, 48 F.3d 1172, 1178, 33 USPQ2d 1823, 1826-27 (Fed. Cir. 1995) (nondisclosure of information); *Northern Telecom Inc. v. Datapoint Corp.*, 908 F.2d 931, 939-40, 15 USPQ 1321, 1327 (Fed. Cir. 1990) (inequitable conduct involving 37 C.F.R. §1.312 amendment); *Paragon Podiatry Lab., Inc. v. KIM Lab., Inc.*, 984 F.2d 1182, 1188, 25 USPQ2d 1561, 1566 (Fed. Cir. 1993) (failure to disclose precritical date sales); *B.F. Goodrich Co. v. Aircraft Braking Sys. Corp.*, 72 F.3d 1577, 1584, 37 USPQ2d 1314, 1320 (Fed. Cir. 1996) (submission of deceptive declarations under 37 C.F.R. §1.132); *Sheller-Globe Corp. v. Milsco Mfg. Co.*, 206 USPQ 42, 68 (E.D. Wis. 1979), *aff’d in part & rev’d in part*, 208 USPQ 553 (7th Cir. 1980) (failure to disclose previously filed, related foreign applications); *United States Gypsum Co. v. National Gypsum Co.*, 74 F.3d 1209, 1216 n.8, 37 USPQ2d 1388, 1393 n.8 (Fed. Cir. 1996) (intentional concealment of a best mode coupled with disclosure of a false mode of practicing the invention); *Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 1675, 37 USPQ2d 1626, 1631 (Fed. Cir. 1996) (alleged omitted co-inventor).

¹⁰² G. Sirilla, G. Edgell, & A. Hess, *The Advice of Counsel Defense to Increased Patent Damages*, 74 J. PAT. & TRADEMARK OFF. SOC’Y 705, 721 n.88 (Oct. 1992).

¹⁰³ The Federal Circuit characterized ordering the prosecution histories as “a normal and necessary preliminary to a validity opinion.” *Underwater Devices, Inc. v. Morrison-Knudsen Co.*, 717 F.2d 1380, 1390, 219 USPQ 569, 576-77 (Fed. Cir. 1983). *See also* *Berger & Gorin, Inc. v. Gary Plastic Packaging Corp.*, 691 F. Supp. 740, 753, 8 USPQ2d 1480, 1490 (S.D.N.Y. 1988) (holding counsel’s invalidity opinion conclusory when the prosecution history was not considered and there was no search of prior art).

¹⁰⁴ *Kloster Speedsteel AB v. Crucible Inc.*, 793 F.2d 1565, 1580 n.11, 230 USPQ 81, 91 n.11 (Fed. Cir. 1986), *cert. denied*, 479 U.S. 1034 (1987). *See* Chapter 3 for a detailed discussion of software patent searching.

¹⁰⁵ *Central Soya Co. v. Geo. A. Hormel & Co.*, 723 F.2d 1573, 1576-77, 220 USPQ 490, 492-93 (Fed. Cir. 1983).

¹⁰⁶ Of course, an initial investigation into the status of a patent does not alone satisfy the accused infringer’s duty of care. The defendant’s reliance on the initial rejection of the patent owner’s claims during reexamination, without conducting a study of validity or infringement, justified treble damages and attorney’s fees in *Acoustical*

d. Possible License Defense. To avoid a finding of willfulness, an alleged infringer must take steps that provide the basis for reasonably believing that the acts of alleged infringement are proper. “A license is fundamentally an agreement by the patent owner not to sue the licensee.”¹⁰⁷ Accordingly, exemplary steps would include forming a good-faith belief that a license agreement applies to the allegedly infringing act.¹⁰⁸ As part of the investigation, therefore, counsel should ascertain whether the client might have an applicable license agreement.

Having gathered the appropriate information, the practitioner can turn to the noninfringement, invalidity, or unenforceability analysis. The substantive analytical bases for an opinion are discussed in detail below.¹⁰⁹

2. Form (Written or Oral)

Should the opinion be rendered orally or written? The Federal Circuit has indicated a strong preference for written rather than oral opinions of counsel as a defense to willful infringement.¹¹⁰ Oral opinions carry less weight than written opinions because “they have to be proved perhaps years after the event, based only on testimony which may be affected by faded memories and the forces of contemporaneous litigation.”¹¹¹ This rationale finds support in the facts of a recent case. In-house counsel was totally unable to recall any of the rationale on which he had based his orally delivered invalidity opinion. Accordingly, at trial, his opinion was not found credible—a finding that undercut the defendant’s assertion of good faith.¹¹² For obvious reasons, therefore, written opinions serve as better evidence than recollections of oral opinions.

At least two other reasons, besides proof and evidentiary problems, suggest that a party obtain a written opinion. First, an accused infringer who intends to rely on oral advice of counsel as a defense to willful infringement may not be able to use the work product privilege to protect against the disclosure of attorney work product related to that advice.¹¹³ Second, a written opinion adds to

Design, Inc. v. Control Electronics Co., 932 F.2d 939, 942, 18 USPQ2d 1707, 1709 (Fed. Cir.), *cert. denied*, 502 U.S. 863 (1991).

¹⁰⁷ *Fromson v. Western Litho Plate & Supp. Co.*, 853 F.2d 1568, 1676, 7 USPQ2d 1606, 1613 (Fed. Cir. 1988); *Ortho Pharmaceutical Corp. v. Genetics Institute, Inc.*, 52 F.3d 1026, 1031, 34 USPQ2d 1444, 1447 (Fed. Cir. 1995).

¹⁰⁸ *Spindelfabrik Suessen-Schurr, Stahlecker & Grill GmbH v. Schubert & Salzer Maschinenfabrik Aktiengesellschaft*, 829 F.2d 1075, 1080, 4 USPQ2d 1044, 1048 (Fed. Cir. 1987), *cert. denied*, 484 U.S. 1063 (1988).

¹⁰⁹ See Section 13.04 below.

¹¹⁰ See, e.g., *Bott v. Four Star Corp.*, 807 F.2d 1567, 1572, 1 USPQ2d 1210, 1213 (Fed. Cir. 1986); *Shiley, Inc. v. Bentley Laboratories, Inc.*, 601 F. Supp. 964, 964-68, 225 USPQ 1013, 1016 (C.D. Ca. 1985), *aff’d*, 794 F.2d 1561, 230 USPQ 112 (Fed. Cir. 1986) (willful infringement found even though the infringer had obtained an oral opinion of no liability from patent counsel), *cert. denied*, 479 U.S. 1087 (1987).

¹¹¹ *Minnesota Min. & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1580, 24 USPQ2d 1321, 1339 (Fed. Cir. 1992) (citing *Shiley, Inc. v. Bentley Laboratories, Inc.*, 601 F. Supp. 964, 968, 225 USPQ 1013, 1016 (C.D. Cal. 1985), *aff’d*, 794 F.2d 1561, 230 USPQ 112 (Fed. Cir. 1986), *cert. denied*, 479 U.S. 1087 (1987)); *American Medical Sys., Inc. v. Medical Eng’g Corp.*, 6 F.3d 1523, 1531, 28 USPQ2d 1321, 1326 (Fed. Cir. 1993) (opinion of first counsel was oral and lacked credibility), *cert. denied*, 114 S. Ct. 1647 (1994).

¹¹² *American Medical Sys., Inc. v. Medical Eng’g Corp.*, 6 F.3d 1523, 1531, 28 USPQ2d 1321, 1326 (Fed. Cir. 1993), *cert. denied*, 114 S. Ct. 1647 (1994).

¹¹³ *Frazier Indus. Co. v. Advance Storage Prods.*, 33 USPQ2d 1702, 1702-03 (C.D. Calif. 1994).

the aura of competency surrounding the opinion. For these reasons, too, the opinion should be written.

Although written opinions are preferable to oral opinions, oral opinions are not suspect per se and should not be disregarded. Oral opinions alone may be acceptable in some limited circumstances.¹¹⁴ Oral opinions also may bolster written opinions, particularly when the written opinion confirms and expands upon the advice given in the oral opinion.¹¹⁵ If an opinion is rendered orally, it should be documented with a confirmatory letter or memorandum. Again, however, there is no per se rule regarding the form of the opinion. A mere oral opinion may be adequate when considered with other factors in the totality of the circumstances. However the practitioner elects to deliver the opinion, the contents of the opinion, as described below, are the same.

D. What Should the Opinion Contain?

Having properly secured competent patent counsel to provide an opinion, a party must take care to assure that the opinion itself is competent. Otherwise, it would be unreasonable to rely on the opinion. Competency of an attorney's opinion for purposes of a willfulness analysis is determined by considering in combination several factors deemed to constitute objective evidence.¹¹⁶ The Federal Circuit has termed such evidence "internal indicia of credibility"¹¹⁷: a competent opinion must be thorough, authoritative, not just conclusory, and objective.

1. Overall Tone

Of course, as for most issues reviewed under a "totality of the circumstances" standard, the principal characteristic desired in an opinion provided to avoid a finding of willful infringement is that it be as thorough an opinion as is practical. Specifically, counsel's opinion must be thorough enough, when combined with other facts, to instill a belief in the infringer that a court might reasonably hold that the patent is invalid, not infringed, or unenforceable. The Federal Circuit will

¹¹⁴ See, e.g., *Radio Steel & Mfg. Co. v. MTD Prods., Inc.*, 788 F.2d 1554, 1558, 229 USPQ 431, 434 (Fed. Cir. 1986), where counsel rendered an oral opinion stating that the infringer's product infringed the patent but that the patent was invalid. At the meeting in which counsel rendered the oral opinion, counsel examined the patent, the infringer's product, and drawings of the infringer's product. *Id.* "Counsel concluded that the accused wheelbarrow literally infringed the patent but that the patent was invalid." *Id.* The oral opinion suggested design modifications to avoid infringement and MTD then "took affirmative steps to avoid infringement." *Id.* Based on this opinion, the infringer was not held liable for willful infringement because the totality of the circumstances supported the infringer's good-faith belief that it was not infringing the patent. *Id.* at 1559, 229 USPQ at 435.

¹¹⁵ See *Kalman v. Berlyn Corp.*, 914 F.2d 1473, 1483, 16 USPQ2d 1093, 1101 (Fed. Cir. 1990); see also *Windsurfing Int'l, Inc. v. Fred Ostermann GmbH*, 668 F. Supp. 812, 817, 4 USPQ2d 1429, 1432 (S.D.N.Y. 1987) (finding constant flow of written and oral communications sufficient to meet standard of due care).

¹¹⁶ *Read Corp. v. Portec, Inc.*, 970 F.2d 816, 833, 23 USPQ2d 1426, 1437 (Fed. Cir. 1992).

¹¹⁷ See *Radio Steel & Mfg. Co. v. MTD Prods., Inc.*, 788 F.2d 1554, 1558-59, 229 USPQ 431, 434 (Fed. Cir. 1986) ("an infringer may not in good faith, justifiably rely on the opinion of counsel and proceed in the face of a known patent unless counsel's advice is 'competent', 'authoritative', or 'contains sufficient internal indicia of credibility to remove any doubt that (the infringer) in fact received a competent legal opinion'").

review an opinion for its overall tone, its discussion of case law, and its analysis of the particular facts.¹¹⁸

Counsel must consider how best to express the client's likelihood of success on a particular issue. Associated with the reasonable basis that must support counsel's opinion is the conviction with which the opinion asserts its reasoning and conclusions. The attorney rendering an invalidity, unenforceability, or noninfringement opinion should set forth the reasoning and conclusions of the opinion with as much certainty and clarity as possible.

In its early opinions, the Federal Circuit seemed to require that an opinion be stated with absolute certainty. Specifically, the Federal Circuit indicated that language such as "arguably outside the scope" and "less likely . . . to infringe" might constitute an inadequate basis for a client to form a good-faith belief.¹¹⁹ This is, of course, a very difficult standard to meet. Fortunately for the practitioner, recent case law seems to have relaxed the rigorous certainty requirement, allowing good-faith belief to substitute for certainty.¹²⁰

The Federal Circuit has more recently indicated that it will not look negatively upon an otherwise competent opinion that is "equivocal": "An honest opinion is more likely to speak of probabilities than certainties."¹²¹ Thus, an opinion need not unequivocally state that the client will not be held liable for infringement. Language of uncertainty in opinions of counsel reflects that it is impossible for an attorney to predict with certainty what a jury may find regarding patent invalidity, unenforceability, and noninfringement (if each of those issues is given to the jury).

Nevertheless, opinions should be stated with as much certainty as possible. A jury or judge might perceive adversely an opinion of 60 percent or 70 percent likelihood of success when opposing counsel inverts those figures to say that the client proceeded with the knowledge that its acts were 30 percent or 40 percent likely to infringe a valid and enforceable patent. The certain statement of opinion (e.g., "In my opinion, the patent is not infringed."), may then be qualified: "Of course, it is impossible to ensure that a jury would not find the patent infringed."

In many areas of the law, the usual legal opinion is "unreasoned": it does not explain the reasoning, but merely states the conclusions. The Federal Circuit requires a reasoned opinion, however, to be offered as a defense against a charge of willful infringement. "[A] conclusory

¹¹⁸ *Westvaco Corp. v. International Paper Co.*, 991 F.2d 735, 743-44, 26 USPQ2d 1353, 1360 (Fed. Cir. 1993).

¹¹⁹ *Central Soya Co. v. Geo. A. Hormel & Co.*, 723 F.2d 1573, 1581, 220 USPQ 490, 492 (Fed. Cir. 1983). Indeed, in his concurrence in *Central Soya Co.*, Judge Nichols suggested that a competent opinion of counsel must reflect "full confidence that the patent is invalid, or that precautions recommended . . . will suffice to avoid infringement." 723 F.2d at 1581, 220 USPQ at 496 (Nichols, J. concurring).

¹²⁰ *Bott v. Four Star Corp.*, 807 F.2d 1567, 1572, 1 USPQ2d 1210, 1213 (Fed. Cir. 1986) (citing the earlier case, *Kori Corp. v. Wilco Marsh Buggies & Draglines, Inc.*, 761 F.2d 649, 656, 225 USPQ 985, 989 (Fed. Cir. 1985), *cert. denied*, 474 U.S. 902 (1985)).

¹²¹ *Read Corp. v. Portec, Inc.*, 970 F.2d 816, 829 n.9, 23 USPQ2d 1426, 1437 n.9 (Fed. Cir. 1992); *Westvaco Corp. v. International Paper Co.*, 991 F.2d 735, 744, 26 USPQ2d 1353, 1361 (Fed. Cir. 1993) (fact that a letter speaks in terms of probabilities and, therefore, can be said to be equivocal, does not require a finding of willfulness); *Windsurfing Int'l, Inc. v. Fred Ostermann GmbH*, 668 F. Supp. 812, 817, 4 USPQ2d 1429, 1432 (S.D.N.Y. 1987) (holding competency of an opinion should not be discounted simply because it is cautious in tone, does not guarantee victory, and notes that it will be a difficult and close case).

account of defense counsel's aspirations for winning an infringement suit without any supporting reasons does not amount to an 'authoritative opinion' upon which a good faith reliance on invalidity may be founded."¹²² In fact, the most common basis for disregarding an opinion of counsel is that it is "conclusory."¹²³

Opinions rendered by patent counsel should be detailed, well reasoned, and not merely "conclusory unsupported remarks."¹²⁴ If there is an absence of a solid basis for concluding no liability, the patent owner can successfully argue that the opinion is not competent, that it was not reasonably relied upon, and, therefore, that the defendant's infringement was willful. Accordingly, the opinion should contain an invalidity analysis based on a review of the prosecution history and prior art references (including prior art other than that in the prosecution history); an unenforceability analysis based on the prosecution history and additional evidence of materiality and intent; or a noninfringement analysis that compares the potentially infringing system with the claimed invention as interpreted in light of the specification, prosecution history, and prior art.

A recurring basis for finding fault in opinions of counsel is failure to consult the prosecution history.¹²⁵ One case goes so far as to find fault in failing to examine prior art beyond that in the prosecution history.¹²⁶ The Federal Circuit continually cautions that an opinion should be complete; it should analyze each of the claims in the patent in question and determine whether or not the accused invention falls within the scope of any of the claims:¹²⁷

[Counsel's opinion] contains only bald, conclusory and unsupported remarks regarding validity and infringement of the patents [in suit]. Had it contained within its four corners a patent validity analysis, properly and explicitly predicated on a review of the file histories of the patents at issue, and an infringement analysis that, *inter alia*,

¹²² Kori Corp. v. Wilco Marsh Buggies & Draglines, Inc., 761 F.2d 649, 656, 225 USPQ 985, 989 (Fed. Cir. 1985) (defendant attempted to prove good faith by relying on a letter sent from its defense counsel to a customer, after the beginning of litigation, which simply expressed confidence that the patent would be invalidated) (citing Central Soya Co. v. Geo. A. Hormel & Co., 723 F.2d 1573, 1577, 220 USPQ 490,492 (Fed. Cir. 1983), *cert. denied*, 474 U.S. 902 (1985)).

¹²³ See Kori Corp. v. Wilco Marsh Buggies & Draglines, Inc., 761 F.2d 649, 656, 225 USPQ 985, 989 (Fed. Cir. 1985); Underwater Devices, Inc. v. Morrison-Knudsen Co., 717 F.2d 1380, 1390, 219 USPQ 569, 576 (Fed. Cir. 1983) (infringer "knew or should have known that it proceeded without the type of legal advice it could have justifiably relied upon").

¹²⁴ Underwater Devices, Inc. v. Morrison-Knudsen Co., 717 F.2d 1380, 1390, 219 USPQ 569, 576 (Fed. Cir. 1983).

¹²⁵ See Datascope Corp. v. SMEC, Inc., 879 F.2d 820, 828, 11 USPQ2d 1321, 1327 (Fed. Cir. 1989) (the Federal Circuit held counsel's opinion to be conclusory: "That opinion said nothing whatever about the validity of the '399 patent or any Datascope patent, and the opinion's reference to infringement is not only conclusory, but ignores entirely the question of infringement under the doctrine of equivalents. Further, an opinion on equivalents in this case would have been impossible, SMEC's attorneys having never ordered, let alone consulted, the '399's prosecution history before rendering their opinion."), *cert. denied*, 493 U.S. 1024 (1990); Underwater Devices, Inc. v. Morrison-Knudsen Co., 717 F.2d 1380, 1390, 219 USPQ 569, 576 (Fed. Cir. 1983).

¹²⁶ Central Soya Co. v. Geo. A. Hormel & Co., 723 F.2d 1573, 1577, 220 USPQ 490, 492 (Fed. Cir. 1983). Of course, failure to consult the prosecution history or prior art is not always damning. See Radio Steel & Mfg. Co. v. MTD Prods., Inc., 788 F.2d 1554, 1558-59, 229 USPQ 431, 434 (Fed. Cir. 1986).

¹²⁷ Bott v. Four Star Corp., 807 F.2d 1567, 1572, 1 USPQ2d 1210, 1213 (Fed. Cir. 1986); Amsted Indus., Inc. v. Buckeye Steel Castings Co., 24 F.3d 178, 182-83, 30 USPQ2d 1462, 1465 (Fed. Cir. 1994) (opinion was incomplete).

compared and contrasted the potentially infringing method or apparatus with the patented inventions, the opinion may have contained sufficient internal indicia of credibility to remove any doubt that [the potential infringer] in fact received a competent opinion.¹²⁸

2. *Noninfringement or Invalidity or Unenforceability*

The Federal Circuit recently decided that it is unnecessary for an opinion to consider both invalidity and noninfringement for counsel's opinion to be sufficient to avoid a finding of willfulness. In fact, the court found "specious" the argument that there is a requirement that an opinion must address validity to negate a finding of willful infringement.¹²⁹ That decision makes practical sense; to require a fullscale invalidity *and* noninfringement (and unenforceability) investigation and opinion in *all* cases would place a heavy and unfair burden on clients, especially small companies with limited financial resources. The invalidity or unenforceability of a patent is an absolute defense against infringement.¹³⁰ Therefore, at least in those circumstances where the alleged infringer has a very strong case for one of invalidity, noninfringement, or unenforceability, the necessity of addressing one or both of the other two issues may be minimal.¹³¹ Because noninfringement, unenforceability, and invalidity are each separate and adequate defenses, an authoritative, well-reasoned opinion of counsel concluding noninfringement or invalidity or unenforceability will justify a defendant's good-faith reliance on that opinion in rebutting a charge of willfulness.

Nevertheless, counsel's opinion ideally should address as many of the three defenses as are applicable. The competency of the opinion, and the ability of the client to rely on it, can only increase with the number of well-reasoned defenses included in the opinion. Stated negatively, a single defense—if the analysis directed to that defense is found wanting—may be insufficient to satisfy the requirements of a competent opinion.¹³² In some cases, the opinion may not be deemed competent unless it considers more than one of the defenses.¹³³

¹²⁸ *Underwater Devices, Inc. v. Morrison-Knudsen Co.*, 717 F.2d 1380, 1390, 219 USPQ 569, 576 (Fed. Cir. 1983).

¹²⁹ *Graco, Inc. v. Binks Mfg. Co.*, 60 F.3d 785, 793, 35 USPQ2d 1255, 1261 (Fed. Cir. 1995); *cf.* *Westvaco Corp. v. International Paper Co.*, 991 F.2d 735, 744, 26 USPQ2d 1353, 1360 (Fed. Cir. 1993) (opinion is not incompetent merely because it does not include a separate discussion of infringement under the doctrine of equivalents).

¹³⁰ 35 U.S.C. §282.

¹³¹ By analogy, the Federal Circuit previously held that, when it found the patent-in-suit not infringed, the validity issue became moot and need not be decided. That practice was reversed by the U.S. Supreme Court, *Morton Int'l, Inc. v. Cardinal Chem. Co.*, 959 F.2d 948, 955, 22 USPQ2d 1231, 1237 (Fed. Cir. 1992) (affirming district court holding of noninfringement and vacating holding of invalidity), *rev'd*, 113 S. Ct. 1967, 1973, 26 USPQ2d 1721, 1729 (1993), on remand, 5 F.3d 1464, 1969, 28 USPQ2d 1190, 1194-95 (Fed. Cir. 1993). Nevertheless, the Federal Circuit will still affirm invalidity and vacate an inequitable conduct holding, *Lamb-Weston, Inc. v. McCain Foods, Ltd.*, 37 USPQ2d 1856, 1864 (Fed. Cir. 1996); affirm a district court's holding of invalidity and refuse to address the noninfringement finding, *Para-Ordinance Mfg., Inc. v. SGS Importers Int'l, Inc.*, 73 F.3d 1085, 1091, 37 USPQ2d 1237, 1244 (Fed. Cir. 1995); and refuse to reach the issue of invalidity if it affirms a holding of unenforceability, *General Electro Music Corp. v. Samick Music Corp.*, 19 F.3d 1405, 1412, 30 USPQ2d 1149, 1155-56 (Fed. Cir. 1994).

¹³² *Datascope Corp. v. SMEC, Inc.*, 879 F.2d 820, 828-29, 11 USPQ2d 1321, 1326-27 (Fed. Cir. 1989) (the defendant was found to have willfully infringed after failing to review the prosecution history and relying on an opinion of counsel having only conclusory statements regarding infringement, and lacking any validity or doctrine

If an accused infringer requests an opinion addressing a patent's invalidity, the opinion should be based on a diligent search of other patents and publications (to determine lack of novelty or obviousness of the patented invention) as well as an analysis of the prosecution history of the patent through the PTO. Reliance on advice of counsel that fails to perform either task may fail to prevent an award of treble damages.¹³⁴ If an accused infringer requests an opinion addressing a patent's unenforceability, it should be based on a diligent search of the prosecution history and a thorough investigation of the factual evidence of materiality and intent.

Finally, if an accused infringer requests an opinion that addresses noninfringement, it should include an analysis of each claim of the patent and comprehensively determine whether or not the accused infringer's system comes within the scope of any of the claims. As indicated, a noninfringement opinion also should include an analysis of the patent's prosecution history to determine the breadth of the claims. The protection granted to the owner of a patent is defined by the claims of the patent. If the accused device is not within the scope of the claims of the patent, there can be no liability for infringement.¹³⁵

3. *Practical Suggestions*

This section suggests practical guidelines for consideration when counsel writes an opinion analyzing the issues of patent invalidity, unenforceability, and noninfringement. If counsel renders the opinion orally, he or she should strongly consider using the suggested guidelines to memorialize similar information in contemporaneous memoranda.

An opinion of counsel on the issues of patent invalidity, unenforceability, and noninfringement generally performs three functions. It analyzes a legal problem, expresses a legal opinion on the propriety of a particular action, and recommends a course of action. Assuming that the practitioner elects to provide a written opinion, an opinion should "tell a complete story" within its four corners. That story should indicate that a thorough investigation was conducted. The primary audience for the opinion letter is, of course, the client to whom it is written. The actual or potential secondary audience is the court. Others also may read the opinion (e.g., to evaluate whether to purchase the

of equivalents analysis), *cert. denied*, 493 U.S. 1024 (1990); *In re Hayes Microcomputer Prods., Inc.*, 982 F.2d 1527, 1544, 25 USPQ2d 1241, 1253 (Fed. Cir. 1992) (opinion of counsel that treated the claims superficially, failed to set out a standard for one of ordinary skill in the art, failed to consider objective considerations in determining obviousness, mischaracterized prior art, failed to perform a proper best mode analysis, and addressed only invalidity and did not discuss infringement, was insufficient to avoid willfulness).

¹³³ *Underwater Devices, Inc. v. Morrison-Knudsen Co.*, 717 F.2d 1380, 1390, 219 USPQ 569, 576 (Fed. Cir. 1983). *See also* *Great Northern Corp. v. Davis Core & Pad Co.*, 782 F.2d 159, 167, 228 USPQ 356, 360 (Fed. Cir. 1986) ("Davis Core had an affirmative duty, on the facts of this case, to obtain a validity and infringement opinion.").

¹³⁴ In *Underwater Devices, Inc. v. Morrison-Knudsen Co.*, 717 F.2d 1380, 1390, 219 USPQ 569, 576 (Fed. Cir. 1983), the court noted counsel's failure to order the prosecution history of the patent-in-suit as a factor in the determination that the advice was incompetent and, therefore, that infringement was willful. In *Central Soya Co. v. Geo. A. Hormel & Co.*, 723 F.2d 1573, 1577, 220 USPQ 490, 492 (Fed. Cir. 1983), the court held that advice of counsel, which was based solely on the prosecution history (i.e., not based on a diligent validity search), "*does not by itself* raise an inference of good faith substantial enough to convince us that the trial court's determination of willful infringement was clearly erroneous." (Emphasis in original.)

¹³⁵ 35 U.S.C. §282.

client company). Like other types of writing, an opinion letter should be written in a style, tone, and vocabulary appropriate for its intended audience.

As a preliminary suggestion, when labeling the opinion, adverse impressions should not be created by title, introduction, or “re:” heading. For instance, the label should refer to an opinion as a “noninfringement,” “invalidity,” or “unenforceability” opinion and not as an “infringement,” “validity,” or “enforceability” opinion. Especially if more than one of the three issues will be discussed, the label might preferably be a “right-to-use” opinion. Depending on the length of the opinion letter and the nature of the analysis it contains, a highly structured format usually is recommended. The opinion might be divided, for example, into the following sections: issues, facts, analysis, and recommendations.

a. Issues. The opinion should begin by identifying the matter and restating the client’s question or questions (i.e., it should identify the scope of the request). The opinion should describe the circumstances surrounding the rendering of the opinion such as details regarding for whom the opinion is being prepared and what prompted the opinion. Other preliminary information should include notification of possible infringement by the patent owner, knowledge of the patent arising from the marking of a system, or the identification of the patent during a noninfringement search for a new system or process. If there are any accusations of infringement, these should be specifically outlined. All of the above items are important details that must be gathered during the practitioner’s investigation.

An example passage follows:

As you know, from our letter to you dated June 1, 1999, a brief, combined patentability and noninfringement search—directed to the subject invention—has been conducted. Copies of the references uncovered by that search were forwarded with our earlier letter. Although that search was not exhaustive, its scope was commensurate with that usually considered reasonable for matters of this kind.

We understand that ACME Corporation may wish to market its recently developed computer software system. No one has alleged patentinfringement. Nevertheless, ACME has initiated this study through its own due diligence and good business sense in deciding whether to enter the market with the proposed system. Consequently, you requested our preliminary review of the system from the perspective of possible infringement of the claims of the patents uncovered by the search.

Next, the opinion should summarize its conclusions and recommendations so that the reader does not have to skip to the end of the opinion to find an answer or answers: “Our preliminary opinion is that the proposed system should not be found to infringe any of the claims of the patents of which we are aware.”

b. Facts. An opinion letter should always set forth the facts and any assumptions on which it is based.¹³⁶ Specifically, the practitioner should state clearly both the specific facts relied upon to

¹³⁶ For example, the following is a suggested conveyance of the assumptions pertinent to the collection of prior art upon which the opinion is based: “Note that the law does not impose an obligation to perform any patent search before commencing production of a system or using a process—unless, of course, the party has reason to believe that such production would infringe a certain patent. We normally recommend a search, absent reason to

support the conclusions reached and any limitations placed on the analysis. Also stated should be any obstacles experienced during the investigation or in rendering the opinion. The fact section of the opinion should indicate that the opinion is based on adequate investigation (see Section 13.03.C.1). The author should strive to state the facts objectively. The fact section might include an inventory of all of the materials considered in the opinion: “Incorporated in the study made to reach this opinion are our various discussions with you,¹³⁷ the materials forwarded with your letter of January 2, 1999, and the search results. We have also obtained copies of the prosecution histories in the U.S. Patent and Trademark Office (PTO) for three of the patents uncovered by the search. We have incorporated all of these materials—but only these materials—in our analysis.”¹³⁸

Any information that may be relevant to the “story” (e.g., status of licensing negotiations, opinions provided by foreign counsel on foreign counterpart patents, and the like) also should be gathered and included in the opinion. If the source of a particular piece of information is not obvious, the opinion might indicate the source of the information. All of the materials should be outlined, along with their sources, in an organized manner at the beginning of the opinion. For example, when the opinion considers patents from a variety of sources (e.g., the client’s files, the attorney’s related files, search results from a professional searcher, on-line database information, opposing counsel, the PTO), a table is recommended. The table should list all of the patents considered and the source of each patent. It also may be helpful to categorize the patents in the opinion. For example, the patents may be discussed in three separate sections: the art of primary interest with respect to infringement by the subject system or process, the art of secondary interest, and the art that is relevant only as background information.

Also, as part of the fact section, a summary of the components of the system (or steps of the process) for which the opinion is given should be provided. Such a summary might be introduced by the following preamble: “Based on the materials forwarded with your letter of September 1 and our discussions with you, we have developed an understanding of the proposed system. That understanding is outlined below as the starting point for the noninfringement study.” When providing a right-to-use opinion, the practitioner must gather as many details regarding the client’s system or process as possible before comparing it to the claims of a patent. The client will undoubtedly be the best—and perhaps the only—source of that information. When the subject matter is electronics or software, the information likely will be provided in the form of system block diagrams, flowcharts, source code listings, or the like. Such information should be included in the

believe infringement would occur, only when production will entail large investment. Under those circumstances, the search is justified as limited insurance against the risk of losing the investment dollars if infringement is later claimed. Note that a search does not provide *absolute* insurance. The search is not exhaustive and, even if it were, it is possible that a patent later claimed to be infringed would not be discovered. Search systems are imperfect (note that about 7% of all patents are missing from the PTO files).”

¹³⁷ Reliance on an opinion of counsel to rebut a charge of willfulness may waive the attorney-client privilege with respect to the advice given in that opinion. See Section 13.06 below; *see generally* H. Silver, *Is Advice a Virtue? The Scope of Waiver Occasioned by the Disclosure of Opinions of Counsel*, 75 J. PAT. & TRADEMARK OFF. SOC’Y 885 (Nov. 1993). To support a claim of attorney-client privilege in an opinion letter, therefore, the opinion should contain, somewhere, a reference to information that the client communicated to the attorney. The privilege protects information the *client* gives the attorney.

¹³⁸ *Westvaco Corp. v. International Paper Co.*, 991 F.2d 735, 744, 26 USPQ2d 1353, 1360 (Fed. Cir. 1993) (“Each opinion letter begins with a statement that the opinion is based on a review of the file history of the patent, the prior art of record, and additional prior art. Thus, the opinions evidence an adequate foundation.”).

opinion, perhaps as an appendix, and should be referred to both frequently and specifically.¹³⁹

c. Analysis. The heart of the opinion is the analysis section. In this section, counsel applies the relevant case law to the facts and reaches a conclusion on each issue. The opinion should show the attorney's reasoning and analysis, and must not contain bald, conclusory remarks.

While analyzing the issues, counsel should address arguments that might be made both for and against the client's position. The opinion should avoid, however, admissions of validity, enforceability, or infringement.¹⁴⁰ Although facts developed later might prove these admissions wrong, retracting them before the court might prove difficult. In addition, counsel's advice must sensitize the client to all of the relevant factors leading to willfulness findings and enhanced damage and attorney's fee awards, while at the same time assisting the client to avoid infringement liability in the first place. The opinion should include only analyses that are relevant to the client's situation. The task of explaining complicated legal rules while maintaining a non-legal reader's interest and attention is difficult enough without addressing superfluous matters. (And the client certainly does not want to pay for research that is not relevant to the case.)

An outline of some suggested substantive guidelines for the analysis section of a competent opinion follows.¹⁴¹ (For a more detailed discussion of the substantive analytical bases for the opinion, see Section 13.04.) The Federal Circuit has set forth several elements of a complete patent invalidity or noninfringement opinion. Regardless of whether the opinion addresses invalidity, noninfringement, or both,¹⁴² it should include an analysis of the prosecution histories of the patents in question.¹⁴³

A noninfringement opinion should analyze the similarities and differences between the claimed invention and the potentially infringing subject matter.¹⁴⁴ Both the factual questions of literal infringement and infringement under the doctrine of equivalents should be considered.¹⁴⁵ Under the most recent Federal Circuit view, every patent owner is entitled to invoke the doctrine of

¹³⁹ A credible opinion will reference experimental work done or relied upon that resolves technical questions or supports the conclusions reached. *S.C. Johnson & Son, Inc. v. CarterWallace, Inc.*, 614 F. Supp. 1278, 1309-10, 225 USPQ 1022, 1043 (S.D.N.Y. 1985), vacated, 781 F.2d 198, 228 USPQ 367 (Fed. Cir. 1986).

¹⁴⁰ In *Anthony and Cleopatra*, Shakespeare wrote, "Though it be honest, it is never good to bring bad news." That advice applies to opinions of counsel.

¹⁴¹ See G. Sirilla, G. Edgell, & A. Hess, *The Advice of Counsel Defense to Increased Patent Damages*, 74 J. PAT. & TRADEMARK OFF. SOC'Y 705, 720-21 (Oct. 1992).

¹⁴² The opinion preferably should contain an analysis of both invalidity and noninfringement. *Great Northern Corp. v. Davis Core & Pad Co.*, 782 F.2d 159, 167, 228 USPQ 356, 360 (Fed. Cir. 1986); *Underwater Devices, Inc. v. Morrison-Knudsen Co.*, 717 F.2d 1380, 1390, 219 USPQ 569, 576 (Fed. Cir. 1983).

¹⁴³ *Underwater Devices Inc. v. Morrison-Knudsen Co.*, 717 F.2d 1380, 1390, 219 USPQ 569, 576 (Fed. Cir. 1983) (ordering the file histories is the normal and necessary preliminary step to an invalidity or noninfringement opinion).

¹⁴⁴ *Underwater Devices Inc. v. Morrison-Knudsen Co.*, 717 F.2d 1380, 1390, 219 USPQ 569, 576 (Fed. Cir. 1983) (a competent noninfringement analysis should compare and contrast the potentially infringing method or system with the patented invention).

¹⁴⁵ *Datascope Corp. v. SMEC, Inc.*, 879 F.2d 820, 828, 11 USPQ2d 1321, 1327 (Fed. Cir. 1989) (the opinion's reference to infringement is not only conclusory, but ignores entirely the question of infringement under the doctrine of equivalents), *cert. denied*, 493 U.S. 1024 (1990).

equivalents.¹⁴⁶ To determine literal infringement, the opinion must analyze whether the accused system or process falls within the literal scope of one of the claims of the subject patent. The test under the doctrine of equivalents is whether only “insubstantial differences” distinguish the accused system or process from the claims. In applying the doctrine of equivalents, it is often enough to assess whether the claimed and accused systems or processes include substantially the same function, way, and result. But evaluation of function, way, and result does not necessarily end the inquiry. Factors other than function, way, and result may be relevant to the substantiality of the differences. These factors include (1) whether persons of ordinary skill in the art would have known of the interchangeability of the element not recited in the patent claim with a limitation that was recited at the time the patent issued, (2) evidence of copying or imitation, (3) evidence of designing around, and (4) independent development (but only to rebut or refute a patent owner’s contention that the accused infringer copied).¹⁴⁷ Counsel should consult with the client and resolve whether any information exists regarding such other factors. If so, that information should be included in the analysis.

The Federal Circuit has held that the infringer’s own patent could have been a basis for a good-faith belief of noninfringement.¹⁴⁸ But the grant of a separate patent on the accused system does not automatically avoid infringement, either literal or by equivalents. Systems that have been modified to such an extent that the modification may be separately patented may nonetheless infringe.¹⁴⁹ It is recommended, therefore, that the analysis avoid reliance on the patentability of the potentially infringing system or process.

Unless independent claims are infringed, none of the claims of a patent can be infringed.¹⁵⁰ Accordingly, an opinion concluding that the accused system or process does not infringe any of the

¹⁴⁶ *Hilton Davis Chem. Co. v. Warner-Jenkinson Co.*, 62 F.3d 1512, 1530, 35 USPQ2d 1641, 1660 (Fed. Cir. 1995) (in bane), *rev’d on other grounds*, 520 U.S. 17 (1997).

¹⁴⁷ *Hilton Davis Chem. Co. v. Warner-Jenkinson Co.*, 62 F.3d 1512, 1528, 35 USPQ2d 1641, 1659-60 (Fed. Cir. 1995) (in bane), *discussing this point and reversing on other grounds*, 520 U.S. 17 (1997).

¹⁴⁸ *King Instrument Co. v. Otari Corp.*, 767 F.2d 853, 867, 226 USPQ 402, 412 (Fed. Cir. 1985), *cert. denied*, 475 U.S. 1016 (1986).

¹⁴⁹ The Federal Circuit precedent on this issue is confused. Several recent cases have stated that the fact of separate patentability is relevant to the issue of infringement and is entitled to due weight. *Zygo Corp. v. Wyko Corp.*, 79 F.3d 1563, 1569-70, 38 USPQ2d 1281, 1285-86 (Fed. Cir. 1996); *National Presto Indus. v. West Bend Co.*, 76 F.3d 1185, 1192, 37 USPQ2d 1685, 1689 (Fed. Cir. 1996); *Hoechst Celanese Corp. v. BP Chems. Ltd.*, 78 F.3d 1575, 1582, 38 USPQ2d 1126, 1132 (Fed. Cir. 1996) (“The fact of separate patentability presents no legal or evidentiary presumption of noninfringement and, in this case, does not outweigh the substantial evidence supporting the jury verdict of infringement.”). At least one case held that the patentability of a system or process is only relevant to infringement under the doctrine of equivalents, and then only when patentability is due to unexpected results. *See Atlas Powder Co. v. E.I. du Pont de Nemours*, 750 F.2d 1569, 1580 n.3, 224 USPQ 409, 416 n.3 (Fed. Cir. 1984). Other cases stand in stark contrast to the principle that separate patentability has any relevance to the issue of infringement at all. *See, e.g., Bio-Technology General Corp. v. Genentech, Inc.*, 80 F.3d 1553, 1559, 38 USPQ2d 1321, 1325 (Fed. Cir. 1996) (“That [the accused infringer] patented its unique purification method is irrelevant: ‘[T]he existence of one’s own patent does not constitute a defense to infringement of someone else’s patent.’”).

¹⁵⁰ *Carroll Touch, Inc. v. Electro Mech. Sys., Inc.*, 15 F.3d 1573, 1578-79, 27 USPQ2d 1836, 1839 (Fed. Cir. 1993) (“It is axiomatic that dependent claims cannot be found infringed unless the claims from which they depend have been found to be infringed.”) (quoting *Wahpeton Canvas Co. v. Frontier, Inc.*, 870 F.2d 1546, 1553, 10 USPQ2d 1201, 1208 (Fed. Cir. 1989)); *Wahpeton Canvas Co. v. Frontier, Inc.*, 870 F.2d 1546, 1206 n.9, 10 USPQ2d 1201, 1552 n.9 (Fed. Cir. 1989) (“One may infringe an independent claim and not infringe a claim

independent claims of the subject patent need not further analyze the dependent claims of that patent. Although certain circumstances might warrant a noninfringement analysis directed to all of the claims (e.g., the success of the client's entire operation depends on the accused system or process), such an "abundance of caution" approach is atypical.

Although the Federal Circuit has relied on the different factors outlined above in determining the competency of counsel's opinion, no single factor must be included in any particular analysis. None of the factors are per se requirements. Specifically, the Federal Circuit has stated that the absence of an analysis under the doctrine of equivalents does not necessarily render counsel's opinion inadequate.¹⁵¹

A patent attorney exercising ordinary skill, knowledge, and care in rendering an opinion on patent invalidity also should include in the opinion an analysis of the patent predicated upon a review of the prosecution history of the patent. If the opinion concludes that a claim of the subject patent is invalid under 35 U.S.C. §102, the analysis must demonstrate that all limitations of the claim are disclosed, either expressly or under principles of inherency, in a single prior art reference.¹⁵² There must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the art.¹⁵³

When relying on obviousness, the opinion should analyze each of the four factual predicates upon which a legal conclusion of obviousness is based: (1) the scope and content of the prior art, (2) the differences between the subject matter claimed and the prior art, (3) the level of ordinary skill in the art, and (4) other objective indicia of nonobviousness.¹⁵⁴ Objective evidence of nonobviousness may include commercial success—if due to the merits of the claimed invention (a nexus between the claimed invention and the commercial success is required); teaching away by the prior art from the claimed invention; unexpected results of the claimed invention; copying of the claimed invention by the infringer; long felt but unresolved need for the claimed invention; failure of others in the art to

dependent on that claim. The reverse is not true. One who does not infringe an independent claim cannot infringe a claim dependent on (and thus containing all the limitations of) that claim.”). *But see* *Wilson Sporting Goods Co. v. David Geoffrey & Assocs.*, 904 F.2d 677, 686, 14 USPQ2d 1942, 1949 (Fed. Cir.) (may not infringe an independent claim under the doctrine of equivalents because a corresponding hypothetical claim reads on the prior art, but may infringe a dependent claim because the hypothetical claim corresponding to that dependent claim may encompass the accused device yet not read on the prior art), *cert. denied*, 498 U.S. 992 (1990) (*see* J. Galto, *How a Dependent Claim Can Be Infringed When a Claim From Which It Depends Is Not*, 73 J. PAT. & TRADEMARK OFF. SOC'Y 61 (Jan. 1991) for a discussion of *Wilson* in this context).

¹⁵¹ *Ortho Pharmaceutical Corp. v. Smith*, 959 F.2d 936, 945, 22 USPQ2d 1119, 1126 (Fed. Cir. 1992) (The court recharacterized its holding in *Datascope* by stating, “the character of [the opinion] letter on its face defeated the *Datascope* infringer's claim to having had a reasonable belief that it was not infringing a valid patent, not the absence of an equivalence analysis per se.”).

¹⁵² *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1255-56, 9 USPQ2d 1962, 1970 (Fed. Cir. 1989) (stating test and noting that a reference may anticipate if the teaching is inherent in the cited prior art reference).

¹⁵³ *Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565, 1571, 18 USPQ2d 1001, 1006 (Fed. Cir. 1991); *Continental Can Co. USA, Inc. v. Monsanto Co.*, 948 F.2d 1264, 1270, 20 USPQ2d 1746, 1750-51 (Fed. Cir. 1991); *In re Graves*, 69 F.3d 1147, 1152, 36 USPQ2d 1697, 1701 (Fed. Cir. 1995) (a prior art reference anticipates a claim, even if it does not specifically disclose one of the limitations of the claim, if that limitation is within the knowledge of a skilled artisan).

¹⁵⁴ *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966).

achieve the claimed invention; the uniqueness of the claimed invention causing the industry to embrace it; the passage of time from a crucial prior art reference to the conception of the claimed invention; license agreements with others in the industry (a nexus between the system or process licensed and the claimed invention is required); skepticism of experts; and acquiescence of others in the industry to the validity of the patent. Objective evidence of obviousness “may be the most pertinent, probative, and revealing evidence available to aid in reaching a conclusion on the obvious/nonobvious issue.”¹⁵⁵ The analysis also should point out how the combination of references is suggested by the prior art or motivated by knowledge of those skilled in the art.¹⁵⁶

Whether the opinion addresses anticipation, obviousness, or both, the analysis should preferably rely on art other than the art cited during the prosecution of the patent in question.¹⁵⁷ Of course, a number of grounds other than anticipation and obviousness exist to support a challenge to the validity of the claims of a patent. These grounds include, among others, a lack of utility under 35 U.S.C. §101 with respect to computer-implemented inventions and a failure to meet the requirements set forth in 35 U.S.C. §112. Suffice it to say that a thorough legal analysis supporting a validity challenge based on one or more of these grounds should be provided in the opinion.

There are far fewer cases addressing the substance of an unenforceability opinion than there are cases addressing the substance of an invalidity or noninfringement opinion. An opinion concluding that a patent is unenforceable for inequitable conduct should provide an analysis of both the intent and materiality prongs of the inequitable conduct defense.¹⁵⁸ Such an opinion also should analyze all of the records in the PTO relevant to the issue.

When patent claims are invalid or unenforceable, there can be no liability for infringement of those claims. If the opinion concludes that certain independent claims are invalid (rather than not infringed), the opinion would have to further analyze which, if any, of the dependent claims remain valid. Then, if any dependent claims are not invalid, those claims would have to be analyzed for possible infringement. In contrast, when an opinion concludes that inequitable conduct occurred in relation to one or more claims during prosecution of the patent application that issued as the subject patent, the entire patent is rendered unenforceable.¹⁵⁹ A claim-by-claim analysis is unnecessary.

It is of utmost importance, of course, that counsel recognize and be sensitive to all of the ramifications of case law developments pertaining to willfulness findings and enhanced damage and

¹⁵⁵ *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1555, 220 USPQ 303, 314 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984); *Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 1573, 37 USPQ2d 1626, 1629-30 (Fed. Cir. 1996). In *Sensonics, Inc. v. Aerosonic Corp.*, 81 F.3d 1566, 1571, 38 USPQ2d 1551, 1555 (Fed. Cir. 1996), the Federal Circuit criticized an opinion of counsel that made no mention of the infringer’s copying and other objective indicia of unobviousness, “although precedent requires that these factors be considered.”

¹⁵⁶ An obviousness determination requires either a suggestion in the prior art to produce the claimed invention or a compelling motivation based on sound scientific principles, accompanied by general knowledge of the existence of techniques recognized in the art for carrying out the proposed invention. *Ex parte Kranz*, 19 USPQ2d 1216, 1218 (Pat. Off. Bd. App. & Inter. 1990); *Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 1573, 37 USPQ2d 1626, 1629-30 (Fed. Cir. 1996).

¹⁵⁷ *Central Soya Co. v. Geo. A. Hormel & Co.*, 723 F.2d 1573, 1577, 220 USPQ 490, 492 (Fed. Cir. 1983).

¹⁵⁸ *Kingsdown Medical Consultants Ltd. v. Hollister Inc.*, 863 F.2d 867, 876, 9 USPQ2d 1384, 1392 (Fed. Cir. 1988) (in banc), *cert. denied*, 490 U.S. 1067 (1989).

¹⁵⁹ *Id.*

attorney's fee awards. In some instances, the opinion might include copies of applicable statutes or regulations, relevant cases (or summaries of those cases), or other materials as an attachment to the opinion.¹⁶⁰ The amount of legal analysis included in most types of opinion letters depends, in part, on the reader's interest in and knowledge of the law. Some clients want little more than the answers to their questions; others may want to know all of the reasons behind the recommendations made. This option is unavailable, however, to the writer of a right-to-use opinion. Whether the opinion discusses noninfringement, invalidity, or unenforceability, the entire analysis should be set forth within the four corners of the document. The opinion might include exhibits, of course, to provide missing detailed analysis. In summary, the opinion must clearly discuss its reasons supporting counsel's conclusions.¹⁶¹

d. Recommendations. The last section of the opinion should do two things: It should restate the conclusions reached and it should outline recommended actions for the client. If necessary, these conclusions and recommendations may be qualified. Example qualifications might be: "It should be noted that the question of infringement is one of fact, not law. Thus, the question presented is one on which reasonable minds might differ." or "Our conclusion may be strengthened, of course, if additional information, such as new prior art or technical materials, is considered. For example, our conclusion would be strengthened if, upon further investigation, we found prior art showing [a critical claim limitation]."

When providing recommendations, all of the available alternatives should be listed. The analysis should explain the advantages, disadvantages, and implications of each alternative. The basis or bases for recommending one alternative over another (i.e., why the recommended alternative is superior) should be made clear. Often the choice among alternatives will be based on more than merely legal considerations. If so, the client should simply be given the legal information needed to make an informed decision.

In the context of a right-to-use opinion, in which the client asks whether manufacture of a potentially profitable system would infringe the patent rights of another entity, the opinion should conclude with a discussion of the likelihood and magnitude of any damages that might be assessed should infringement be found. The facts (e.g., cost of item, profit margin, and the like) on which an estimation of potential liability is based should be available from the client. Based, at least in part, on the potential liability for infringement, the client can then assess whether to ignore the patent, seek a license agreement, pursue litigation, or consider some combination of those alternatives. For example, the client may wish to pursue a license agreement because the potential cost of litigation may far exceed the cost of entering into the license agreement.

¹⁶⁰ Although there is no question that the opinion must include a thorough legal analysis, there is ongoing debate over whether the opinion should include case citations. Some practitioners dislike including case citations in opinion letters to clients, perhaps on the grounds that clients do not need the citations, citations interrupt the reader's flow, and they lengthen an already long opinion. On the other hand, the use of current Federal Circuit citations provides solid evidence supporting the practitioner's legal competence. References to cases help to assure, using a noninfringement analysis as an example, that the opinion (1) applies the correct rules of claim interpretation, (2) correctly interprets means-plus-function limitations, and (3) considers all elements of the doctrine of equivalents, including recent decisions on prosecution history estoppel. Most, if not all, of the relevant Federal Circuit citations necessary to set forth the relevant law as it now stands can be found in the following sections of this chapter.

¹⁶¹ *Ortho Pharmaceutical Corp. v. Smith*, 959 F.2d 936, 944, 22 USPQ2d 1119, 1125 (Fed. Cir. 1992).

E. Follow-Up

Even after a competent opinion is obtained, an accused infringer does not yet have a good-faith defense to a finding of willful infringement. One further step must be taken: The accused infringer must follow the advice set forth in the opinion. Thus, the effectiveness of an opinion of counsel as a defense to willfulness depends in part on the potential infringer's response to counsel's opinion. This places an extraordinary burden on counsel not only to advise competently but to try to ensure that the prospective accused infringer (the client) understands the advice and the ramifications of the client's related actions. The risks of failing to meet this burden are substantial. Specifically, unless the potential infringer heeds the advice of counsel, such advice is worthless and a consequent finding of willfulness is likely.

How closely must a client follow the advice provided by counsel to secure a good-faith defense to a charge of willful infringement? The client has a duty "not only to show an opinion from competent counsel but also that it exercised reasonable good faith adherence to the analysis and advice therein."¹⁶² Certainly an opinion must not be disregarded. Where an attorney advises the client to avoid a particular range of a constituent, but the client does not even measure the range for a long time after beginning production and then only after adding another ingredient that might make a difference to infringement, any inference of good faith is negated and the client is in the same position as one who did not obtain any opinion of counsel.¹⁶³

Moreover, the potential infringer must react appropriately to events that occur after an opinion is provided. For example, although the potential infringer should be encouraged to modify its activities to avoid or mitigate infringement,¹⁶⁴ such modifications should be reviewed with counsel and, perhaps, an updated opinion should be provided.¹⁶⁵ An updated opinion should be secured if the patent is reissued or reexamined.¹⁶⁶ Reevaluation of the potentially infringing activities also may be

¹⁶² *Central Soya Co. v. Geo. A. Hormel & Co.*, 723 F.2d 1573, 1577, 220 USPQ 490, 493 (Fed. Cir. 1983).

¹⁶³ *Id.* ("[I]ntentional disregard of its counsel's opinion negates any inference of good faith, placing [the defendant] in the same position as one who failed to secure the advice of counsel."); *see also* *Machinery Corp. v. Gullfiber AB*, 774 F.2d 467, 472-73, 227 USPQ 368, 372-73 (Fed. Cir. 1985).

¹⁶⁴ A party that is found not to infringe willfully as an initial matter does not become willful *merely* when it converts some—but not all—of its product away from the infringing design. *Pall Corp. v. Micron Separations, Inc.*, 66 F.3d 1211, 1222, 36 USPQ2d 1225, 1233 (Fed. Cir. 1995) (reversing finding of willful infringement and stating, "Attempts to avoid or mitigate infringement, whether or not successful, do not of themselves enlarge the culpability of the continuing activity.") (also holding that FED. R. Evid. 407 precluding evidence of remedial action was not violated).

¹⁶⁵ In one case, the attorney advised the client, who was under an injunction, to avoid certain things. The client complied, but modified its activities, without informing the attorney, to include things that the attorney had not specifically advised against. In affirming a finding of willfulness, the court observed that the attorney had done what he could and likened the client to a child who complains that its mother never warned it not to eat the daisies. *Paper Converting Mach. Co. v. Magna-Graphic Corp.*, 785 F.2d 1013, 1015-16, 228 USPQ 938, 939 (Fed. Cir. 1986) (the court also indicated that there was a duty, because of the injunction, to be ultra careful).

¹⁶⁶ *Scott Paper Co. v. Moore Business Forms, Inc.*, 594 F. Supp. 1051, 1085, 224 USPQ 11, 37 (D. Del. 1984).

warranted after the subject patent is upheld as not invalid, contrary to the initial opinion of counsel, in other litigation.¹⁶⁷

F. Conclusion

Whether infringement is willful is, by definition, a factual question of the infringer's intent. Although an opinion of counsel is an important factor in determining willfulness, its importance does not depend on its legal correctness; “[r]ather, counsel’s opinion must be thorough enough, as combined with other factors, to instill a belief in the infringer that a court might reasonably hold the patent is invalid, not infringed, or unenforceable.”¹⁶⁸ Indeed, the question of the competency of the opinion arises only when counsel turns out to have been wrong.

Should the advice of counsel fail, the opinion rendering that advice may become an issue in a subsequent trial on willfulness—notwithstanding the client’s presumed good faith in obtaining the opinion in the first place. The opinion, under the intense scrutiny of litigation and if prepared without the guidelines provided above in mind, may turn out to be a factor showing *lack* of good faith. Justification for discrediting a right-to-use opinion is usually found in questions about the competency of the opinion, the objectivity of counsel, lack of credibility in the opinion, the timing of the opinion relative to the infringing activity, failure of the client to follow the opinion, or an infringer’s lack of candor with respect to facts underlying the opinion.

§13.04 Noninfringement Analysis

A. Overview

Generally, infringement is the unauthorized making, using, importing, offering to sell, or selling of a patented method or system in the United States during the term of the patent.¹⁶⁹ One also

¹⁶⁷ *International Mfg. Co. v. Landon, Inc.*, 336 F.2d 723, 728, 142 USPQ 421, 424 (9th Cir. 1964) (although the court held that infringement was not willful in view of counsel’s prelitigation opinion that the patents-in-suit were invalid, continuation of the accused activity after the patents-in-suit were later upheld in other litigation was found to make the subsequent infringement willful), *cert. denied*, 379 U.S. 988, *reh’g denied*, 380 U.S. 938 (1965).

¹⁶⁸ *See, e.g.*, *Ortho Pharmaceutical Corp. v. Smith*, 959 F.2d 936, 944, 22 USPQ2d 1119, 1126 (Fed. Cir. 1992) (“There is no willful infringement when the accused infringer reasonably relied upon an opinion of counsel—even if that opinion is ultimately proved wrong after trial.”); *Polaroid Corp. v. Eastman Kodak Co.*, 16 USPQ2d 1481, 1535 (D. Mass. 1990) (“Kodak consulted Mr. Carr early and often as it developed its instant integral photography system. Mr. Carr examined Kodak’s products, sometimes even requesting additional tests in order to understand how the technology worked, and carefully studied any related Polaroid patents. The patent clearance process involved review of the file wrapper, the prosecution history, and the prior art. Of the ten patents and thirty-four different claims eventually considered by Judge Zobel, seven patents were found valid and claims infringed. Altogether, Mr. Carr reviewed over 250 Polaroid and non-Polaroid patents (containing literally hundreds of claims) and rendered countless oral and 67 written opinions on the entire range of products Kodak developed as part of its instant photography program. In the totality of the circumstances, Mr. Carr’s advice simply turned out to be incorrect concerning the relatively few patents eventually found infringed.”), *corrected for clerical errors*, 17 USPQ2d 1711 (D. Mass. 1990).

¹⁶⁹ 35 U.S.C. §271(a) (“Except as otherwise provided in this title, whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent.”).

may be liable for infringement by knowingly inducing the infringing conduct of another,¹⁷⁰ or by otherwise contributing to the infringing conduct of another.¹⁷¹

There can be no infringement if an accused infringer's making or using of a patented system is solely for an experimental purpose and not for profit.¹⁷²

In the context of litigation, infringement, whether literal or under the doctrine of equivalents, is a question of fact reviewed by an appellate court for clear error.¹⁷³ The burden is on the patent owner to prove infringement by a preponderance of the evidence.¹⁷⁴

In determining patent infringement, the factfinder should focus on the claims. The claims alone define the bounds of the patentee's right to exclude; only the claims can be infringed.¹⁷⁵ Because each element of a claim is material and essential, infringement of the claims of a patent requires, without exception, that an accused system contain each claim element or its equivalent.¹⁷⁶ The failure to meet a single limitation is sufficient to negate infringement of the claim.¹⁷⁷

Only a single claim needs to be infringed for one to be liable for patent infringement.¹⁷⁸ One may infringe an independent claim and not infringe a dependent claim; on the other hand, one who does not infringe an independent claim cannot infringe a dependent claim.¹⁷⁹

¹⁷⁰ 35 U.S.C. §271(b) (“Whoever actively induces infringement of a patent shall be liable as an infringer.”); *Water Technologies Corp. v. Calco, Ltd.*, 850 F.2d 660, 668, 7 USPQ2d 1097, 1103 (Fed.Cir. 1988) (“Although Section 271(b) does not use the word ‘knowing,’ the case law and legislative history uniformly assert such a requirement.”).

¹⁷¹ 35 U.S.C. §271(c) (“Whoever offers to sell or sells within the United States or imports into the United States a component of a patented machine, manufacture, combination or composition, or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use, shall be liable as a contributory infringer.”).

¹⁷² *See, e.g.,* *Chesterfield v. United States*, 159 F. Supp. 371, 375-376, 116 USPQ 445, 448 (Ct. Cl. 1958); *Ruth v. Stearns-Rogers Mfg. Co.*, 13 F. Supp. 697, 703, 29 USPQ 400, 407-08 (D. Colo. 1935), *rev'd on other grounds*, 87 F.2d 35, 32 USPQ 227 (10th Cir. 1936).

¹⁷³ *Winans v. Denmead*, 56 U.S. (15 How.) 330, 338 (1854); *SRI Int'l v. Matsushita Elec. Corp.*, 775 F.2d 1107, 1125, 227 USPQ 577, 589 (Fed. Cir. 1985) (in banc).

¹⁷⁴ *See, e.g.,* *Smith Hline Diagnostics, Inc. v. Helena Labs Corp.*, 859 F.2d 878, 8 USPQ 1468 (Fed. Cir. 1988); *Envirotech Corp. v. Al George, Inc.*, 730 F.2d 753, 221 USPQ 473 (Fed. Cir. 1984).

¹⁷⁵ *See* *Environmental Instr., Inc. v. Sutron Corp.*, 877 F.2d 1561, 11 USPQ2d 1132 (Fed. Cir. 1989) (there can be no literal infringement where the accused device incorporates merely the principal teachings of the patent); *Everpure, Inc. v. Cuno, Inc.*, 875 F.2d 300, 10 USPQ2d 1855 (Fed. Cir. 1989); *Perini Am., Inc. v. Paper Converting Mach. Co.*, 832 F.2d 581, 4 USPQ2d 1621 (Fed. Cir. 1987); *A.B. Dick Co. v. Burroughs Corp.*, 713 F.2d 700, 218 USPQ 965 (Fed. Cir. 1983).

¹⁷⁶ *Athletic Alternatives, Inc. v. Prince Mfg., Inc.*, 73 F.3d 1573, 1581, 37 USPQ2d 1365, 1373 (Fed. Cir. 1996); *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 935, 4 USPQ2d 1737, 1739-40 (Fed. Cir. 1987) (in banc), *cert. denied*, 485 U.S. 961 (1988); *Lemelson v. United States*, 752 F.2d 1538, 1551, 224 USPQ 526, 533 (Fed. Cir. 1985).

¹⁷⁷ *Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1539, 19 USPQ2d 1367, 1369 (Fed. Cir. 1991); *see* *Dolly, Inc. v. Spalding & Evenflo Cos.*, 16 F.3d 394, 397, 29 USPQ2d 1767, 1769 (Fed. Cir. 1994).

¹⁷⁸ *Panduit Corp. v. Dennison Mfg. Co.*, 836 F.2d 1329, 5 USPQ2d 1266 (Fed. Cir. 1987); *see* *Wahpeton Canvas Co. v. Frontier, Inc.*, 870 F.2d 1546, 10 USPQ2d 1201 (Fed. Cir. 1989).

B. General Noninfringement Analysis

Determining whether a patent claim has been infringed literally or under the doctrine of equivalents requires a two-step analysis: “First, the claim must be properly construed to determine its scope and meaning. Second, the claim as properly construed must be compared to the accused [system].”¹⁸⁰

C. Factual Basis

In preparing an opinion, the practitioner’s understanding of the accused system and the patented invention should be described in plain English. That is, the patent attorney should avoid “patent-ese.” Of course, the information relating to the practitioner’s understanding of both the accused system and the patented invention should have been gathered and developed during the investigation stage.

I. INFRINGEMENT ANALYSIS

A. Our Understanding of XYZ’s System and Method

B. Our Understanding of the ‘123 Patent

These two subsections would define the factual perspective from which the practitioner is operating. They also provide an antecedent basis from which to compare and contrast the claims of the patent and the accused system.

The process of drafting these sections is a useful exercise when addressing electronics or computer hardware and software because it forces the practitioner to obtain a solid understanding of the technology at issue. This establishes the competence of the practitioner and helps confirm that the opinion is well reasoned and fact-based. In addition, these two subsections give the client, who may have more technical expertise than the practitioner, the opportunity to comment, correct, criticize, or elaborate on the practitioner’s understanding of the accused system, the patented invention, or both. This input may be critical to the accuracy of the ultimate conclusions. Therefore, the practitioner should seek the client’s comments on these subsections before drafting a final opinion or, at least, urge the client to immediately point out errors or deficiencies in the factual basis of the opinion so that the practitioner can revise or supplement it.

¹⁷⁹ *Wahpeton Canvas Co. v. Frontier, Inc.*, 870 F.2d 1546, 10 USPQ2d 1201 (Fed. Cir. 1989); *see Becton Dickinson & Co. v. C.R. Bard, Inc.*, 922 F.2d 792, 17 USPQ2d 1097 (Fed. Cir. 1990).

¹⁸⁰ *Carroll Touch, Inc. v. Electro Mechanical Sys., Inc.*, 15 F.3d 1573, 1576, 27 USPQ2d 1836, 1839 (Fed. Cir. 1993); *see Becton Dickinson & Co. v. C.R. Bard Inc.*, 922 F.2d 792, 796, 17 USPQ2d 1097, 1099 (Fed. Cir. 1990) (To resolve infringement, a court determines the scope and meaning of the claims and assesses whether the accused device falls within those bounds.); *Atlas Powder Co. v. E.I. du Pont de Nemours*, 750 F.2d 1569, 224 USPQ 409 (Fed. Cir. 1984).

D. Claim Interpretation

The first step in determining infringement is to interpret the claims. In a litigation context, claim construction is a question of law, reviewed on appeal *de novo*.¹⁸¹ Ultimately, one must strive to construe the claim language from the standard of what the words would have meant to one skilled in the art as of the application date.¹⁸²

As a matter of general principle, the language of the claims, plus equivalents of the claimed invention, define the bounds of the patentee's exclusive rights.¹⁸³ Consequently, as the threshold step in determining literal infringement, claim interpretation is probably the most important step of the determination. As Judge Mayer of the Federal Circuit recognized, "All these pages and all these words cannot camouflage what the court well knows: to decide what the claims mean is nearly always to decide the case."¹⁸⁴ Similarly, for the purposes of an opinion, to interpret the claims is nearly always to decide whether or not the accused system infringes.

Because claim construction is the threshold step in an infringement determination, the opinion drafter should recognize that erroneous claim construction can distort an entire infringement analysis.¹⁸⁵ As such, it is critical that one conducting the analysis ensure that the interpretation is supported by intrinsic evidence, sources extrinsic to the claims, and common sense.

To ensure that the claim interpretation decided upon by the practitioner is well supported, the practitioner may use a double-column analysis technique. According to this technique, the literal language of the claim is set forth in the left-hand column, and the corresponding language from the specification (preferably including the column and line number citation), reference to the drawings, and a discussion of the corresponding claim element are inserted in the right-hand column. This format provides a solid foundation for drawing a conclusion regarding claim interpretation. This exercise is particularly useful when establishing the corresponding structure, materials, and acts for the interpretation of means-plus function claims under 35 U.S.C. §112, paragraph 6.

I. Intrinsic Evidence

"[I]n interpreting an asserted claim, [one] should look first to the intrinsic evidence of record, i.e., the patent itself, including the claims, the specification, and, if in evidence, the prosecution

¹⁸¹ *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 988, 34 USPQ2d 1321, 1337 (Fed. Cir. 1995) (in banc), *aff'd*, 517 U.S. 370, 38 USPQ2d 1461 (1996) (there is no Seventh Amendment right to have a jury interpret the scope of the claims in a patent infringement suit).

¹⁸² *See W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1556, 220 USPQ 303, 316 (Fed. Cir. 1983).

¹⁸³ *See Bell Communications Research, Inc. v. Vitalink Communications Corp.*, 55 F.3d 615, 619-20, 34 USPQ2d 1816, 1819 (Fed. Cir. 1995) ("First, and most importantly, the language of the claim defines the scope of the protected invention."). *See* Chapter 7 for a detailed discussion of drafting patent applications to achieve broad claim interpretation.

¹⁸⁴ *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 989, 34 USPQ2d 1321, 1337 (Fed. Cir. 1995) (in banc), J. Mayer, concurring opinion.

¹⁸⁵ *ZMI Corp. v. Cardiac Resuscitator Corp.*, 844 F.2d 1576, 6 USPQ2d 1557 (Fed. Cir. 1988); *Bausch & Lomb, Inc. v. Barnes-Hind, Inc.*, 796 F.2d 443, 230 USPQ 416 (Fed. Cir. 1986); *Moeller v. Ionetics, Inc.*, 794 F.2d 653, 229 USPQ 992 (Fed. Cir. 1986).

history. [Citations omitted.] Such intrinsic evidence is the most significant source of the legally operative meaning of disputed claim language.”¹⁸⁶

a. Ordinary Meaning of Claim Language. As the court would do in infringement litigation, the practitioner should first look “to the words of the claims themselves, both asserted and nonasserted, to define the scope of the patented invention.”¹⁸⁷ When interpreting a claim, the words of the claim should be given their ordinary meaning, unless the patentee has chosen to be his or her own lexicographer and used the terms in a different manner.¹⁸⁸

b. Doctrine of Claim Differentiation. One may consider the language of other claims to aid in the interpretation of a particular claim. But one should not ordinarily interpret one claim so as to make it identical to another. As the Federal Circuit has pointed out, it generally would be “improper for courts to read into an independent claim a limitation explicitly set forth in another claim.”¹⁸⁹

The Federal Circuit has made it clear, however, that the claim differentiation doctrine is not an absolute rule, but a guide to construction, which should be used so long as it “does not run afoul of other claim construction mandates.”¹⁹⁰ For example, in *Laitram Corp. v. Rexnord, Inc.*,¹⁹¹ the plaintiff relied on the doctrine of claim differentiation in arguing that a means-plus-function element in a claim could not be limited to the corresponding structure in the specification and its equivalents because other claims, usually dependent ones, recited that structure. The Federal Circuit rejected this argument:

¹⁸⁶ *Vitronics Corp. v. Conceptronic Inc.*, 90 F.3d 1576, 1582, 39 USPQ2d 1573, 1576 (Fed. Cir. 1996); see *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979, 34 USPQ2d 1321, 1329 (Fed. Cir. 1995) (in banc), *affd.*, 517 U.S. 370, 38 USPQ2d 461 (1996).

¹⁸⁷ *Vitronics Corp. v. Conceptronic Inc.*, 90 F.3d 1576, 1582, 39 USPQ2d 1573, 1576 (Fed. Cir. 1996); see *Bell Communications Research, Inc. v. Vitalink Communications Corp.*, 55 F.3d 615, 620, 34 USPQ2d 1816, 1819 (Fed. Cir. 1995); *Autogiro Co. of Am. v. United States*, 384 F.2d 391, 155 USPQ 697 (Ct. Cl. 1967).

¹⁸⁸ *Vitronics Corp. v. Conceptronic Inc.*, 90 F.3d 1576, 1582, 39 USPQ2d 1573, 1576 (Fed. Cir. 1996); *York Products, Inc. v. Central Tractor Farm & Family Ctr.*, 99 F.3d 1568, 1572, 40 USPQ2d 1619, 1622 (Fed. Cir. 1996) (“Without an express intent to impart a novel meaning to claim terms, an inventor’s claim terms take on their ordinary meaning.”); *Hoechst Celanese Corp. v. BP Chems. Ltd.*, 78 F.3d 1575, 1578, 38 USPQ2d 1126, 1129 (Fed. Cir. 1996) (“A technical term used in a patent document is interpreted as having the meaning that it would be given by persons experienced in the field of the invention, unless it is apparent from the patent and the prosecution history that the inventor used the term with a different meaning.”); (Fed. Cir. 1993); see *North Am. Vaccine, Inc. v. American Cyanamid Co.*, 7 F.3d 1571, 1576, 28 USPQ2d 1333, 1337 (Fed. Cir. 1993); *Hormone Research Found., Inc. v. Genentech, Inc.*, 904 F.2d 1558, 1563, 15 USPQ2d 1039, 1043 (Fed. Cir. 1990) (“It is a well-established axiom in patent law that a patentee is free to be his or her own lexicographer and thus may use terms in a manner contrary to or inconsistent with one or more of their ordinary meanings.”).

¹⁸⁹ *Environmental Designs Ltd. v. Union Oil Co. of Calif.*, 713 F.2d 693, 699, 218 USPQ 865, 871 (Fed. Cir. 1983).

¹⁹⁰ See, e.g., *Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1538, 19 USPQ2d 1367, 1371, (Fed. Cir. 1991); *Tandon Corp. v. U.S. Int’l Trade Comm’n*, 831 F.2d 1017, 1028, 4 USPQ2d 1283, 1292 (Fed. Cir. 1987) (The “practice has long recognized that ‘claims may be multiplied . . . to define the metes and bounds of the invention in a variety of different ways.’ . . . Thus two claims which read differently can cover the same subject matter.”); *Autogiro Co. of Am. v. United States*, 384 F.2d 391, 404, 155 USPQ 697, 708 (Ct. Cl. 1967) (“Claim differentiation is a guide, not a rigid rule. If a claim will bear only one interpretation, similarity will have to be tolerated.”).

¹⁹¹ 939 F.2d 1533, 19 USPQ2d 1367 (Fed. Cir. 1991).

If Laitram's argument were adopted, it would provide a convenient way of avoiding the express mandate of section 112(6). We hold that one cannot escape that mandate by merely adding a claim or claims specifically reciting such structure or structures.¹⁹²

c. Effect of Preamble as Claim Limitation. The preamble of a claim may¹⁹³ or may not¹⁹⁴ be interpreted as a limitation, depending on how it is used. The preamble language can be construed as a limitation when it gives "life and meaning" to the claim¹⁹⁵; that is, when it is essential to define the invention.¹⁹⁶ But when the preamble states only a purpose or intended use for the invention, and "the portion of the claim following the preamble [is] a self-contained description . . . not depending for completeness upon the introductory clause," the preamble is not limiting.¹⁹⁷

The preamble was found to give "life and meaning" to a claim in the electronics/software-related case of *Bell Communications Research Inc. v. Vitalink Communications Corp.*¹⁹⁸ Bellcore was granted a patent on a method for interconnecting broadcast networks, such as local area networks (LANs), that use multiple concurrent spanning trees for packet delivery. Each packet included a destination address, a source address, and a tree identifier. The preamble in claim 6 of the patent recited a "method for transmitting a packet over a system comprising a plurality of networks . . . said packet including a source address and a destination address." After the preamble, the claim included the steps of "assigning, by said source device, one of said trees to broadcast said packet and associating with said packet an identifier indicative of said one of said trees." In holding that the limitation was essential to define the scope of the claimed subject matter, the Federal Circuit reasoned that, by referring to "said packet" in subsequent steps of the claimed method, the steps *expressly incorporated by reference* the preamble term "said packet including a source address and destination address."¹⁹⁹ The "incorporation by reference" rationale had been applied by the Federal Circuit and Court of Customs and Patent Appeals in other cases.²⁰⁰

¹⁹² *Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1538, 19 USPQ2d 1367, 1371 (Fed. Cir. 1991).

¹⁹³ *In re Paulsen*, 30 F.3d 1475, 31 USPQ2d 1671 (Fed. Cir. 1994); *In re Fritch*, 972 F.2d 1260, 23 USPQ2d 1780 (Fed. Cir. 1992); *Gerber Garment Technology, Inc. v. Lectra Sys., Inc.*, 916 F.2d 683, 16 USPQ2d 1436 (Fed. Cir. 1990); *Intervet Am., Inc. v. Kee-Vet Lab., Inc.*, 887 F.2d 1050, 12 USPQ2d 1474 (Fed. Cir. 1989); *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 9 USPQ2d 1962 (Fed. Cir. 1989); *Diversitech Corp. v. Century Steps, Inc.*, 850 F.2d 675, 7 USPQ2d 1315 (Fed. Cir. 1988); *Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 221 USPQ 669 (Fed. Cir.), *cert. denied*, 469 U.S. 857 (1984); *Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861, 228 USPQ 90 (Fed. Cir. 1985); *Kropa v. Robie*, 187 F.2d 150, 88 USPQ 478 (C.C.P.A. 1951); *Gustavsson v. Valentini*, No. 101,925 (Pat. Off. Bd. App. & Inter. 1993).

¹⁹⁴ *DeGeorge v. Bernier*, 768 F.2d 1318, 226 USPQ 758 (Fed. Cir. 1985) (where the effect of words in the preamble is ambiguous at best, a compelling reason must exist before the language can be given weight); *Arschall v. United States*, 621 F.2d 421, 208 USPQ 397 (Ct. Cl. 1980).

¹⁹⁵ *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 9 USPQ2d 1962 (Fed. Cir. 1989).

¹⁹⁶ *Diversitech Corp. v. Century Steps, Inc.*, 850 F.2d 675, 7 USPQ2d 1315 (Fed. Cir. 1988).

¹⁹⁷ *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 480-81 (C.C.P.A. 1951).

¹⁹⁸ 55 F.3d 615, 34 USPQ2d 1816 (Fed. Cir. 1995).

¹⁹⁹ 55 F.3d at 621, 34 USPQ2d at 1820.

²⁰⁰ *See Derman v. PC Guardian*, 73 F.3d 381, 37 USPQ2d 1733 (Fed. Cir. 1996) (nonprecedential) (phrase "cassette tape chamber" in claim preamble, which is referenced in body of claim as "said chamber" or "said chamber opening," limits scope of claim); *see Kropa v. Robie*, 88 USPQ 478 (C.C.P.A. 1951) (when the preamble term is referred to, in the body of the claim, as "said" term, the preamble term is expressly incorporated in the claim body).

There is no clear standard for determining whether the preamble of a claim constitutes a limitation; the outcome depends on the facts of each case in view of the claimed invention as a whole.²⁰¹ In *Corning Glass Works v. Sumitomo Electric U.S.A.*,²⁰² the Federal Circuit questioned the “life and meaning” test for construing the preamble as a limitation, noting that “no litmus test can be given with respect to when the introductory words of a claim, the preamble, constitute a statement of purpose for a device or are, in themselves, additional structural limitations of a claim. To say that a preamble is a limitation if it gives ‘meaning to a claim’ may merely state the problem rather than lead one to the answer. The effect preamble language should be given can be resolved only on review of the entirety of the patent to gain an understanding of what the inventors actually invented and intended to encompass by the claims.”²⁰³

d. Using the Specification. The specification is always highly relevant to claim construction analysis. Because the patentee may be his or her own lexicographer:

[I]t is always necessary to review the specification to determine whether the inventor has used any terms in a manner inconsistent with their ordinary meaning. The specification acts as a dictionary when it expressly defines terms used in the claims or when it defines terms by implication.²⁰⁴

Although an inventor is free to define the specific terms used to describe his or her invention, this must be done with reasonable clarity, deliberateness, and precision.²⁰⁵ That is, “[w]here an inventor chooses to be his own lexicographer and to give terms uncommon meanings, he must set out his uncommon definition in some manner within the patent disclosure” so as to give one of ordinary skill in the art notice of the change.²⁰⁶

When claim language remains ambiguous after considering the claims themselves, “[i]t is entirely proper to use the specification to interpret what the patentee meant by a word or phrase in a claim.”²⁰⁷ Usually, the specification is dispositive, for it is the single best guide to the meaning of a disputed term.²⁰⁸

²⁰¹ *In re Stencil*, 828 F.2d 751, 4 USPQ2d 1071 (Fed. Cir. 1987).

²⁰² 868 F.2d 1251, 9 USPQ2d 1962 (Fed. Cir. 1989) (in claim having a preamble reciting “an optical waveguide,” the court interpreted the preamble as a structural limitation on the scope of the claim rather than a statement of purpose).

²⁰³ 868 F.2d at 1257, 9 USPQ2d at 1966 (specification making clear that inventors were working on particular problem of effective optical communication system, not on general improvements in conventional optical fibers, warrants finding that claim preamble words “an optical waveguide” do not merely state purpose or intended use for claimed structure but rather give “life and meaning” and provide further positive limitations to invention claimed).

²⁰⁴ *Vitronics Corp. v. Conceptoronic Inc.*, 90 F.2d 1576, 1582, 39 USPQ2d 1573, 1577 (Fed. Cir. 1996); *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979, 34 USPQ2d 1321, 1330 (Fed. Cir. 1995) (in banc), *affd.*, 517 U.S. 370, 38 USPQ2d 1461 (1996).

²⁰⁵ *In re Paulsen*, 30 F.3d 1475, 1479, 31 USPQ2d 1671, 1674 (Fed. Cir. 1994).

²⁰⁶ *See Intellicall, Inc. v. Phonometrics, Inc.*, 952 F.2d 1384, 1387, 21 USPQ2d 1383, 1386 (Fed. Cir. 1992).

²⁰⁷ *E.I. du Pont de Nemours v. Phillips Petroleum Co.*, 849 F.2d 1430, 1433, 7 USPQ2d 1129, 1131 (Fed. Cir. 1988); *Pall Corp. v. Micron Separations Inc.*, 66 F.3d 1211, 36 USPQ2d 1225 (Fed. Cir. 1995), *cert. denied*, 117 S.Ct. 1243 (1997).

²⁰⁸ *Vitronics Corp. v. Conceptoronic Inc.*, 90 F.3d 1576, 1582, 39 USPQ2d 1573, 1577 (Fed. Cir. 1996).

When construing claim language according to the specification, it is improper to import an extraneous limitation from the specification into the claims. The courts consider an extraneous limitation from the specification one that is “wholly apart from any need to interpret particular words or phrases in the claim.”²⁰⁹

While it is entirely proper to interpret claims according to the specification, the scope of the claims is not necessarily limited to specific embodiments or examples described in the specification.²¹⁰

e. Means-Plus-Function Limitations. The difficult task of claim interpretation is compounded by the means-plus-function or step-plus-function claim format. 35 U.S.C. §112, paragraph 6, provides the statutory basis for this claiming technique:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material or acts described in the specification and equivalents thereof.

Claims in patents directed to electronic and software inventions often use means-plus-function or step-plus-function limitations. Although there is no magic language that must appear in a claim for it to trigger a 35 U.S.C. §112, paragraph 6, interpretation, a limitation must be set forth in part by the function it performs rather than by the specific structure, material, or acts that perform the function.²¹¹ The PTO has issued guidelines on examples of limitations that fall within the scope of 35 U.S.C. §112, paragraph 6. These guidelines are as follows:

- (1) a jet driving device so constructed and located on the rotor to drive the rotor;
- (2) “printing means” and “means for printing”;
- (3) force generating means adapted to provide;
- (4) call cost register means, including a digital display for providing a substantially instantaneous display;
- (5) reducing coefficient of friction of the resulting film; and
- (6) raising the Ph of the resultant pulp to about 5.0 to precipitate. . . .²¹²

²⁰⁹ E.I. duPont de Nemours v. Phillips Petroleum Co., 849 F.2d 1430, 7 USPQ2d 1129 (Fed. Cir. 1988); Hoover Group Inc. v. Custom Metalcraft, Inc., 66 F.3d 299, 36 USPQ2d 1101 (Fed. Cir. 1995).

²¹⁰ Ekhian v. Home Depot Inc., 104 F.3d 1299, 1303, 41 USPQ2d 1364, 1367 (Fed. Cir. 1997); Amhil Enterprises Ltd. v. Wawa, Inc., 81 F.3d 1554, 1559, 38 USPQ2d 1471, 1474 (Fed. Cir. 1996); see Laitram Corp. v. Cambridge Wire Cloth Co., 863 F.2d 855, 865, 9 USPQ2d 1289, 1299 (Fed. Cir. 1988) (“References to a preferred embodiment, such as those often present in a specification, are not claim limitations.”); Texas Instruments, Inc. v. U.S. Int’l Trade Comm’n, 805 F.2d 1558, 1563, 231 USPQ 833, 835 (Fed. Cir. 1986) (“This court has cautioned against limiting the claimed invention to preferred embodiments or specific examples in the specification.”). Compare Phonometrics, Inc. v. Northern Telecom Inc., 133 F.3d 1459, 45 USPQ2d 1421 (Fed. Cir. 1998).

²¹¹ Examination Guidelines for Claims, 1162 O.G. 59 (May 17, 1994) (citations omitted). See Section 13.04.F below for further discussion of 35 U.S.C. §112, paragraph 6.

²¹² Examination Guidelines for Claims, 1162 O.G. 59 (May 17, 1994) (citations omitted).

Exhibit 13.02

Cases in Which “Means-Plus-Function” Limitations Were Construed According to 35 U.S.C. §112, Paragraph 6

<i>Case</i> ²¹³	<i>Claimed Function</i>	<i>Corresponding Structure</i>
Pennwalt	Position indicating means to track an item through the sorting process.	Shift registers that respond to clock pulses in order to indicate the various positions of the items to be sorted before each item is discharged.
Valmont	Control means which steers the extension arm.	Angle encoders and comparator circuits which adjust and maintain the angular relationship between the main arm and the extension arm.
Zygo	Collecting two waveforms and focusing them onto a diffuse screen containing an integral alignment reticle.	Alignment reticle physically present on TV monitor. Reticle composed of four lines arranged in a crosshatch pattern with opaque circular dot in center.
Hayes	(a) Timing means for detecting passage of time after data signals; (b) Means for detecting sequence of data signals.	(a) Microprocessor; (b) Microprocessor.
Alappat	(a) Means for determining vertical distance (b) Means for determining elevation of pixels (c) Means for normalizing the vertical distance and elevation (d) Means for outputting illumination intensity data.	(a) Arithmetic logic circuit to perform absolute value function (b) Arithmetic logic circuit to perform absolute value function (c) Pair of barrel shifters (d) ROM.
Endress	(a) Take analog echo response pulse and convert it to a digital number; (b) Provide an indication of material level.	(a) Analog-to-digital converter; (b) Adder, MOS register, AND gates (digital integrator); comparator, registers, and DAC (digital peak detector).

²¹³ Pennwalt Corp. v. Durand-Wayland, Inc., 833 F.2d 931, 4 USPQ2d 1737 (Fed. Cir. 1987) (in banc), *cert. denied*, 485 U.S. 961 (1988); Valmont Indus. Inc. v. Reinke Mfg. Co., 983 F.2d 1039, 25 USPQ2d 1451 (Fed. Cir. 1993); Zygo Corp. v. Wyko Corp., 79 F.3d 1563, 38 USPQ2d 1281 (Fed. Cir. 1996); *In re Alappat*, 33 F.3d 1526, 31 USPQ2d 1545 (Fed. Cir. 1994); Endress & Hauser Inc. v. Hawk Measurement Systems Pty. Ltd., 122 F.3d 1040, 43 USPQ2d 1849 (Fed. Cir. 1997).

The Federal Circuit has made it clear that like all other claim limitations, means-plus-function limitations must always be interpreted in the same fashion regardless of whether the issue is infringement or validity before a court, or patentability before the PTO.²¹⁴ The Federal Circuit states, “Generally, a number of factors may be considered when determining the scope of a means-plus-function limitation, ‘including the language of the claim, the patent specification, the prosecution history of the patent, other claims in the patent, and expert testimony.’”²¹⁵

When interpreting a means-plus-function limitation, it is not always clear how much or how little corresponding structure, material, or acts should be included in the claim. This is particularly true in electronic and software patents where a high-level function recited in the claim corresponds to one block of a high-level functional block diagram for a system or software. The difficulty may arise when that one block of a high-level functional block is further described using several hierarchies of middle- and low-level block diagrams.

Exhibit 13.02 shows several cases involving electronics or software in which the “corresponding structure . . . or acts” of recited functional language were determined according to 35 U.S.C. §112, paragraph 6.

It should be noted that the term *means*, as opposed to the term *means for*, can be used in a claim that is not a means-plus-function claim to indicate a tool or device with a particular structure recited in the claim to carry out its intended function.²¹⁶

f. Using the Prosecution History. The prosecution history is “relevant not only for purposes of prosecution history estoppel, but also for construing the meaning and scope of the claims.”²¹⁷ As the Federal Circuit has indicated, “[a]n invention is construed not only in the light of the claims, but also with reference to the file wrapper or prosecution history in the Patent Office. . . . [C]laims that have been narrowed in order to obtain the issuance of a patent by distinguishing the prior art cannot be sustained to cover that which was previously by limitation eliminated from the patent.”²¹⁸

²¹⁴ *In re Donaldson Co.*, 16 F.3d 1189, 29 USPQ2d 1845 (Fed. Cir. 1994) (in banc). See Chapter 9 for a detailed discussion of *In re Donaldson*.

²¹⁵ *In re Hayes Microcomputer Prods., Inc.*, 982 F.2d 1527, 25 USPQ2d 1241 (Fed. Cir. 1992).

²¹⁶ *Surgical Laser Technologies Inc. v. Laser Industries Ltd.*, 29 USPQ2d 1533 (E.D. Pa. 1993).

²¹⁷ *Alpex Computer Corp. v. Nintendo Co. Ltd.*, 102 F.3d 1214, 1220, 40 USPQ2d 1667, 1671 (Fed. Cir. 1996), *cert. denied*, 117 S.Ct. 2480 (1997); see *Vitronics Corp. v. Conceptor Inc.*, 90 F.3d 1576, 1582-83, 39 USPQ2d 1573, 1577 (Fed. Cir. 1996) (“[T]he record before the Patent and Trademark Office is often of critical significance in determining the meaning of the claims,” as it includes “any express representations made by the applicant regarding the scope of the claims” before the Office.); *Moleculon Research Corp. v. CBS, Inc.*, 793 F.2d 1261, 1270, 229 USPQ 805, 811 (Fed. Cir. 1986) (“While it is true that the effect of prosecution history arises as an estoppel when applying infringement analysis under the doctrine of equivalents, the prosecution history can and should, where relevant, be assessed (along with, e.g., claim language and specification) in properly interpreting claim language.”); *McGill Inc. v. John Zink Co.*, 736 F.2d 666, 673, 221 USPQ 944, 949 (Fed. Cir. 1984) (“Prosecution history may be used not only in an estoppel context but also as a claim construction tool.”).

²¹⁸ *Southwall Tech., Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1576, 34 USPQ2d 1673, 1676 (Fed. Cir. 1995) (“The prosecution history limits the interpretation of claim terms so as to exclude any interpretation that was disclaimed during prosecution.”); *Howes v. Medical Components, Inc.*, 814 F.2d 638, 645, 2 USPQ2d 1271, 1273, 1274-75 (Fed. Cir. 1987) (“during the prosecution of a patent, claim language may take on new meanings, possibly different from that which was originally intended”); *Graham v. John Deere Co.*, 383 U.S. 1, 33, 148 USPQ 459, 473 (1966).

Before 1997, if claim language was not altered during prosecution in response to an Examiner rejection, the Federal Circuit has treated claims as having been limited only if the applicant “clearly disavowed” claim scope.²¹⁹ In 1997, the U.S. Supreme Court stated that the burden is on the patent owner to establish the reason for a claim amendment during prosecution; if no explanation is established, the court should presume that there was a substantial reason related to patentability for including the limiting element added by amendment.²²⁰

To the extent that the claims at issue and other claims cover the same structure, one may consider the prosecution history of such other claims in construing the claim at issue.²²¹ Also, included within an analysis of the file history may be an examination of the cited prior art.²²²

In *Alpex Computer Corp. v. Nintendo Company Ltd.*, the Federal Circuit held that a video game patent on a system for producing bit-mapped video display signals using random access memory (RAM) was not infringed by the Nintendo picture processing unit for producing on-the-fly screen images using shift registers, overturning a \$250 million verdict.

Alpex Computer Corporation asserted a patent covering a system for producing video display signals for a home video game. The system uses RAM with storage positions corresponding to each discrete position on the standard television raster. Thus, the storage positions correspond to the approximately 32,000 dots or bars that the cathode ray beam illuminates.

Because the RAM holds at least one bit of data for each position on the memory map of the raster, the display system is called bit-mapping. The advantage of this system is that it provides for the representation of every image with the raster or display RAM, thereby providing for the manipulation of complex images. However, because bit-mapping requires the construction of each image within the display RAM before display, the operation of the system is slowed.

Nintendo makes the Nintendo Entertainment System (NES), which also produces video signals by means of storage positions corresponding to discrete positions on the television raster. NES, however, does not include RAM with storage positions corresponding to each position on the raster. Instead, it uses a picture processing unit (PPU) to perform generation of images on screen. The PPU receives preformed, horizontal slices of data and places each slice in one of eight shift registers. These slices of data are then processed directly to the screen. The PPU repeats this process to assemble the initial image on the screen, and then repeats the process as necessary to form changes in the image. This “on-the-fly” system, using shift registers to process slices of images, is a faster way of displaying movement of images than the Alpex patent’s bit-mapping of the RAM-based system.

²¹⁹ See *Senmed, Inc. v. Richard-Allan Med. Indus., Inc.*, 888 F.2d 815, 820, 12 USPQ2d 1508, 1513 (Fed. Cir. 1989) (reversing jury’s claim interpretation that is “incontestably inconsistent with the position taken . . . during prosecution”).

²²⁰ *Warner-Jenkinson Co. v. Hilton Davis Chemical Co.*, 520 U.S. 17, 33, 41 USPQ2d 1865, 1873 (1997).

²²¹ *Alpex Computer Corp. v. Nintendo Co. Ltd.*, 102 F.3d 1214, 1220, 40 USPQ2d 1667, 1672 (Fed. Cir. 1996) (“[W]e discern no reason why prosecution history relating to the structure of the video display in the means-plus-function limitations of claim 1 is not pertinent to the same structure of the same display system in the means-plus-function limitations of claims 12 and 13.”).

²²² *Vitronics Corp. v. Conceptronic Inc.*, 90 F.3d 1576, 1583, 39 USPQ2d 1573, 1577 (Fed. Cir. 1996); *Autogiro Co. of Am. v. United States*, 384 F.2d 391, 399, 155 USPQ 697, 704 (Ct. Cl. 1967) (“In its broader use as source material, the prior art cited in the file wrapper gives clues as to what the claims do not cover.”).

According to the Federal Circuit, the district court should have given weight to the patent owner's attempt during prosecution to distinguish prior art structures using shift registers from its means-plus-function claims for a RAM-based, bit-mapped video display, even though that attempt was in the context of a claim not in issue: "Statements made during the prosecution relating to structures disclosed in the specification are certainly relevant to determining the meaning of the means-plus-function limitations of the claims at issue."²²³

In particular, Alpex remarked, "Claim 1, as amended, now clearly distinguishes over Okuda. The claim requires a random access memory which, as indicated previously, is not disclosed in Okuda." Because these statements concerned the same structure, only in the context of a different claim, the Federal Circuit considered the prosecution history directly relevant, and stated:

[W]e discern no reason why prosecution history relating to the structure of the video display in the means-plus-function limitations of claim 1 is not pertinent to the same structure in the same display system in the means-plus-function limitations of claims 12 and 13. Paragraph 6 of Section 112 requires that we construe a means-plus-function claim in view of the structure disclosed in the specification of the patent. Statements made during the prosecution relating to structures disclosed in the specification are certainly relevant to determining the meaning of the means-plus-function limitations of the claims at issue.²²⁴

Alpex's statements about the prior art distinguish any video display system based on shift registers, the Federal Circuit explained. Because the structure and operation of the NES paralleled the structure and operation of the prior art video display system, Alpex's claims could not be construed to cover the NES system. "Just as prosecution history estoppel may act to estop an equivalence argument under the doctrine of equivalence," Judge Archer stressed, "positions taken before the PTO may bar an inconsistent position on claim construction under §112 para. 6."²²⁵

In *Laitram Corp. v. NEC Corp.*,²²⁶ Laitram held a patent claiming an electro-optical printer. During printing, photosensitive paper moves at constant speed past an array of light-emitting diodes (LEDs). As the paper moves, the LEDs selectively activate (claim 1) or energize (claim 2) to expose, and thereby darken, stripes of varying lengths on the paper. These stripes form alpha-numeric characters.

The specification discloses two ways to print a stripe during an activation period. In one embodiment, an LED corresponding to the desired stripe location turns ON at the beginning of the activation period and remains continuously lit until the end of the period. The stripe thus printed combines with other stripes to form an alpha-numeric character. In a second embodiment, an LED rapidly turns ON and OFF, or "strokes," during the activation period. The strobed LED activation method also produces solid stripes that form characters on the paper.

²²³ Alpex Computer Corp. v. Nintendo Co. Ltd., 102 F.3d 1214, 1220, 40 USPQ2d 1667, 1672 (Fed. Cir. 1996).

²²⁴ *Id.* (citations omitted).

²²⁵ *Id.* at 1221, 40 USPQ2d at 1673.

²²⁶ 62 F.3d 1388, 36 USPQ2d 1206 (Fed. Cir. 1995).

NEC made a printer that produces alpha-numeric characters on a photosensitive recording medium. As the recording medium moves past LEDs arranged in an array, the NEC printer selectively strobes the LEDs to print characters. Each strobe is of fixed duration. Oval-shaped marks produced by a strobed LED overlap to create a stripe, and the stripe length varies depending on the duration of the strobing. Laitram sued NEC for infringing claims 1 and 2.

The dispute in this case was whether the claim terms “selectively activating” emitters for variable periods of time in claim 1, and “selectively energizing” emitters for variable periods of time in claim 2, covered printing “strobed” stripes, or only continuous stripes.

In construing the claims, the Federal Circuit observed that the patent specification, the language of several dependent claims, and the prosecution history all contemplate strobing during the variable periods of selective activation or selective energization. As such, the court concluded that Laitram did not define the relevant claim language to exclude strobed striping when it distinguished claim 2 from two prior art references during prosecution. Properly construed, claims 1 and 2 cover the printing of both continuous and strobed stripes, the Federal Circuit determined. As such, the NEC printer was found to literally infringe.

2. *Extrinsic Evidence*

“In most situations, an analysis of the intrinsic evidence alone will resolve any ambiguity in a disputed claim term. In such circumstances, it is improper to rely on extrinsic evidence.”²²⁷ If, however, intrinsic evidence is insufficient to establish the meaning of asserted claims, extrinsic evidence may be properly relied upon to understand the technology and to construe the claims.²²⁸

Extrinsic evidence consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, learned treatises, and technical articles.²²⁹ This evidence may be helpful to explain scientific principles, the meaning of technical terms, and terms of art that appear in the patent and prosecution history.

The court may, as a matter of discretion, receive extrinsic evidence in order to aid the court in coming to a correct conclusion as to the true meaning of the language employed in the patent. Dictionary definitions may be relied upon to construe claim terms so long as the dictionary definition does not contradict any definition found in or ascertained by a reading of the patent documents.²³⁰

²²⁷ Vitronics Corp. v. Conceptronic Inc., 90 F.3d 1576, 1583, 39 USPQ2d 1573, 1577 (Fed. Cir. 1996); Southwall Tech, Inc. v. Cardinal IG Co., 54 F.3d 1570, 1578, 34 USPQ2d 1673, 1678 (Fed. Cir. 1995).

²²⁸ Vitronics Corp. v. Conceptronic Inc., 90 F.3d 1576, 1583, 39 USPQ2d 1573, 1578 (Fed. Cir. 1996); see Pall Corp. v. Micron Separations, Inc., 66 F.3d 1211, 1216, 36 USPQ2d 1225, 1228 (Fed. Cir. 1995) (“In construing the claims we look to the language of the claims, the specification, and the prosecution history. Extrinsic evidence may also be considered, *if needed* to assist in determining the meaning or scope of technical terms in the claims.”); Hormone Research Found., Inc. v. Genentech, Inc., 904 F.2d 1558, 1562, 15 USPQ2d 1039, 1043 (Fed. Cir. 1990) (“Claim interpretation involves a review of the specification, the prosecution history, the claims (including unasserted as well as asserted claims), and, *if necessary*, other extrinsic evidence, such as expert testimony.”).

²²⁹ Markman v. Westview Instruments, Inc., 52 F.3d 967, 980, 34 USPQ2d 1321, 1330 (Fed. Cir. 1995) (in banc), *aff’d*, 517 U.S. 370, 38 USPQ2d 1461 (1996).

²³⁰ Vitronics Corp. v. Conceptronic Inc., 90 F.3d 1576, 1583 n.3, 39 USPQ2d 1573, 1578 n.3 (Fed. Cir. 1996).

As a matter of discretion, the court also may admit and rely on prior art, whether or not cited in the specification or the file history. This prior art can often help to demonstrate how a disputed term is used by those skilled in the art. “As compared to expert testimony, which often only indicates what a particular expert believes a term means, prior art references may also be more indicative of what all those skilled in the art generally believe a certain term means. Once again, however, reliance on such evidence is unnecessary, and indeed improper, when the disputed terms can be understood from a careful reading of the public record.”²³¹

For example, in *Texas Instruments Inc. v. Cypress Semiconductor Corp.*,²³² Texas Instruments (TI) owned patents on a process for encapsulating electronic components in plastic through “transfer molding.” The process is accomplished without damaging the semiconductor or wires that provide the electrical connection between the semiconductor device and the metal leads that extend outside the molded package.

The parties agreed that the claims required the semiconductor device to be connected to a “conductor.” The district court construed the term *conductor* to mean leads that extend from inside the package to the outside, and that connect the semiconductor device to an external circuit. Relying upon a dictionary definition, TI appealed, arguing that the term *conductor* should be construed more broadly, to include any element capable of conducting electricity.

The Federal Circuit upheld the district court’s interpretation. In construing the claims, the court did not even reach the dictionary definition, as the claims themselves and the specification made it clear that a conductor under this patent means leads that extend from inside the package to the outside. The finding of no literal infringement was affirmed.

3. *Markman v. Westview Instruments*

In dealing with inventions in the fields of electronics and computer hardware or software, the meaning of certain claim language is often at the heart of a dispute. For example, in *Markman v. Westview Instruments, Inc.*,²³³ Markman owned a patent on an inventory control device for dry cleaning and laundry establishments. Markman sued Westview, alleging Westview’s invoice printer was infringing. One of Markman’s claims recited, in part, “means to maintain an inventory total.”

At trial, a question existed regarding the true meaning of the term *inventory*. Westview moved for a judgment as a matter of law (JMOL), but the district court withheld its decision on the motion and let the case go to the jury. The jury returned a verdict of infringement, but the district court rejected the verdict and granted Westview’s motion for a JMOL. The district court rejected the claim interpretation of Markman’s expert witness, who interpreted *inventory* to mean “cash” or “invoices.” The court found that definition to be contrary to its ordinary and customary meaning, as well as contrary to the patent specification and file history.

Markman appealed to the Federal Circuit, arguing that the district court erred by not allowing the jury to interpret the word *inventory*. In November 1993, the Federal Circuit issued a sua sponte

²³¹ Vitronics Corp. v. Conceptronic Inc., 90 F.3d 1576, 1584, 39 USPQ2d 1573, 1578 (Fed. Cir. 1996); see Kearns v. Chrysler Corp., 32 F.3d 1541, 1547, 31 USPQ2d 1746, 1750 (Fed. Cir. 1994).

²³² 90 F.3d 1558, 39 USPQ2d 1492 (Fed. Cir. 1996).

²³³ 52 F.3d 967, 34 USPQ2d 1321 (Fed. Cir. 1995) (in banc), *aff’d*, 517 U.S. 370, 38 USPQ2d 1461 (1996).

order setting the case for an in banc review with another pending case involving a similar claim construction issue.²³⁴ The Federal Circuit held that patent claim language must be construed by the court as a matter of law. The Federal Circuit looked to the specification and prosecution history to determine the meaning of the term *inventory*. Although extrinsic evidence may be used to reach a correct conclusion, according to the Federal Circuit, claim construction is not the subject of fact finding and is subject to de novo review:

It has long been and continues to be a fundamental principle of American law that “the construction of written evidence is exclusively with the court.” . . . Further, it is only fair (and statutorily required) that competitors be able to ascertain to a reasonable degree the scope of a patentee’s right to exclude. . . . They may understand what is the scope of the patent owner’s rights by obtaining the patent and prosecution history—“the undisputed public record,” . . .—and applying established rules of construction to the language of the patent claim in the context of the patent. Moreover, competitors should be able to rest assured, if infringement litigation occurs, that a judge, trained in the law, will similarly analyze the text of the patent and its associated public record and apply the established rules of construction, and in that way arrive at the true and consistent scope of the patent owner’s rights to be given legal effect.²³⁵

Markman appealed to the U.S. Supreme Court, which affirmed the Federal Circuit decision, reasoning that functional considerations and the importance of uniformity dictate that claim construction is a question of law. The Supreme Court stated:

The construction of written instruments is one of those things that judges often do and are likely to do better than jurors unburdened by training in exegesis. Patent construction in particular “is a special occupation, requiring like all others, special training and practice. The judge, from his training and discipline, is more likely to give a proper interpretation to such instruments than a jury; and he is, therefore, more likely to be right, in performing such a duty, than a jury can be expected to be.”²³⁶

* * *

As we noted in *General Elec. Co. v. Wabash Appliance Corp.*, [citations omitted], “[t]he limits of a patent must have been known for the protection of the patentee, the encouragement of the inventive genius of others and the assurance that the subject of the patent will be dedicated ultimately to the public.” Otherwise, “a zone of uncertainty which enterprise and experimentation may enter only at the risk of infringement claims would discourage invention only a little less than unequivocal foreclosure of the field.”²³⁷

²³⁴ Pall Corp. v. Micron Separations, Inc., 66 F.3d 1211, 36 USPQ2d 1225 (Fed. Cir. 1995).

²³⁵ Markman v. Westview Instruments, Inc., 52 F.3d 967, 978-79, 34 USPQ2d 1321, 1328-29 (Fed. Cir. 1995) (in bans), affd, 517 U.S. 370, 38 USPQ2d 1461 (1996).

²³⁶ Markman v. Westview Instruments, Inc., 517 U.S. 370, 388-89, 38 USPQ2d 1461, 1470 (1996) (citing Parker v. Hulme, 18 F. Cas. at 1140).

²³⁷ Markman v. Westview Instruments, Inc., 517 U.S. 370, 390, 38 USPQ2d 1461, 1470 (1996); citing General Elec. Co. v. Wabash Appliance Corp., 304 U.S. 364, 369 (1938); also citing United Carbon Co. v. Binney & Smith Co., 317 U.S. 228, 236 (1942).

In *Markman*, the double-column analysis would have been particularly useful as evidence of infringement; that is, the right-hand column for a claim element such as “inventory” would likely have defined exactly how the phrase was used in the specification and, perhaps, in the prosecution history.

E. Claim Application

Infringement, literal or by equivalents, is determined by applying the claims as previously interpreted to the accused system.²³⁸ Literal infringement is determined according to the “all limitations” rule, which requires that the accused system contain every limitation of the asserted claim.²³⁹

The application of the claim to the accused device is a question of fact, reviewed by an appellate court for clear error.²⁴⁰

Because of the “all limitations” rule, one cannot avoid infringement simply by adding elements to the accused system²⁴¹—each limitation recited in the claims may still be found in the accused device.

Before bringing an infringement suit, the plaintiffs patent attorney must compare the accused system with the patent claims to determine whether there is a reasonable basis for the suit. Mere

²³⁸ *SRI Int’l v. Matsushita Elec. Corp.*, 775 F.2d 1107, 227 USPQ 577 (Fed. Cir. 1985); *Martin v. Barber*, 755 F.2d 1564, 225 USPQ 233 (Fed. Cir. 1985); *Amstar Corp. v. Envirotech Corp.*, 730 F.2d 1476, 221 USPQ 649 (Fed. Cir. 1984); see also *Lund Indus., Inc. v. GO Indus., Inc.*, 983 F.2d 1273, 19 USPQ2d 1383 (Fed. Cir. 1991); *Datascope Corp. v. SMEC, Inc.*, 879 F.2d 820, 11 USPQ2d 1321 (Fed. Cir. 1989).

²³⁹ *Lemelson v. United States*, 752 F.2d 1538, 551, 224 USPQ 526, 533 (1985); see also *Mannesmann Demag Corp. v. Engineered Metal Prods. Co.*, 793 F.2d 1279, 1282, 230 USPQ 45, 46; *Johnston v. IVAC Corp.*, 885 F.2d 1574, 1580, 12 USPQ2d 1382, 1386 (Fed. Cir. 1989) (“Where a claim does not read on an accused device exactly, there can be no literal infringement.”); see *London v. Carson Pirie Scott & Co.*, 946 F.2d 1534, 1539, 20 USPQ2d 1456, 1459 (Fed. Cir. 1991) (“There can be no infringement as a matter of law if a claim limitation is totally missing from the accused device.”); *Texas Instruments, Inc. v. Cypress Semiconductor Corp.*, 90 F.3d 1558, 1563, 39 USPQ2d 1492, 1497 (Fed. Cir. 1996); see *Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1535, 19 USPQ2d 1367, 1369 (Fed. Cir. 1991).

²⁴⁰ *Mannesmann Demag Corp. v. Engineered Metal Prods. Co.*, 793 F.2d 1279, 1282, 230 USPQ 45, 46 (Fed. Cir. 1986); *Windsurfing Int’l, Inc. v. AMF, Inc.*, 782 F.2d 995, 228 USPQ 562 (Fed. Cir. 1986); see also *W.L. Gore & Assocs. v. Garlock, Inc.*, 842 F.2d 1275, 6 USPQ2d 1277 (Fed. Cir. 1988) (“Whether an imprecise claim limitation, such as the phrase ‘about 100% per second,’ is literally met is a question of fact for the trial court. And where the only evidence on the point consisted merely of the opinion testimony of the patentee’s expert, without supporting tests or data, the district court was under no obligation to accept it.”).

²⁴¹ *Stiftung v. Renishaw PLC*, 945 F.2d 1173, 20 USPQ2d 1094 (Fed. Cir. 1991); *Becton Dickinson & Co. v. C.R. Bard, Inc.*, 922 F.2d 792, 17 USPQ2d 1097 (Fed. Cir. 1990) (where the claim language reads directly on the accused device, additional structure present in such device may, in appropriate circumstances, be disregarded in an infringement analysis); *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 USPQ2d 1434 (Fed. Cir. 1988) (adding features to an accused device will not result in noninfringement if all the limitations in the claims, or by equivalents thereof, are present in the accused device); *A.B. Dick Co. v. Burroughs Corp.*, 713 F.2d 700, 218 USPQ 965 (Fed. Cir. 1983).

reliance on the client's lay opinion is insufficient and may result in the suit being characterized as "frivolous," warranting sanctions under Fed. R. Civ. P. 11.²⁴²

F. Section 112, Paragraph 6, Equivalents

A "claim for a combination" having a limitation expressed in means-plus-function form "shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof."²⁴³ Therefore, in order for a claim including a means-plus-function limitation to be literally infringed, the accused system must employ structure, material, or acts that are identical to, or the equivalent of, those described in the patent specification.

Notwithstanding the holding in *Markman*, the U.S. Supreme Court has not addressed the question of whether a judge or a jury should determine equivalents under Section 112, paragraph 6.²⁴⁴ Consequently, determining whether an accused device is a Section 112 equivalent of the described embodiment appears to remain a question of fact to be reversed by an appellate court only if clearly erroneous.²⁴⁵

In an infringement suit, the patent owner has the burden of showing that structure in the accused system performing the identical function to a claim limitation in means-plus-function form is the same as or equivalent to the corresponding structure described in the specification.²⁴⁶

The question of equivalents under Section 112, paragraph 6, is to be distinguished from the doctrine of equivalents, although both share some basic principles.²⁴⁷ The doctrine of equivalents is generally considered a broader determination.²⁴⁸

²⁴² *S. Bravo Systems Inc. v. Containment Technologies Corp.*, 96 F.3d 1372, 1375-76, 40 USPQ2d 1140, 1143 (Fed. Cir. 1996) (Imposition of sanctions on plaintiff was proper under FED. R. Civ. P. 11, where plaintiff's attorneys relied on client's lay opinion of infringement, but failed to interpret the claims at issue and investigate whether they in fact covered the accused devices); see also *Conn. v. Borjorquez*, 967 F.2d 1418, 1420 (9th Cir. 1992) (Rule 11 sanctions should be imposed on a party for making arguments or filing claims that are frivolous, legally unreasonable, without factual foundation, or asserted for an "improper purpose."); *Townsend v. Holman Consulting Corp.*, 929 F.2d 1358, 1362 (9th Cir. 1990) (A "frivolous" argument or claim is one that is "both baseless and made without a reasonable and competent inquiry.").

²⁴³ 35 USC §112, paragraph 6. See Chapter 8 for a detailed discussion of means-plus-function claims.

²⁴⁴ *Markman v. Westview Instruments, Inc.*, 52 F.3d 967 n.8, 34 USPQ2d 1321, 1327 n.8 (Fed. Cir. 1995) (in banc) (While interpretation and construction of patent claims is a matter of law, "we express no opinion on the issue of whether a determination of equivalents under §112, para. 6 is a question of law or fact.").

²⁴⁵ *Durango Assoc., Inc. v. Reflange, Inc.*, 843 F.2d 1349, 6 USPQ2d 1290 (Fed. Cir. 1988); *Hartness Int'l, Inc. v. Simplimatic Eng'g Co.*, 819 F.2d 1100, 2 USPQ2d 1826 (Fed. Cir. 1987); *King Instrument Corp. v. Otari Corp.*, 767 F.2d 853, 226 USPQ 402 (Fed. Cir. 1985); *Palumbo v. Don-Joy Co.*, 762 F.2d 969, 975, 226 USPQ 5, 8 (Fed. Cir. 1985).

²⁴⁶ *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 4 USPQ2d 1737 (Fed. Cir. 1987); see *Symbol Tech., Inc. v. Opticon, Inc.*, 935 F.2d 1569, 19 USPQ2d 1241 (Fed. Cir. 1991) (It is possible, however, for an expert witness to give an opinion on the ultimate question of infringement without establishing a factual foundation for the opinion.).

²⁴⁷ See *Texas Instruments, Inc. v. U.S. Int'l Trade Comm'n*, 805 F.2d 1558, 231 USPQ 833 (Fed. Cir. 1986); *D.M.I., Inc. v. Deere & Co.*, 755 F.2d 1570, 1575, 225 USPQ 236 (Fed. Cir. 1985) (The word "equivalent" in 35 U.S.C. §112, paragraph 6, should not be confused with the doctrine of equivalents); see also *Pennwalt Corp. v.*

One difference between Section 112, paragraph 6, and the doctrine of equivalents is that a finding of Section 112 equivalence can form the basis for determining literal infringement.²⁴⁹ In particular, under Section 112, paragraph 6, after the claim is construed according to the corresponding structure described in the specification, the claim is then literally applied to the accused system. On the other hand, doctrine of equivalents analysis may require the court to look beyond the literal bounds of the claims.²⁵⁰

A second difference is that infringement under Section 112, paragraph 6, requires identity of function between the claimed invention and the accused system. An accused system may infringe under the doctrine of equivalents, however, as long as the function and result of the accused device have insubstantial differences with respect to the claimed invention.²⁵¹

I. Analysis

As the Federal Circuit ruled in *Pennwalt v. Durand-Wayland*, “[t]o determine whether a claim limitation is met literally, where expressed as a means for performing a stated function, the court must compare the accused structure with the disclosed structure, and must find equivalent structure as well as identity of claimed function for that structure.”²⁵² In preparing an infringement opinion, the analysis can be broken down into the following steps:

1. Determine whether the function performed by the structure at issue in the accused system is identical to that found in the means-plus-function claim limitation being asserted²⁵³; if the

Durand-Wayland, Inc., 833 F.2d 931,933-34, 4 USPQ2d 1737, 1741 (Fed. Cir. 1987) (in banc), *cert. denied*, 485 U.S. 961, 108 S. Ct. 1226, 99 L.Ed.2d 426 (1988).

²⁴⁸ See *Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1539, 19 USPQ2d 1367 (Fed. Cir. 1991) (A determination of equivalents under the doctrine of equivalents “may not be as limited as under 112(6).”). Compare *Dawn Equipment Co. v. Kentucky Farms Inc.*, 140 F.3d 1009, 46 USPQ2d 1109 (Fed. Cir. 1998).

²⁴⁹ *Palumbo v. Don-Joy Co.*, 762 F.2d 969, 226 USPQ 5 (Fed. Cir. 1985).

²⁵⁰ See *Valmont Indus., Inc. v. Reinke Mfg. Co.*, 983 F.2d 1039, 25 USPQ2d 1451 (Fed. Cir. 1993) (“An equivalent under the doctrine of equivalents results from an insubstantial change which . . . adds nothing of significance to the claimed invention. . . . In the context of §112, however, an equivalent results from an insubstantial change which adds nothing of significance to the structure, material, or acts disclosed in the patent specification.”).

²⁵¹ *Johnson v. IVAC Corp.*, 885 F.2d 1574, 1580, 12 USPQ2d 1382, 1386 (Fed. Cir. 1989) (“section 112 paragraph 6 operates to cut back on the types of means which could literally satisfy the claim language”).

²⁵² *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 934, 4 USPQ2d 1737, 1739 (Fed. Cir. 1987) (in banc), *cert. denied*, 479 U.S. 1033 (1987).

²⁵³ *Carroll Touch, Inc. v. Electro Mechanical Sys., Inc.*, 3 F.3d 404, 490, 27 USPQ2d 1836, 1840 (Fed. Cir. 1993) (“In order to meet a means-plus-function limitation, an accused device must, [*inter alia*], perform the identical function recited in the means limitation.”); *Valmont Indus., Inc. v. Reinke Mfg. Co.*, 983 F.2d 1039, 1042, 25 USPQ2d 1451 (Fed. Cir. 1993) (“For a means-plus-function limitation to read on an accused device, the accused device must . . . perform the identical function as specified in the claims.”); *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 4 USPQ2d 1737 (Fed. Cir. 1987) (“The court must find identity [between the] claimed function [and the accused structure];” the court also rejected the argument that if the accused structure performs the identical function, it is per se structurally equivalent.); see *In re Hayes Microcomputer Prods., Inc.*, 982 F.2d 1527, 25 USPQ2d 1241 (Fed. Cir. 1992) (expert witness testimony that accused device included a microprocessor and was functionally equivalent to claimed microprocessor for performing certain computational functions was held sufficient to support jury’s conclusion that the means were structurally equivalent).

accused system does not perform the identical function, literal infringement is not possible.²⁵⁴

2. Interpret the means-plus-function limitation to cover only the corresponding structure, material, or acts described in the specification as performing the specified function.²⁵⁵
3. Compare the accused system or method that performs the claimed function to the means-plus-function limitation as properly construed.²⁵⁶
4. The accused device or method infringes if, upon comparison, it has the same or an equivalent structure as the means-plus-function limitation as properly construed.²⁵⁷

As with claim interpretation, the double-column analysis technique is useful for claim comparison. For purposes of claim comparison, the left-hand column should include the literal language of the claims at issue (exactly as set forth in the claim interpretation table) as well as any corresponding structure, material, or acts as determined in the claim interpretation step. That is, in the left-hand column of the claim comparison table, a complete interpretation of the claim (including any limitations that should be read into the claim because of means-plus-function language, term definition, or preamble linking) should be set forth. Then this complete claim interpretation should be compared to the accused device or process.

2. Meaning of “Equivalent”

What is an “equivalent” under 35 U.S.C. §112, paragraph 6? In *Valmont Industries v. Reinke*, the Federal Circuit defined an “equivalent” under Section 112, paragraph 6, as resulting “from an insubstantial change which adds nothing of significance to the structure, material, or acts disclosed in the patent specification.”²⁵⁸

An important factor in determining Section 112, paragraph 6, equivalents is whether persons skilled in the art would have known of the interchangeability of the disclosed and accused

²⁵⁴ *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 934, 4 USPQ2d 1737, 1739 (Fed. Cir. 1987).

²⁵⁵ 35 U.S.C. §112, paragraph 6; *Valmont Indus., Inc. v. Reinke Mfg. Co.*, 983 F.2d 1039, 1042, 25 USPQ2d 1451 (Fed. Cir. 1993); *Johnston v. IVAC Corp.*, 885 F.2d 1574, 1580, 12 USPQ2d 1382 (Fed. Cir. 1989).

²⁵⁶ *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 934, 4 USPQ2d 1737, 1739 (Fed. Cir. 1987) (“The court must compare the accused structure with the disclosed structure . . .”).

²⁵⁷ *Alpex Computer Corp. v. Nintendo Co. Ltd.*, 102 F.3d 1214, 1222, 40 USPQ2d 1667, 1673 (Fed. Cir. 1996); *Sun Studs, Inc. v. ATA Equip. Leasing, Inc.*, 872 F.2d 978, 10 USPQ2d 1338 (Fed. Cir. 1989); *D.M.I. Inc. v. Deere & Co.*, 755 F.2d 1570, 1575, 225 USPQ 236, 239 (Fed. Cir. 1985); *Valmont Indus., Inc. v. Reinke Mfg. Co.*, 983 F.2d 1039, 1042, 25 USPQ2d 1451, 1454 (Fed. Cir. 1993) (“[F]or a means-plus-function limitation to read on an accused device, the accused device must employ means identical to or the equivalent of the structures . . . described in the patent specification.”); *Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1539, 19 USPQ2d 1367 (Fed. Cir. 1991) (“The means-plus-function language must not only read on the accused device, but also, if the accused structure is different from that described in the patent, the patentee must prove, for literal infringement, that the means in the accused device is structurally equivalent to the means described in the specification.”).

²⁵⁸ *Valmont Indus., Inc. v. Reinke Mfg. Co.*, 983 F.2d 1039, 1043, 35 USPQ2d 1451 (Fed. Cir. 1993).

structures.²⁵⁹ Thus, in determining equivalents under Section 112, paragraph 6, the courts have relied on expert testimony of the interchangeability of the accused structure and the disclosed means.²⁶⁰ In the context of an infringement opinion, this equates with consulting those skilled in the art and any available reference materials to arrive at an equivalents determination under 35 U.S.C. §112, paragraph 6.

While the tripartite test for equivalents under the doctrine of equivalents was once commonly applied as a measure of “equivalents” under Section 112, paragraph 6,²⁶¹ the Federal Circuit now holds that this standard is inapplicable: “As this court has stated, the ‘sole question’ under §112 involves comparison of the structure in the accused device which performs the claimed function to the structure in the specification.”²⁶²

In preparing the noninfringement opinion, the patent attorney should not construe a means-plus-function limitation to cover any and every means that performs the function recited in the claim in order to establish literal infringement. Section 112 restricts the types of means that could infringe by requiring that the function be performed by the same or an equivalent of the means-plus-function limitation as construed according to the structure, material, or acts described in the specification.²⁶³

3. *Use of Other Construction Tools*

While the literal language of Section 112 speaks only in terms of construing means-plus-function language according to the specification, the Federal Circuit has made it clear that the claim language itself, other claims in the patent, the prosecution history, and expert testimony also may be considered if needed to resolve ambiguities.²⁶⁴ It is, however, unnecessary to consider the prior art in applying Section 112, paragraph 6. As the Federal Circuit has indicated, “even if the prior art discloses the same or an equivalent structure, the claim will not be limited in scope thereby.”²⁶⁵

²⁵⁹ *Texas Instruments, Inc. v. U.S. Int’l Trade Comm’n*, 805 F.2d 1558, 1563, 231 USPQ 833 (Fed. Cir. 1986); *Palumbo v. Don-Joy Co.*, 762 F.2d 969, 975, 226 USPQ 5 (Fed. Cir. 1985); *Rite-Hite Corp. v. Kelley Co.*, 819 F.2d 1120, 1124, 2 USPQ2d 1915 (Fed. Cir. 1987).

²⁶⁰ *See In re Hayes Microcomputer Prods., Inc.*, 982 F.2d 1527, 25 USPQ2d 1241 (Fed. Cir. 1992).

²⁶¹ *Texas Instruments, Inc. v. U.S. Int’l Trade Comm’n*, 805 F.2d 1558, 231 USPQ 833 (Fed. Cir. 1986); *see Palumbo v. Don-Joy Co.*, 762 F.2d 969, 975 n.5, 226 USPQ 5 n.5 (Fed. Cir. 1985) (*Graver Tank* analysis is relevant to Section 112 equivalents determination and Section 112 literal infringement analysis); *compare Valmont Indus., Inc. v. Reinke Mfg. Co.*, 983 F.2d 1039, 1043, 25 USPQ2d 1451 (Fed. Cir. 1993) (“[A] determination of section 112 equivalence does not involve the equitable tripartite test of the doctrine of equivalents.”).

²⁶² *Valmont Indus., Inc. v. Reinke Mfg. Co.*, 983 F.2d 1039, 1043, 25 USPQ2d 1451, 1455 (Fed. Cir. 1993) (“In sum, section 112, 16, and the doctrine of equivalents have separate origins and purposes. Section 112, 16, limits the broad language of means-plus-function limitations in combination claims to equivalents of the structures, materials, or acts in the specification. The doctrine of equivalents equitably expands exclusive patent rights.”).

²⁶³ *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 4 USPQ2d 1737 (Fed. Cir. 1987).

²⁶⁴ *Texas Instruments, Inc. v. U.S. Int’l Trade Comm’n*, 805 F.2d 1558, 231 USPQ 833 (Fed. Cir. 1986); *King Instrument Corp. v. Otari Corp.*, 767 F.2d 853, 862, 226 USPQ 402, 408 (Fed. Cir. 1985), *cert. denied*, 475 U.S. 1016 (1986); *Palumbo v. Don-Joy Co.*, 762 F.2d 969, 226 USPQ 5 (Fed. Cir. 1985).

²⁶⁵ *Intel Corp. v. U.S. Int’l Trade Comm’n*, 946 F.2d 821, 842, 20 USPQ2d 1161, 1179 (Fed. Cir. 1991).

G. *Reverse Doctrine of Equivalents*

In certain cases, there will be no finding of infringement even though a claim reads literally on accused subject matter. This may result if the “reverse” doctrine of equivalents is invoked by the defendant. The purpose of the doctrine is to prevent unwarranted extension of the scope of the claims beyond their originally intended scope.²⁶⁶

The doctrine has two requirements, the first of which is the threshold: The doctrine may be used only if there is apparent literal infringement of the words of the claims. In other words, the accused infringer can assert the doctrine as a defense only upon a showing of literal infringement by the patentee.²⁶⁷ Once the doctrine has been invoked, the accused infringer will have the burden of proving that the accused system is so far changed in principle that it performs the function of the claimed invention in a substantially different way.²⁶⁸ If both requirements are met, there is no infringement notwithstanding literal readability.

In *SRI International v. Matsushita Electric Corp. of America*,²⁶⁹ the patent-in-suit concerned color television transmission, specifically the use of composite stripe filters to encode color information in a single-tube television camera. The camera focuses an image to be televised onto a photosensitive image area in the “pick-up” tube. The pick-up tube converts the image into electrical signals in sequential horizontal lines across the image area. The broadest claim of the SRI patent reads as follows:

A spatial filter for affording a monochrome recording from which upon subsequent scanning information for reproducing an image in color of the object photographed may be derived, said filter comprising a first grid of parallel spaced lines having the color of another subtractive primary, each grid having the same line density.

The Matsushita filter used two colors to attract the filters with stripes of equal width with the two filters positioned at equal and opposite angles from the vertical.

In a divided decision, the Federal Circuit concluded that the claim language read directly on Matsushita’s structure.²⁷⁰ On the issue of reverse equivalents, the analysis came to a halt when the court found that a disputed material issue of fact existed as to the substantiality of the difference

²⁶⁶ *Texas Instruments, Inc. v. U.S. Int’l Trade Comm’n*, 846 F.2d 1369, 1372, 6 USPQ2d 1886, 1889 (Fed. Cir. 1988) (“The reverse doctrine of equivalents is invoked when claims are written more broadly than the disclosure warrants. The purpose of restricting the scope of such claim is not only to avoid a holding of infringement when a court deems it appropriate, but often is to preserve the validity of the claims with respect to their original intended scope.”). See *Warner-Jenkinson Co. v. Hilton Davis Chemical Co.*, 520 U.S. 17, 41 USPQ2d 1865 (1997).

²⁶⁷ *SRI Int’l v. Matsushita Elec. Corp.*, 775 F.2d 1107, 227 USPQ 557 (Fed. Cir. 1985).

²⁶⁸ *Smithkline Diagnostics, Inc. v. Helena Labs Corp.*, 859 F.2d 878, 8 USPQ2d 1468 (Fed. Cir. 1988); *Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861, 228 USPQ 90 (Fed. Cir. 1985); *SRI Int’l v. Matsushita Elec. Corp.*, 775 F.2d 1107, 1123-24, 227 USPQ 577, 587 (Fed. Cir. 1985); *Westinghouse v. Boyden Power Brake Co.*, 170 U.S. 537, 568 (1898); *Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 85 USPQ 328 (1950); *Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565, 18 USPQ2d 1001 (Fed. Cir. 1991).

²⁶⁹ 775 F.2d 1107, 227 USPQ 577 (Fed. Cir. 1985).

²⁷⁰ The case was heard by eleven judges, the lead opinion carrying five votes, a concurring opinion (one vote), and the dissenting opinion having five votes.

between the Matsushita filter and the spatial filter claimed by SRI. But in remanding the case, Chief Judge Markey shed light on the role of the district court in applying the standard, by stating the following:

The test mandated . . . leaves room for the fact finder's application to varying circumstances. Words like "so far," "principle" and "substantially" are not subject to rigid pre-definition; nor will the "principle" of a structural invention be always and immediately apparent. It is precisely the role of a trial court to apply the test in light of all the live testimony and physical evidence adduced.²⁷¹

The reverse doctrine of equivalents, although rarely applied, may find life in the area of electronics and software. Technological advances in these fields usually make previous generation systems obsolete.

H. Doctrine of Equivalents

1. Overview

Even though an accused infringer may not fall within the literal wording of the claims, courts may find infringement when there are insubstantial differences between the claim language and the accused system.²⁷²

As a matter of policy, to hold claims to their literal meaning "would place the inventor at the mercy of verbalism and would be subordinating substance to form."²⁷³ As such, this would leave room for, and perhaps encourage, the unscrupulous copyist to make unimportant and insubstantial changes and substitutions in the patent that, although adding nothing, would be enough to take the copied matter beyond the scope of the claims.²⁷⁴ Courts "resort to the doctrine of equivalents to temper unsparing logic and prevent an infringer from stealing the benefit of the invention. No doubt,

²⁷¹ SRI Int'l v. Matsushita Elec. Corp., 755 F.2d 1107, 1124, 227 USPQ 577, 588 (Fed. Cir. 1985).

²⁷² Hilton Davis Chem. Co. v. Warner-Jenkinson Co., 62 F.3d 1512, 1518, 35 USPQ2d 1641, 1645 (Fed. Cir. 1995) (in banc) (holding that "the application of the doctrine of equivalents rests on the substantiality of the differences between the claimed and accused products or processes, assessed according to an objective standard"), *rev'd on other grounds*, 520 U.S. 17, 41 USPQ2d 1865 (1997); Graver Tank & Mfg. Co. v. Linde Air Prods. Co., 339 U.S. 605, 610, 85 USPQ 328 (1950); Singer Mfg. Co. v. Cramer, 192 U.S. 265, 286 (1904). However, note that the Supreme Court in *Hilton Davis* stated that

[t]here seems to be substantial agreement that, while the triple identity test may be suitable for analyzing mechanical devices, it often provides a poor framework for analyzing other products or processes. On the other hand, the insubstantial differences test offers little additional guidance as to what might render any given difference "insubstantial."

520 U.S. at 39-40, 41 USPQ2d at 1875.

²⁷³ Graver Tank & Mfg. Co. v. Linde Air Prods. Co., 339 U.S. 605, 607, 85 USPQ 328 (1950).

²⁷⁴ Yarway Corp. v. Eur-Control USA Inc., 775 F.2d 268, 227 USPQ 352 (Fed. Cir. 1985); *Martin v. Barber*, 755 F.2d 1564, 225 USPQ 233 (Fed. Cir. 1985); *Radio Steel & Mfg. Co. v. MTD Prods., Inc.*, 731 F.2d 840, 221 USPQ 657 (Fed. Cir. 1984).

this is, strictly speaking, an anomaly; but it is one which courts have frankly faced and accepted almost from the beginning.”²⁷⁵

By essentially redefining the scope of the patent claims under the doctrine of equivalents, however, the law deviates from the need of the public to know the precise bounds of the claim language without resorting to a judicial determination.²⁷⁶ The Federal Circuit has warned against expanding the doctrine too far, to the point where the patent attorney cannot even rely on the actual claim language when advising a client as to infringement.²⁷⁷ Consequently, in a doctrine of equivalents determination, one is left to balance the competing public policies of avoiding a “fraud on the patent” and the need for reasonable certainty with the public regarding the scope of the patent.²⁷⁸

Infringement under the doctrine of equivalents is a question of fact reviewed by the appellate court for clear error when tried by a court, and for lack of substantial evidence when a jury decided the question.²⁷⁹ As with literal infringement, the patent owner shoulders the burden of proving an insubstantial difference between the claimed invention and the accused system by a preponderance of the evidence.²⁸⁰

The vantage point of one of ordinary skill in the relevant art provides the perspective for assessing the substantiality of differences.²⁸¹ The test is objective, with proof of the substantiality of differences resting on objective evidence rather than unexplained subjective conclusions.²⁸²

Nearly all forms of generally admissible evidence may be offered in court to prove equivalents. This includes testimony of experts or others versed in the technology, documentary evidence such as texts and treatises, and prior art disclosures.²⁸³ Mere conclusory statements from experts as to overall similarity, however, will carry little weight with the courts²⁸⁴; specific factual evidence generally is

²⁷⁵ Royal Typewriter Co. v. Remington Rand, Inc., 168 F.2d 691 (2d Cir. 1948), *cert. denied*, 335 U.S. 825 (1948).

²⁷⁶ Texas Instruments, Inc. v. U.S. Int’l Trade Comm’n, 805 F.2d 1558, 231 USPQ 833 (Fed. Cir. 1986).

²⁷⁷ Great Northern Corp. v. Davis Core & Pad Co., 782 F.2d 159, 228 USPQ 356 (Fed. Cir. 1986).

²⁷⁸ Sun Studs, Inc. v. ATA Equip. Leasing, Inc., 872 F.2d 978, 10 USPQ2d 1338 (Fed. Cir. 1989).

²⁷⁹ Thomas & Betts Corp. v. Litton Sys., Inc., 720 F.2d 1572, 220 USPQ 1 (Fed. Cir. 1983); Dawn Equipment Co. v. Kentucky Farms, Inc., 140 F.3d 1009, 46 USPQ2d 1109 (Fed. Cir. 1998).

²⁸⁰ See Datascope Corp. v. SMEC, Inc., 776 F.2d 320, 227 USPQ 838 (Fed. Cir. 1985); Lemelson v. United States, 752 F.2d 1538, 224 USPQ 526 (Fed. Cir. 1985).

²⁸¹ Hilton Davis Chem. Co. v. Warner-Jenkinson Co., 62 F.3d 1512, 1519, 35 USPQ2d 1641, 1646 (Fed. Cir. 1995) (in banc), *rev’d on other grounds*, 520 U.S. 17 (1997); Valmont Indus., Inc. v. Reinke Mfg. Co., 983 F.2d 1039, 1043, 25 USPQ2d 1451, 1454 (Fed. Cir. 1993).

²⁸² Hilton Davis Chem. Co. v. Warner-Jenkinson Co., 62 F.3d 1512, 1519, 35 USPQ2d 1641, 1646 (Fed. Cir. 1995) (in banc), *rev’d on other grounds*, 520 U.S. 17 (1997).

²⁸³ Martin v. Barber, 755 F.2d 1564, 225 USPQ 233 (Fed. Cir. 1985); Graver Tank & Mfg. Co. v. Linde Air Prods. Co., 339 U.S. 605, 609-10, 85 USPQ 328, 330-31 (1950).

²⁸⁴ Texas Instruments, Inc. v. Cypress Semiconductor Corp., 90 F.3d 1558, 1567, 39 USPQ2d 1492, 1499 (Fed. Cir. 1996) (first expert’s testimony that the “conductors” in the accused processes and the claimed processes were the “same” and performed the “same function” was merely generalized testimony as to overall similarity; also, second expert’s testimony was insufficient because there was no discussion of *whether* or *how* the way the die pad operates was similar to the patent claim, nor was there any particularized testimony explaining *why the function and*

required to establish equivalents.²⁸⁵ Like any question of fact, the final determination of equivalents will require a balancing of credibility, persuasiveness, and weight of all of the evidence.²⁸⁶

Because the doctrine involves (by definition) going beyond any permissible interpretation of claim language, resolving an infringement question under the doctrine is inherently uncertain.²⁸⁷ Thus, equivalents must be determined against the content of the patent, the prior art, and the particular circumstances of the case.²⁸⁸

2. *The Tripartite Test*

In determining insubstantial differences under the doctrine of equivalents, it may be enough to assess whether an element of the accused system “performs substantially the same function in substantially the same way to obtain the same result as the claimed invention.”²⁸⁹ To establish insubstantial differences under this tripartite test, the patent owner must show substantial identity as to each of the function, way, and result elements.²⁹⁰ The tripartite test is founded on the notion that “if two devices do the same work in substantially the same way, and accomplish substantially the same result, they are the same, even though they differ in name, form or shape.”²⁹¹

During application of the three-part test for infringement under the doctrine of equivalents, an element of the accused device and a claimed limitation often will be found to perform the same

result were the same, especially with respect to the conductive function of the conductor), citing *Texas Instruments, Inc. v. Cypress Semiconductor Corp.*, Civ. No. 3-90CV1590-H, *slip op.* at 17 (N.D. Tex. Sept. 6, 1995).

²⁸⁵ See *Lear Siegler, Inc. v. Sealy Mattress Co.*, 873 F.2d 1422, 10 USPQ2d 1767 (Fed. Cir. 1989); *Malta v. Schulmerich Carillons, Inc.*, 952 F.2d 1320, 21 USPQ2d 1161 (Fed. Cir. 1991), *cert. denied*, 504 U.S. 974 (1992); see also *Nestier Corp. v. Menasha Corp.*, 739 F.2d 1576, 222 USPQ 747 (Fed. Cir. 1984) (a jury cannot be expected to make a determination of equivalents absent evidence and argument on the subject); *Lemelson v. United States*, 752 F.2d 1538, 224 USPQ 526 (Fed. Cir. 1985).

²⁸⁶ *Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 609-10, 85 USPQ 328, 331 (1950).

²⁸⁷ *Wilson Sporting Goods Co. v. David Geoffrey & Assocs. d/b/a Slazenger*, 904 F.2d 677, 684, 14 USPQ2d 1942, 1948 (Fed. Cir. 1990).

²⁸⁸ *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1254, 9 USPQ2d 1962, 1968 (Fed. Cir. 1989).

²⁸⁹ *Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 608, 85 USPQ 328, 330 (1950); see *Gray v. James*, 10 F. Cas. 1015, 1016 (C.C.D. Pa. 1817) (No. 5,718) (“[w]here the [claimed and accused] machines are substantially the same, and operate in the same manner, to produce the same result, they must be in principle the same”); see also *Sanitary Refrigerator Co. v. Winters*, 280 U.S. 30, 41-42, 3 USPQ 40, 44 (1929) (“[G]enerally speaking, one device is an infringement of another `if it performs substantially the same function in substantially the same way to obtain the same result.’ . . . [The patent claim] is nevertheless infringed by a device in which there is no substantial departure from the description in the patent, but a mere colorable departure therefrom.”) (quoting *Machine Co. v. Murphy*, 97 U.S. 120,125 (1877)).

²⁹⁰ *Malta v. Schulmerich Carillons, Inc.*, 952 F.2d 1320, 21 USPQ2d 1161 (Fed. Cir. 1991); *Universal Gym Equip., Inc. v. ERWA Exercise Equip. Ltd.*, 827 F.2d 1542, 4 USPQ2d 1035 (Fed. Cir. 1987); see also *Moleculon Res. Corp. v. CBS, Inc.*, 872 F.2d 407, 10 USPQ2d 1390 (Fed. Cir. 1989).

²⁹¹ *Machine Co. v. Murphy*, 97 U.S. 120, 125 (1877); see also *Sanitary Refrigerator Co. v. Winters*, 280 U.S. 30,41-42,3 USPQ 40,44 (1929) (“There is a substantial identity, constituting infringement, where a device is a copy of the thing described by the patentee, `either without variation, or with such variations as are consistent with its being in substance the same thing.’”; quoting *Burr v. Duryee*, 68 U.S. (1 Wall.) 531, 573 (1864)); *Machine Co. v. Murphy*, 97 U.S. 120, 125 (1877) (“Authorities concur that the substantial equivalent of a thing, in the sense of the patent law, is the same as the thing itself.”).

function or work. Typically, in doctrine of equivalents cases, there is no material dispute about the function and the result prongs of the “function, way, result” test. The question is whether the claimed limitation and the element of the accused device function in substantially the same way.²⁹² If they do not, then probably no serious issue of infringement would have been raised in the first place. With respect to the “substantially the same result” part of the test, helpful evidence of the result of the claimed limitation often can be obtained from the specification and prosecution history of the patent. For example, the patent specification might explain that the limitation is particularly significant because a “compact” device is achieved. The specification might further explain that the device achieved has dimensions of five centimeters by five centimeters. In this case, if the potentially infringing device is much larger than five centimeters by five centimeters, then it could reasonably be determined that the accused device does not achieve “substantially the same overall result” as the claimed invention.

Because the claim language, rather than the accused device, provides the reference point for a determination of infringement, a finding of equivalents is not precluded simply because the accused device performs functions in addition to those performed by the claimed invention.²⁹³

3. The “All Limitations” Rule

As with literal infringement, a doctrine of equivalents determination focuses on the individual claim elements rather than on the invention as a whole. Infringement may not be found under the doctrine of equivalents if a limitation is missing, that is, not replaced with an equivalent substitute.²⁹⁴ But as explained in *Corning Glass Works*, “[a]n equivalent must be found for every limitation of the claim somewhere in an accused device, but not necessarily in a corresponding component.”²⁹⁵ That is, the substitute need not be in the same location specified by the claim if, in the context of the invention, the substitute constitutes an insubstantial difference.²⁹⁶

Nor does the doctrine of equivalents require one-to-one correspondence between components of the accused device and the claimed invention. An accused device may infringe even though a combination of its components performs a function performed by a single element in the patented invention. Equivalents also can exist when separate claim limitations are combined into a single component of the accused device.²⁹⁷

²⁹² *Slimfold Mfg. Co. v. Kinkead Indus., Inc.*, 932 F.2d 1453, 1457, 18 USPQ2d 1842, 1846 (Fed. Cir. 1991).

²⁹³ *Miles Labs., Inc. v. Shandon, Inc.*, 997 F.2d 870, 27 USPQ2d 1123 (Fed. Cir. 1993) (Infringement under the doctrine of equivalents does not vanish merely because the accused device performs functions in addition to those performed by the claimed device.); *Insta-Foam Prods., Inc. v. Universal Foam Sys., Inc.*, 906 F.2d 698, 15 USPQ2d 1295 (Fed. Cir. 1990).

²⁹⁴ *Zygo Corp. v. Wyko Corp.*, 79 F.3d 1563, 1568, 38 USPQ2d 1281, 1285 (Fed. Cir. 1996).

²⁹⁵ *Corning Glass Works v. Sumimoto Elec. U.S.A., Inc.*, 868 F.2d 1251, 9 USPQ2d 1962 (Fed. Cir. 1989); *Pennwalt Corp. v. Durant-Wayland, Inc.*, 833 F.2d 931, 935, 4 USPQ2d 1737, 1739-40 (Fed. Cir. 1987) (in banc), *cert. denied*, 485 U.S. 961, 1009 (1988); *see also* *Athletic Alternatives, Inc. v. Prince Mfg., Inc.*, 73 F.3d 1573, 1582, 37 USPQ2d 1365, 1373 (Fed. Cir. 1996) (applying *Pennwalt* rule after Federal Circuit ruling in *Hilton Davis*).

²⁹⁶ *See Zygo Corp. v. Wyko Corp.*, 79 F.3d 1563, 1568, 38 USPQ2d 1281, 1285 (Fed. Cir. 1996).

²⁹⁷ *Dolly, Inc. v. Spalding & Evenflo Cos.*, 16 F.3d 394, 398, 29 USPQ2d 1767, 1770 (Fed. Cir. 1994) (citing and distinguishing a number of Federal Circuit cases on the issue).

The most important decision on the doctrine of equivalents, since *Graver Tank*,²⁹⁸ was issued by the U.S. Supreme Court, in March 1997. That case is commonly identified as the *Hilton Davis* decision.²⁹⁹ The Supreme Court reversed the ruling of the Federal Circuit in *Hilton Davis*, specifically adopted the analysis of the U.S. Court of Appeals for the Federal Circuit (CAFC) Judge Helen Wilson Nies (who dissented from her court's decision), and remanded the case to the CAFC for further consideration.

In summary, the Supreme Court held that, in patent infringement, patent owners are not limited to the literal claim language as granted by the PTO; rather, they continue to be permitted to expand in court the scope of protection.³⁰⁰ The vehicle for such expansion is the doctrine of equivalents, under which an accused product or process, although not a literal infringement, may infringe if the court finds it equivalent to the literal claim language. But the Supreme Court placed two important limitations on the expansion permitted.

First, seeking to balance the prohibition against enlarging the scope of the claims (because the claims define the patented invention and the public is entitled to clear notice of the scope of the patent) and the doctrine of equivalents (which prevents parties from copying the claimed invention while avoiding the literal language of the claims), the Supreme Court adopted Judge Nies's proposed reconciliation: The doctrine of equivalents is an objective inquiry applied to each individual element of a claim and to the specific *component* substituted in the accused product or process, not to the claimed invention as a *whole* and not to the *overall* accused product or process.³⁰¹ The scope of the claim is not thereby enlarged if courts do not go beyond the substitution of equivalent elements.

The Supreme Court further limited the doctrine of equivalents by adding teeth to the countervailing doctrine of prosecution history estoppel. Prosecution history estoppel precludes a patent owner from using the doctrine of equivalents to broaden the scope of a patent claim after the owner has restricted that claim to secure the patent from the PTO. The Supreme Court created a new, rebuttable presumption that the PTO had a substantial reason related to patentability for restricting the claim—a reason that would invoke prosecution history estoppel.³⁰² The burden falls on the patent owner to establish a reason for the restriction unrelated to patentability.

Interestingly, the Supreme Court has invited Congress to legislate the doctrine of equivalents out of existence if Congress so chooses.³⁰³ The Court also held that the intent of the accused infringer (e.g., to copy) is irrelevant to the inquiry of infringement under the doctrine of equivalents,³⁰⁴ that the inquiry is asked at the time of infringement and not when the patent is issued,³⁰⁵ and that it would defer to the CAFC's word choice for analyzing equivalents.³⁰⁶ Finally, the Supreme Court declined the opportunity to determine the role of juries in the process of applying

²⁹⁸ *Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 85 USPQ 328 (1950).

²⁹⁹ *Warner-Jenkinson Co. v. Hilton Davis Chemical Co.*, 520 U.S. 17, 41 USPQ2d 1865 (1997).

³⁰⁰ *Id.* at 40, 41 USPQ2d at 1876.

³⁰¹ *Id.* at 29-30, 41 USPQ2d at

³⁰² *Id.* at 33, 41 USPQ2d at 1873.

³⁰³ *Id.* at 28, 41 USPQ2d 1871.

³⁰⁴ *Id.* at 36, 41 USPQ2d at 1874.

³⁰⁵ *Id.* at 37, 41 USPQ2d at 1874.

³⁰⁶ *Id.* at 40, 41 USPQ2d at 1875-76.

the doctrine of equivalents, stating only that ample support existed for the CAFC's decision that juries (rather than judges) should decide the issue.³⁰⁷

4. Means-Plus-Function Claims

If an accused device does not literally infringe as a Section 112 equivalent, it may still infringe under the doctrine of equivalents.³⁰⁸ The difference from Section 112, paragraph 6, however, is that under the doctrine of equivalents the equivalent results from an insubstantial change that adds nothing of significance to the structure, material, or acts disclosed in the patent specification, rather than to the claimed invention.³⁰⁹

5. Not a License to Ignore Claim Limitations

“The doctrine of equivalents is not a license to ignore claim limitations.”³¹⁰ Even under the doctrine of equivalents, the protection of a patent may not “embrace a structure that is specifically excluded from the scope of the claims.”³¹¹ For example, in *Wiener v. NEC Electronics, Inc.*,³¹² on appeal from a grant of summary judgment of noninfringement for NEC, the Federal Circuit considered a technology involving integrated circuit memories having data storage locations arranged in rows and columns. Generally, in these systems, a data bit is stored at each row-column intersection to form a data matrix. In particular, claim 9 of Wiener's patent recites:

In a memory circuit on an integrated circuit chip having plural, individually addressable word locations . . . a read-out circuit comprising . . . third means on the chip connected for sequentially calling on the *columns* for one byte at a time and providing bit value defining signals representing one respective byte for external extraction of the bytes as provided in particular sequence. [Emphasis added]

At issue in this case was the interpretation of the term *columns* as used in the claims. Wiener argued that the proper construction included data register latches and transfer gates between the data matrix and any read select circuits, in which case the claim would read on the accused system. NEC, on the other hand, argued for an interpretation limiting the extraction columns to the area bounded by the data matrix. Reading the disputed language in the context of the entire claim and in light of the specification, the Federal Circuit reasoned that the claimed columns were clearly structures within the data matrix on the chip for encoding and retaining information.

³⁰⁷ *Id.* at 37-38, USPQ2d at 1875.

³⁰⁸ See *Texas Instruments, Inc. v. U.S. Int'l Trade Comm'n*, 805 F.2d 1558, 1571, 231 USPQ 833, 841 (Fed. Cir. 1986) (“When literal infringement under §112 paragraph 6 is not present the doctrine of equivalents may nevertheless apply, and thereby secure to the patentee the fair scope of the patent.”).

³⁰⁹ *Alpex Computer Corp. v. Nintendo Co.*, 102 F.3d 1214, 1222, 40 USPQ2d 1667, 1673 (Fed. Cir. 1996) (the Federal Circuit found it improper for the district court to apply an equivalents analysis under 35 U.S.C. §112, paragraph 6, to find infringement under the doctrine of equivalents); *Valmont Indus., Inc. v. Reinke Mfg. Co.*, 983 F.2d 1039, 25 USPQ2d 1451 (Fed. Cir. 1993).

³¹⁰ *Dolly, Inc. v. Spalding & Evenflo Cos.*, 16 F.3d 394, 398, 29 USPQ2d 1767, 1770 (Fed. Cir. 1994).

³¹¹ *Dolly, Inc. v. Spalding & Evenflo Cos.*, 16 F.3d 394, 400, 29 USPQ2d 1767, 1771 (Fed. Cir. 1994); see also *Wiener v. NEC Electronics, Inc.*, 102 F.3d 534, 41 USPQ2d 1023 (Fed. Cir. 1996).

³¹² 102 F.3d 534, 41 USPQ2d 1023.

After construing the claim to locate the columns on the data matrix, the court found no literal infringement because the accused system read bytes of information from the data register, which was clearly outside of and isolated from the data matrix. The court similarly found no infringement under the doctrine of equivalents, because the required structure that the columns be on the data matrix was nowhere to be found in the accused system. There was not even an arguable equivalent to the claimed structure. Consequently, because the claim limitation was totally missing in the accused system, the court could not possibly find infringement unless it completely ignored the meanings and limitations of the disputed claim language.

6. Other Factors

While the “function, way, result” test often suffices to show insubstantiality of the differences, it is not the sole test for equivalents, nor does it necessarily end the inquiry.³¹³ Other “objective evidence rather than unexplained subjective conclusions” also may be relevant.³¹⁴ Such evidence may include (1) “pioneer” status of the claimed invention, (2) known interchangeability of ingredients to those skilled in the art, (3) copying, (4) designing around, and (5) nonobviousness of the accused system.³¹⁵ Of course, “the available relevant evidence may vary from case to case.”³¹⁶

a. Pioneer Inventions. The range of equivalents varies according to the importance of the claimed invention; a “pioneer” invention gains a broad range of equivalents,³¹⁷ while a narrow improvement in a crowded art may be entitled only to a limited range of equivalents.³¹⁸ As the Federal Circuit has stated, “a broad breakthrough invention merits a broader scope of equivalents than does a narrow improvement in a crowded technology. . . . The wide range of technological advance between pioneering breakthrough and modest improvement accommodates gradations in

³¹³ *Hilton Davis Chem. Co. v. Warner-Jenkinson Co.*, 62 F.3d 1512, 1518, 35 USPQ2d 1641, 1645 (Fed. Cir. 1995) (in banc) (“the function-way-result test arose in an era characterized by simple mechanical technology. . . . As the technology becomes more sophisticated, and the innovative process more complex, the function-way-result test may not invariably suffice to show the substantiality of the differences.”), *rev’d on other grounds*, 520 U.S. 17 (1997).

³¹⁴ *Hilton Davis Chem. Co. v. Warner-Jenkinson Co.*, 62 F.3d 1512, 1519, 35 USPQ2d 1641, 1646 (Fed. Cir. 1995) (in banc), *rev’d on other grounds*, 520 U.S. 17 (1997).

³¹⁵ *Hilton Davis Chem. Co. v. Warner-Jenkinson Co.*, 62 F.3d 1512, 35 USPQ2d 1641 (Fed. Cir. 1995) (in banc) (a process combining steps for purification of dye that uses a pH below 5.0 was found to infringe a claim reciting “a pH from approximately 6.0 to 9.0” under the doctrine of equivalents—despite the addition of that limitation during prosecution to avoid a prior art reference disclosing a pH above 9.0, because that amendment only surrendered pHs above 9), *rev’d on other grounds*, 520 U.S. 17 (1997).

³¹⁶ *Hilton Davis Chem. Co. v. Warner-Jenkinson Co.*, 62 F.3d 1512, 1518, 35 USPQ2d 1641, 1645 (Fed. Cir. 1995) (in banc) (this is so “[b]ecause `equivalence, in the patent law, is not the prisoner of a formula’”) (quoting *Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 609, 85 USPQ 328 (1950)), *rev’d on other grounds*, 520 U.S. 17 (1997).

³¹⁷ *Perkin-Elmer Corp. v. Westinghouse Elec. Corp.*, 822 F.2d 1528, 3 USPQ2d 1321 (Fed. Cir. 1987); *Kinzenbaw v. Deere & Co.*, 741 F.2d 383, 389, 222 USPQ 929, 933 (Fed. Cir. 1984), *cert. denied*, 470 U.S. 1004 (1985); *Thomas & Betts Corp. v. Litton Sys., Inc.*, 720 F.2d 1572, 220 USPQ 1 (Fed. Cir. 1983).

³¹⁸ *Hughes Aircraft Co. v. United States*, 717 F.2d 1351, 219 USPQ 473 (Fed. Cir. 1983); *Slimfold Mfg. Co. v. Kinkead Indus.*, 932 F.2d 1453, 18 USPQ2d 1842 (Fed. Cir. 1991) (mechanical combination in crowded technological art was entitled only to narrow scope of equivalents).

scope of equivalency. . . . The place of a particular invention in this spectrum depends on all the circumstances . . . and is decided as a factual matter.”³¹⁹

b. Interchangeability of Ingredients. Another factor in determining equivalents is whether those reasonably skilled in the pertinent art would have known of the interchangeability of an ingredient that was not included in the patent with one that was so included.³²⁰ “The known interchangeability of the accused and claimed elements is potent evidence that one of ordinary skill in the relevant art would have considered the change insubstantial.”³²¹

c. Copying. Evidence of copying is relevant to infringement under the doctrine of equivalents.³²² When an attempt to copy occurs, “the fact-finder may infer that the copyist, presumably one of some skill in the art, has made a fair copy, with only insubstantial changes.”³²³ The Federal Circuit has stated, however, that such an inference “would not dominate the doctrine of equivalent analysis,” but would “be weighed together with the other evidence relevant to the substantiality of the differences.”³²⁴

When the patent owner asserts copying as grounds for insubstantial changes under the doctrine of equivalents, evidence that the accused infringer “independently developed” (i.e., designed its system without knowledge of the patent) becomes relevant in rebuttal.³²⁵ The factfinder must weigh such evidence against the evidence of copying in probing the question of infringement under the doctrine of equivalents.³²⁶

d. Designing Around. Evidence of designing around the patent claims is relevant to the question of infringement under the doctrine of equivalents and may be introduced to rebut a patent owner’s assertion of copying. When a competitor becomes aware of a patent and attempts to design around its claims, the fact-finder may infer that the competitor, presumably one of skill in the art, has

³¹⁹ Sun Studs, Inc. v. ATA Equip. Leasing, Inc., 872 F.2d 978, 987, 10 USPQ2d 1338, 1346 (Fed. Cir. 1989); see also Boyden Power-Brake Co. v. Westinghouse, 170 U.S. 537, 569 (1898).

³²⁰ Corning Glass Works v. Sumimoto Elec. U.S.A., Inc., 868 F.2d 1251, 9 USPQ2d 1962 (Fed. Cir. 1989); Perkin-Elmer Corp. v. Westinghouse Elec. Corp., 822 F.2d 1528, 3 USPQ2d 1321 (Fed. Cir. 1987); Rite-Hite Corp. v. Kelley Co., 819 F.2d 1120, 2 USPQ2d 1915 (Fed. Cir. 1987); Palumbo v. Don-Joy Co., 762 F.2d 969, 226 USPQ 5 (Fed. Cir. 1985); Thomas & Betts Corp. v. Litton Sys., Inc., 720 F.2d 1572, 1579, 220 USPQ 1, 6 (Fed. Cir. 1983); Graver Tank & Mfg. Co. v. Linde Air Prods. Co., 339 U.S. 605, 85 USPQ 328 (1950).

³²¹ Hilton Davis Chem. Co. v. Warner-Jenkinson Co., 62 F.3d 1512, 1519, 35 USPQ2d 1641, 1646 (Fed. Cir. 1995) (in bane), *rev’d on other grounds*, 520 U.S. 17 (1997). The Supreme Court in *Hilton Davis* also stated that “a skilled practitioner’s knowledge of the interchangeability between claimed and accused elements is not relevant for its own sake, but rather for what it tells the fact-finder about the similarities or differences between those elements.” 520 U.S. at 37, 41 USPQ2d at 1874.

³²² Hilton Davis Chem. Co. v. Warner-Jenkinson Co., 62 F.3d 1512, 1519, 35 USPQ2d 1641, 1646 (Fed. Cir. 1995) (in bane), *rev’d on other grounds*, 520 U.S. 17 (1997); Graver Tank & Mfg. Co. v. Linde Air Prods. Co., 339 U.S. 605, 85 USPQ 328 (1950).

³²³ Hilton Davis Chem. Co. v. Warner-Jenkinson Co., 62 F.3d 1512, 1519, 35 USPQ2d 1641, 1646 (Fed. Cir. 1995) (in bane), *rev’d on other grounds*, 520 U.S. 17, 41 USPQ2d 1865 (1997).

³²⁴ *Id.*

³²⁵ *Id.*; see Graver Tank & Mfg. Co. v. Linde Air Prods. Co., 339 U.S. 605, 85 USPQ 328 (1950) (because the record lacked evidence of independent development, the fact-finder could infer copying or “imitation”).

³²⁶ 62 F.3d at 1519. *But see* Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, 36, 41 USPQ2d 1865, 1874 (1997) (the “better view” is that intent plays no role in the application of the doctrine of equivalents).

designed substantial changes into the new product to avoid infringement.³²⁷ As such, evidence of designing around weighs against finding infringement under the doctrine of equivalents.³²⁸

e. Nonobviousness of Accused System. The Federal Circuit has held that the nonobviousness of the accused system, “evidenced by the grant of a United States patent, is relevant to the issue of whether the change therein is substantial.”³²⁹

*Zygo Corp. v. Wyko Corp.*³³⁰ is illustrative. Zygo held a patent covering an interferometer, an instrument that measures the distortion of light wavefronts going through an object. To create the commercial embodiment, called the Zygo Mark II, the inventors encased the device in a metal box and built a spherical field lens into the back of the stationary view screen. The encased device required a mirror to illuminate a view screen and improve visibility. The enclosure, the field lens, and the mirror were not disclosed in the patent in issue.

The dispute centered on the claim language “means for collecting said two wavefronts and focusing them as spots onto a diffuse screen containing an integral alignment reticle having a marked center.” The district court construed the language to mean that the alignment reticle and the diffuse screen were one piece.

With regard to the original Wyko device, the evidence supported the finding of equivalents between the alignment reticles of the accused and patented devices, the Federal Circuit found. All other elements of the claims were met in Wyko’s original device.

However, the Federal Circuit found no substitute alignment reticle in the Wyko redesign. The alignment aid in the redesign is a prism structure, which is not an equivalent of an alignment reticle placed on the optical axis. According to the court, the prism is structurally different from and operates on different optical principles than the patented device. As such, the “way” prong of the “function, way, result” test was not satisfied.

Also, the court accorded weight to the fact that the redesign system was patented, thus demonstrating the substantiality of the differences between the parties’ devices.³³¹ Because of this factor, and because of Zygo’s failure to satisfy the tripartite test for equivalents, the court held that

³²⁷ 62 F.3d at 1519, 35 USPQ2d at 1646.

³²⁸ *Id.* However, note that the Supreme Court in *Hilton Davis* stated that

[t]his explanation leaves much to be desired. At a minimum, one wonders how ever to distinguish between the intentional copyist making minor changes to lower the risk of legal action and the incremental innovator designing around the claims, yet seeking to capture as much as is permissible of the patented advance.

520 U.S. at 36, 41 USPQ2d at 1874.

³²⁹ *Zygo Corp. v. Wyko Corp.*, 79 F.3d 1563, 1570, 38 USPQ2d 1281, 1286 (Fed. Cir. 1996); *Roton Barrier, Inc. v. Stanley Works*, 79 F.3d 1112, 37 USPQ2d 1816 (Fed. Cir. Mar. 4, 1996) (Nies, J., additional views); *National Presto Indus., Inc. v. West Bend Co.*, 76 F.3d 1185, 1192, 37 USPQ2d 1685, 1689 (Fed. Cir. 1996) (“The fact of separate patentability is relevant, and is entitled to due weight.”).

³³⁰ 79 F.3d 1563.

³³¹ *See Roton Barrier Inc. v. Stanley Works*, 79 F.3d 1112, 1128, 37 USPQ2d 1816, 1828-29 (Fed. Cir. 1996) (Nies, J., additional views: The nonobviousness of an accused device, evidenced by the grant of a patent, is relevant to the issue of whether the change therein is substantial.).

the redesign device with the prism alignment system could be deemed a substantial change from Zygo's claimed device with a reticle alignment.

I. Effect of the Prior Art Hypothetical Claims

One major limitation on the doctrine of equivalents is that the doctrine may not be used to expand the scope of the patentee's right to exclude so as to encompass the prior art.³³²

The doctrine of equivalents does not enlarge or expand the claims themselves—the scope of protection defined by the claims is constant. The doctrine of equivalents expands the right of the patentee to exclude equivalents of what is claimed.³³³

The Federal Circuit's policy behind restricting the patent owner's right to exclude so as not to encompass the prior art, however, is clear.

[A] patentee should not be able to obtain, under the doctrine of equivalents, coverage which he could not lawfully have obtained from the PTO by literal claims. The doctrine of equivalents exists to prevent a fraud on a patent, not to give a patentee something which he could not lawfully have obtained from the PTO had he tried. Thus, since prior art always limits what an inventor could have claimed, it limits the range of permissible equivalents of a claim.³³⁴

The issue—whether an asserted range of equivalents would cover what is already in the public domain—is one of law, which is reviewed by an appellate court under the de novo standard. But a reviewing court will presume that the jury resolved underlying evidentiary conflicts in the patentee's favor because of its verdict of infringement.³³⁵ The burden is on the patentee to prove that the range of equivalents it seeks would not ensnare the prior art.

³³² Key Mfg. Group, Inc. v. Microdot, Inc., 925 F.2d 1444, 1449, 17 USPQ2d 1806, 1810 (Fed. Cir. 1991); Senmed, Inc. v. Richard-Allan Med. Indus., Inc., 888 F.2d 815, 12 USPQ2d 1508 (Fed. Cir. 1989) (It is well established that limitations in a claim cannot be given a range of equivalents so wide as to cause the claim to encompass anything in the prior art.); Ryco, Inc. v. Ag-Bag Corp., 857 F.2d 1418, 8 USPQ2d 1323 (Fed. Cir. 1988); Tandon Corp. v. U.S. Int'l Trade Comm'n, 831 F.2d 1017, 4 USPQ2d 1283 (Fed. Cir. 1987) (Claims may not be enlarged by equivalents to encompass the teachings of the prior art.); Pennwalt Corp. v. DurandWayland, Inc., 833 F.2d 931, 4 USPQ2d 1737 (Fed. Cir. 1987); Loctite Corp. v. Ultraseal Ltd., 781 F.2d 861, 228 USPQ 90 (Fed. Cir. 1985); Perkin-Elmer Corp. v. Computervision Corp., 732 F.2d 888, 221 USPQ 669 (Fed. Cir. 1984); Carman Indus., Inc. v. Wahl, 724 F.2d 932, 220 USPQ 481 (Fed. Cir. 1983).

³³³ Wilson Sporting Goods Co. v. David Geoffrey & Assocs. d/b/a Slazenger, 904 F.2d 677, 14 USPQ2d 1942 (Fed. Cir. 1990) (establishing "hypothetical claim" analysis). Insta-Foam Prods., Inc. v. Universal Foam Sys., Inc., 906 F.2d 698, 15 USPQ2d 1295 (Fed. Cir. 1990) (applying hypothetical claim analysis). Conroy v. Reebok Int'l, Ltd., 14 F.3d 1570, 29 USPQ2d 1373 (Fed. Cir. 1994) (hypothetical claim analysis is useful methodology but nothing mandates its use as the only means for determining the extent to which the prior art restricts the scope of equivalency). The seminal case is Graver Tank & Mfg. Co. v. Linde Air Prods. Co., 339 U.S. 605, 85 USPQ 328 (1950). See also R. Klein, *Establishing Infringement under the Doctrine of Equivalents after Malta*, 75 J. PAT. & TRADEMARK OFF. SOC'Y (Jan. 1993).

³³⁴ Wilson Sporting Goods Co. v. David Geoffrey & Assocs., 904 F.2d 677, 14 USPQ2d 1942 (Fed. Cir. 1990), *cert. denied*, 498 U.S. 992 (1990).

³³⁵ *Id.* at 683.

Whether the prior art restricts the range of equivalents of what is literally claimed can be a difficult question to answer. To simplify the analysis, it may be helpful to conceptualize a hypothetical patent claim, sufficient in scope to cover literally the accused product. The pertinent question then becomes whether that hypothetical claim could have been allowed by the PTO over the prior art under 35 U.S.C. §102 and §103.³³⁶ If not, then it would be improper to permit the patentee to obtain that coverage in an infringement suit under the doctrine of equivalents. If, however, the hypothetical claim could have been allowed, the prior art is not a bar to infringement under the doctrine of equivalents.³³⁷

One cannot emphasize enough the importance of rendering an obviousness determination under 35 U.S.C. §103 when performing a hypothetical claim analysis. The obviousness inquiry must always be made.³³⁸

For example, consider the following scenario. The patent claim at issue recites: “A golf ball comprising a liquid center and a yellow dimpled cover surrounding said liquid center.” The potentially infringing device is a golf ball with a liquid center and a violet dimpled cover. The prior art includes white golf balls and red golf balls, both of which have dimpled covers and liquid centers.

In this case, the only word in the claim that does not read on the potentially infringing device is the term “yellow.” There is no literal infringement. If the test for infringement under the doctrine of equivalents is applied, then the pertinent question is whether a hypothetical patent claim drawn to encompass the potentially infringing device would have been allowed by the PTO over the prior art. In this case, the hypothetical patent claim would recite “A golf ball comprising a liquid center and a violet dimpled cover surrounding said liquid center.” It would then be determined whether this hypothetical claim would have been patentable over the prior art, which includes the red and white golf balls. In this case, the court *might* find that the hypothetical claim is patentable over the prior art since the hypothetical claim recites a color (i.e., violet) on the opposite end of the spectrum from the prior art and is therefore closer to the claimed invention than the prior art.

Taking the example one step further, if the prior art also included a blue golf ball, it is possible that a court *might* find that the hypothetical claim was not patentable over the prior art.

If it is found that a hypothetical claim corresponding to an independent claim is not patentable over the prior art, one must look to whether a hypothetical claim corresponding to one of the dependent claims is patentable over the prior art. A noninfringement determination of the dependent claim will not necessarily follow from a noninfringement determination of the independent claim, as

³³⁶ *Id.*; see *Insta-Foam Prods. Inc. v. Universal Foam Sys., Inc.*, 906 F.2d 698, 15 USPQ2d 1295 (Fed. Cir. 1990).

³³⁷ 904 F.2d at 684-85.

³³⁸ *Key Mfg. Group, Inc. v. Microdot, Inc.*, 925 F.2d 1444, 17 USPQ2d 1806 (Fed. Cir. 1991) (Where a claim drawn literally to cover the accused device would not be patentable over the prior art on obviousness grounds, there is no infringement); see also *We Care, Inc. v. UltraMark Int'l Corp.*, 930 F.2d 1567, 18 USPQ2d 1562 (Fed. Cir. 1991); *International Visual Corp. v. Crown Metal Mfg. Co.*, 991 F.2d 768, 26 USPQ2d 1588 (Fed. Cir. 1993) (If the hypothetical claim analysis is utilized, a court is required to visualize a hypothetical claim that enlarges the scope of an issued claim so that it literally covers an accused device and to determine whether that hypothetical claim would have been patentable over the prior art.).

the dependent claims may distinguish over the prior art yet still be construed to have a range of equivalents that would cover the accused system.³³⁹

Lastly, the Federal Circuit has stated that the hypothetical claim analysis is a matter of discretion with the district court. It is merely an optional way of evaluating whether the prior art limits the way the doctrine of equivalents is applied.³⁴⁰

Moreover, the hypothetical claim approach is not the only approach for determining how the prior art restricts the scope of equivalency.³⁴¹

In *Conroy v. Reebok International Ltd.*,³⁴² Conroy held a patent on air-inflatable bladders used in athletic footwear to cushion and protect the feet of the wearer. Reebok made and sold a basketball shoe—"The Pump"—that incorporated air-inflatable bladders.

Reebok conceded that its shoe contained all but one limitation in Conroy's two independent claims, a "linking member," and Conroy conceded that the Reebok shoe did not literally infringe. However, Conroy contended that two pairs of downward extending tabs on opposite sides of the Reebok shoe, which attached underneath the insole of the shoe to hold the bladder in place, established equivalents to the claimed linking member.

On appeal to the Federal Circuit, the court faulted the district court for an erroneous application of the *Wilson Sporting Goods* hypothetical claim analysis and stated the following:

In this case, rather than perform a hypothetical claim analysis, the district court [merely] compared the prior art with a single element of the accused device in an attempt to determine the extent to which the prior art limits the application of the doctrine of equivalents. . . . [P]urporting to follow *Wilson*. . . the district court here concluded that the mere existence of an element in the prior art automatically precludes [a patent owner] from asserting a scope of equivalency sufficient to encompass the corresponding element in the accused device. In so doing, the district court applied an improper test of permissible patent scope under the doctrine of equivalents, and thus contravened the rationale of *Wilson*.³⁴³

The district court's application of an improper scope test resulted in an overbroad restriction by the prior art on Conroy's application of the doctrine of equivalents, Judge Clevenger continued. "While a court may employ a means other than the hypothetical claim analysis set forth in *Wilson* to determine the extent to which the prior art limits the application of the doctrine of equivalents, a

³³⁹ 904 F.2d at 684-85.

³⁴⁰ *Key Mfg. Group, Inc. v. Microdot, Inc.*, 925 F.2d 1444, 17 USPQ2d 1806 (Fed. Cir. 1991); *International Visual Corp. v. Crown Metal Mfg. Co.*, 991 F.2d 768, 26 USPQ2d 1588 (Fed. Cir. 1993) (The hypothetical claim approach is simply a way of expressing the well-established principle that a patentee should not be able to obtain, under the doctrine of equivalents, coverage that it could not lawfully have obtained from the PTO by literal claims.).

³⁴¹ *Conroy v. Reebok Int'l, Ltd.*, 14 F.3d 1570, 29 USPQ2d 1373 (Fed. Cir. 1994).

³⁴² *Id.*

³⁴³ *Id.* at 1576-77, 29 USPQ2d at 1378.

court also must apply standards of patentability consistent with our jurisprudence regarding anticipation and obviousness.³⁴⁴

J. Technological Advances

The doctrine of equivalents is also limited by *Texas Instruments v. U.S. International Trade Commission*, which holds that where technological advances in claimed functions are sufficiently extensive, the totality of change in the accused device may be too much to support an infringement determination.³⁴⁵

In this case, the Federal Circuit considered a patent relating to rapidly developing semiconductor technology. In particular, the claims defined an electronic calculator in a pocket-sized housing comprising (1) input means; (2) electronic means for performing arithmetic calculations, the electronic means having memory means, arithmetic means, and transferring means for transferring numbers between the memory means and the arithmetic means; and (3) display means.

Because of the rapidly developing nature of the technology, the allegedly infringing system had several elements that employed means differing from the means disclosed in the patent. Specifically, the claimed input means was a keyboard encoder that operated through conductive strips under the keys, whereas the accused device had a scanning matrix decoder. Also, the electronic means in the patent was an integrated semiconductor array based on bipolar semiconductor technology, while the accused device used metal oxide semiconductors and embodied significant advances in chip design and integrated circuitry. In addition, the display means in the patent was a thermal printer, whereas the accused calculator used liquid crystal displays.

The Federal Circuit reasoned that each means in the accused device, standing alone, might have been an equivalent. But the court was unable to find infringement in light of the principle that the claimed invention as a whole must be considered in determining whether there is infringement by the accused device, also considered as a whole. The court stated:

It is not appropriate in this case, where all of the claimed functions are performed in the accused devices by subsequently developed or improved means, to view each such change as if it were the only change from the disclosed embodiments of the invention. It is the entirety of the technology embodied in the accused devices that must be compared with the patent disclosure.³⁴⁶

³⁴⁴ *Id.*

³⁴⁵ *Texas Instruments, Inc. v. U.S. Int'l Trade Comm'n*, 805 F.2d 1558, 231 USPQ 833 (Fed. Cir. 1986).

³⁴⁶ 1570, 231 USPQ at 840; *D.M.I., Inc. v. Deere & Co.*, 755 F.2d 1570, 1575, 225 USPQ 236, 239 (Fed. Cir. 1985); see also *Hughes Aircraft Co. v. United States*, 717 F.2d 1351, 1363-64, 219 USPQ 473, 482-83 (Fed. Cir. 1983).

K. Prosecution History Estoppel

Under the doctrine of prosecution history estoppel, a patent owner in an infringement suit is precluded from construing a claim in such a way that would resurrect subject matter relinquished during prosecution of the patent application to obtain the patent.³⁴⁷

Prosecution history estoppel generally applies as a defense to the doctrine of equivalents after the claims have been interpreted and no literal infringement has been found,³⁴⁸ but there is no black-and-white rule concerning applicability of prosecution history estoppel to limit the doctrine of equivalents.³⁴⁹ What is clear is that prosecution history estoppel is not pertinent to the question of literal infringement.

The standard for determining what subject matter was relinquished, for purposes of deciding whether an estoppel exists, is an objective one “measured from the vantage point of what a competitor was reasonably entitled to conclude, from the prosecution history, that the applicant gave up to procure issuance of the patent.”³⁵⁰

In determining the permissible scope of the patent claims, the court must look to material representations made to the PTO in response to references cited by the PTO, with the result that the scope of the patent claims is changed in order to secure a patent grant.³⁵¹ In addition, the court must consider the reason subject matter was surrendered during prosecution.³⁵² In the past, in cases where

³⁴⁷ Mark I Marketing Corp. v. R.R. Donnelly & Sons Co., 66 F.3d 285, 291, 36 USPQ2d 1095, 1100 (Fed. Cir. 1995); Zenith Lab., Inc. v. Bristol-Myers Squibb Co., 19 F.3d 1418, 1424, 30 USPQ2d 1285, 1290 (Fed. Cir.), *cert. denied*, 115 S. Ct. 500 (1994); Texas Instruments, Inc. v. U.S. Int’l Trade Comm’n, 805 F.2d 1558, 231 USPQ 833 (Fed. Cir. 1986); Jonsson v. Stanley Works, 903 F.2d 812, 14 USPQ2d 1863 (Fed. Cir. 1990); Mannesmann Demag Corp. v. Engineered Metal Prods. Co., 793 F.2d 1279, 230 USPQ 45 (Fed. Cir. 1986); Thomas & Betts Corp. v. Litton Sys., Inc., 720 F.2d 1572, 1579, 220 USPQ 1, 6 (Fed. Cir. 1983); see Exhibit Supply Co. v. Ace Patents Corp., 315 U.S. 126, 136, 52 USPQ 275 (1942) (“Whatever may be the appropriate scope and application of the doctrine of equivalents, where a claim is allowed without a restrictive amendment, it has long been settled that recourse may not be had to that doctrine to recapture claims which the patentee has surrendered by amendment.”).

³⁴⁸ *Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861, 228 USPQ 90 (Fed. Cir. 1985); *see also* *Moleculon Res. Corp. v. CBS, Inc.*, 793 F.2d 1261, 299 USPQ 805 (Fed. Cir. 1986); *McGill Inc. v. John Zink Co.*, 736 F.2d 666, 221 USPQ 944 (Fed. Cir. 1984).

³⁴⁹ *See* *Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861, 871, 228 USPQ 90, 96 (Fed. Cir. 1985); *LaBounty Manufacturing, Inc. v. International Trade Comm’n*, 867 F.2d 1572, 1576, 9 USPQ2d 1995, 1999 (Fed. Cir. 1989).

³⁵⁰ *Hoganas A.B. v. Dresser Indus., Inc.*, 9 F.3d 948, 952, 28 USPQ2d 1936, 1939 (Fed. Cir. 1993); *Mark I Marketing Corp. v. R.R. Donnelly & Sons Co.*, 36 USPQ2d 1095, 1100 (Fed. Cir. 1995); *Zenith Lab, Inc. v. Bristol-Myers Squibb Co.*, 19 F.3d 1418, 1424, 30 USPQ2d 1285, 1290 (Fed. Cir.), *cert. denied*, 115 S. Ct. 500 (1994).

³⁵¹ *Builders Concrete, Inc. v. Bremerton Concrete Prods. Co.*, 757 F.2d 255, 225 USPQ 240 (Fed. Cir. 1985); *Dixie USA, Inc. v. Infab Corp.*, 927 F.2d 584, 17 USPQ2d 1968 (Fed. Cir. 1991).

³⁵² *Wang Lab., Inc. v. Toshiba Corp.*, 993 F.2d 858, 26 USPQ2d 1767 (Fed. Cir. 1993); *Laitram Corp. v. NEC Corp.*, 952 F.2d 1357, 21 USPQ2d 1276 (Fed. Cir. 1991); *Texas Instruments, Inc. v. U.S. Int’l Trade Comm’n*, 988 F.2d 1165, 26 USPQ2d 1018 (Fed. Cir. 1993) (assertions made by applicants, whether or not required to secure allowance of claims, may constitute prosecution history estoppel); *Haynes Int’l, Inc. v. Jessop Steel Co.*, 8 F.3d 1573, 28 USPQ2d 1652 (Fed. Cir. 1993) (after Board held test data established patentability of one claim, estoppel established when applicant canceled other claims *and* failed to refile claims in a continuation or reissue along with additional test data on unexpected properties), *modified on other grounds*, 15 F.3d 1076, 29 USPQ2d 1958 (Fed. Cir. 1994) (recognizes “unique circumstances” of the case and notes that prosecution history estoppel arose from preissuance activities).

amendments were neither required in response to a rejection nor critical to the claims being allowed, no estoppel has been found.³⁵³ However, this principle was changed by the Supreme Court in *Hilton Davis* to set forth that when the applicant provides no sufficient reason for an amendment there would be a rebuttable presumption that the PTO had a substantial reason related to patentability for restricting the claim—a reason that would invoke prosecution history estoppel.³⁵⁴ Consequently, the burden now falls on the patent owner to establish a reason for the restriction unrelated to patentability.

Prosecution history estoppel applies to remarks, as well as claim amendments, to the extent each is used to avoid prior art.³⁵⁵ But remarks made in prosecution that merely emphasize a structural distinction between a claim and the prior art should not be read as limiting the claim to a particular method of operation.³⁵⁶

Prosecution history estoppel may arise when a related claim is canceled or amended in a way that gives meaning to terms in the claim in question.³⁵⁷

Prosecution history estoppel may apply when the applicant argues for a narrow construction of the claims to distinguish the prior art.³⁵⁸ But “amendment of a claim in light of a prior art reference is not the sine qua non for estoppel.”³⁵⁹ The extent of the estoppel will vary depending on the nature and purpose of the amendment.³⁶⁰ Furthermore, when a patent applicant urges that *a set* of limitations distinguishes a claim over the prior art, prosecution history estoppel will attach to those limitations collectively. That is, in order for prosecution history estoppel to preclude infringement, the accused infringer must not have any of the set of limitations that has been relied on by the patent owner.³⁶¹

³⁵³ *Mannesmann Demag Corp. v. Engineered Metal Prods. Co.*, 793 F.2d 1279, 230 USPQ 45 (Fed. Cir. 1986).

³⁵⁴ *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 33, 41 USPQ2d 1865, 1873 (1997).

³⁵⁵ *Townsend Eng'g Co. v. HiTec Co.*, 829 F.2d 1086, 4 USPQ2d 1136 (Fed. Cir. 1987); *Hughes Aircraft Co. v. United States*, 717 F.2d 1351, 1362, 219 USPQ 473, 481 (Fed. Cir. 1983); *Haynes*, 8 F.3d at 1579, 28 USPQ2d at 1657 (estoppel can be created even when the claim, which is the basis for the assertion of infringement under the doctrine of equivalents, was not amended during prosecution; that is, estoppel may arise solely from prosecution arguments made in support of nonamended claim language).

³⁵⁶ *SRI Int'l v. Matsushita Elec. Corp.*, 775 F.2d 1107, 227 USPQ 577 (Fed. Cir. 1985).

³⁵⁷ *Builders Concrete, Inc. v. Bremerton Concrete Prods. Co.*, 757 F.2d 255, 225 USPQ 240 (Fed. Cir. 1985); *Keith v. Charles E. Hires Co.*, 116 F.2d 46, 47 USPQ 402 (2d Cir. 1940).

³⁵⁸ *Cf. Sofamor Danek Group, Inc. v. DePuy-Motech, Inc.*, 74 F.2d 1216, 1220, 37 USPQ2d 1529, 1531 (Fed. Cir. 1996) (If an applicant specifically distinguishes a structure from what is claimed during prosecution, the applicant will be estopped from asserting a scope for the same claim that covers that structure.); *Hughes Aircraft Co. v. United States*, 717 F.2d 1351, 219 USPQ 473 (Fed. Cir. 1983); *Coleco Indus., Inc. v. U.S. Int'l Trade Comm'n*, 573 F.2d 1247, 1257, 197 USPQ 472, 479-80 (C.C.P.A. 1978).

³⁵⁹ ROBERT L. HARMON, *PATENTS AND THE FEDERAL CIRCUIT* 237 (BNA 1994) (“the mere fact that a claim limitation was added to overcome a prior art rejection does not automatically preclude some range of equivalents with respect to that limitation”).

³⁶⁰ *Hughes Aircraft Co. v. United States*, 717 F.2d 1351, 1362, 219 USPQ 473, 481 (Fed. Cir. 1983).

³⁶¹ *Read Corp. v. Portec, Inc.*, 970 F.2d 816, 23 USPQ2d 1426 (Fed. Cir. 1992).

The prosecution history must be examined as a whole in determining whether estoppel applies.³⁶² Estoppel may arise by amendments or arguments made in proceedings other than the original prosecution, such as a reissue or reexamination proceeding.³⁶³ In addition, when claims in a continuation or continuation-in-part application are at issue, the relevant prosecution history also includes the prosecution of any parent applications.³⁶⁴

For example, in *Mark I Marketing Corp. v. R.R. Donnelley & Sons Co.*,³⁶⁵ Mark I obtained a patent on a process for printing color images on paper using only two printing plates and two “non-process” inks (as opposed to prior art processes typically involving four printing plates and the four traditional “process” inks: cyan, magenta, yellow, and black). In particular, the first printing plate, which prints red ink, is made by sequentially exposing a separation film through green and blue filters. The second plate, which prints another non-process ink such as green, blue, or black, is made by sequentially exposing a separation film through red and blue filters. The patent specification indicates that either photographic or scanning techniques may be used to carry out the invention.

Donnelley printed color images for its directories using a commercially available scanner and two non-process inks. However, its process did not involve the sequential interposition of filters. Rather, three light beams were simultaneously filtered through red, green, and blue filters within the scanner.

Mark I’s initial application broadly claimed a process for reproducing color images by printing with two plates and two inks. The process as claimed required the formation of two separations, but did not require that either separation be made by sequentially interposing two different filters. During prosecution, the claims were rejected over prior art that suggested using two printing plates and two inks.

Instead of responding to the rejection, Mark I filed a continuation-in-part application with new claims that required two plates but not the sequential interposing of filters. Mark I narrowed its claims to require that the first plate be made by sequentially interposing filters and argued that the sequential interposition of filters distinguished the claimed invention from the prior art. The claims were rejected over a combination of references suggesting the use of supplemental film exposures in a two-color printing process.

Subsequently, Mark I filed a second continuation-in-part application, claiming for the first time that both plates be made by sequentially interposing colored filters. The application was allowed without comment by the Examiner.

³⁶² *Wang Lab., Inc. v. Toshiba Corp.*, 993 F.2d 858, 867, 26 USPQ2d 1767, 1775 (Fed. Cir. 1993).

³⁶³ *Howes v. Medical Components, Inc.*, 814 F.2d 638, 643, 645, 2 USPQ2d 1271, 1273, 1274-75 (Fed. Cir. 1987).

³⁶⁴ *Mark I Marketing Corp. v. R.R. Donnelly & Sons Co.*, 66 F.3d 285, 291, 36 USPQ2d 1095, 1100 (Fed. Cir. 1995); *see* *Jonsson v. Stanley Works*, 903 F.2d 812, 818, 14 USPQ2d 1863, 1869 (Fed. Cir. 1990) (prosecution history of parent application is relevant to understanding scope of claims issuing in a continuation-in-part application).

³⁶⁵ 66 F.3d 285, 36 USPQ2d 1095 (Fed. Cir. 1995).

Mark I sued R.R. Donnelley for patent infringement. The U.S. District Court for the Northern District of Illinois determined that prosecution history estoppel precluded Mark I from proving infringement under the doctrine of equivalents.

On appeal, the Federal Circuit affirmed the ruling based on prosecution history estoppel. The prosecution history showed that Mark I surrendered claim coverage for a process not involving sequential interposition of colored filters. The court also noted that Mark I was unsuccessful in obtaining allowance of the claims until they were narrowed to require that both the first and the second printing plates be made by sequentially interposing particular combinations of colored filters.

Consequently, the court held, a competitor reviewing the prosecution history of the patent as a whole reasonably would conclude that Mark I surrendered claim coverage to a process not involving sequential interposition of filters in order to procure issuance of the patent:

[A]n estoppel is not avoided by failing to respond to a rejection and instead meeting the substance of the rejection by filing a narrower continuing application. Rather, the prosecution history must be viewed as a whole to determine whether and what subject matter was surrendered to procure issuance of the patent. Viewed in its entirety, the prosecution history . . . clearly shows that Mark I surrendered claim coverage in order to obtain an allowance of the claims.³⁶⁶

An inventor's disparaging statements regarding the patent-in-suit, made during prosecution of a later-filed application for a separate invention, do not give rise to prosecution history estoppel.³⁶⁷

An example of prosecution history estoppel barring an assertion of infringement by the doctrine of equivalents may be found in *Texas Instruments v. U.S. International Trade Commission*,³⁶⁸ in which the Federal Circuit found that the International Trade Commission (ITC) properly estopped Texas Instruments from asserting claims that would otherwise infringe under the doctrine of equivalents. The accused processes were semiconductor device plastic encapsulation processes in which a semiconductor die and lead frame structure, with exposed wires for electrically connecting the semiconductor devices to metal leads that extended outside the molded package, were placed in a mold cavity. Plastic was injected by "same-side gating," that is, with the plastic entering the mold on the same side of the leads as the semiconductor die and wires. The claims, however, required "opposite-side gating," that is, the conductors were in a common plane, and the plastic was injected into the mold cavity on the other side of the plane.

During prosecution of the Texas Instruments patent, the inventors placed special emphasis on locating the gate on the opposite side of the mold from the semiconductor because locating the gate on the same side of the mold did not work. In particular, the invention disclosure form explained that same-side gating was known in the molding art, and that the inventors were certain that same-side gating could not achieve their desired invention. When the Examiner rejected the claims, the inventors argued that it was the organization of the electrical connections in a common plane, with the conductor wires being located on one side of the plane and the plastic fluid being injected into the mold on the opposite side of the plane, that made the claim patentable.

³⁶⁶ *Id.* at 292, 36 USPQ2d at 1100.

³⁶⁷ *Cameco Indus. Inc. v. Louisiana Cane Mfg. Inc.*, 28 USPQ2d 1475 (E.D. La. 1993).

³⁶⁸ 988 F.2d 1165, 26 USPQ2d 1018 (Fed. Cir. 1993).

The Federal Circuit reasoned that “[b]y expressly stating that claim 12 was patentable because of the opposite-side gating limitation, particularly in light of their previous admission that same-side gating was known in the art, the inventors unmistakably excluded the sameside gating as an equivalent.”³⁶⁹ Furthermore, “having represented that same-side gating does not work, and having distinguished cited prior art as not teaching the functional opposite-side gated process, [the patentee] cannot foreclose reliance upon its unambiguous surrender of subject matter.”³⁷⁰

§13.05 Invalidity and Unenforceability Analysis

A. Overview

After claims have been construed and an infringement analysis completed, the company requesting an opinion on noninfringement should determine whether to perform an invalidity and unenforceability analysis. An invalidity and unenforceability analysis may be very time-consuming and costly and may not be justified or required if the infringement analysis itself established that the accused system does not infringe the patent under study. On the other hand, an invalidity and unenforceability analysis may be a necessity when the claims of the patent read or possibly read on the accused system.

The most common attacks on the validity of a patent are anticipation under 35 U.S.C. §102, obviousness under 35 U.S.C. §103, and lack of enablement under 35 U.S.C. §112. These validity standards are discussed below. A patent can also be invalid for failing to disclose the best mode of making the invention³⁷¹ and for having indefinite claims.³⁷² Even if a patent is found valid and infringed by the accused system, the accused infringer can escape liability for infringement if the patent is found unenforceable.³⁷³

B. Validity Analysis

Each U.S. patent, by virtue of statute 35 U.S.C. §282, is presumed valid. The statute provides:

A patent shall be presumed valid. Each claim of a patent (whether in independent, dependent, or multiple dependent form) shall be presumed valid independently of the validity of other claims; dependent or multiple dependent claims shall be presumed valid even though dependent upon an invalid claim. The burden of establishing invalidity of a patent or any claim thereof shall rest on the party asserting such invalidity.

The presumption of validity does not have independent evidentiary value; it merely places the burden of going forward, as well as the burden of persuasion, upon the party asserting invalidity.³⁷⁴ The

³⁶⁹ *Id.* at 1175, 26 USPQ2d at 1026.

³⁷⁰ *Id.*

³⁷¹ 35 U.S.C. §112, first paragraph.

³⁷² 35 U.S.C. §112, second paragraph.

³⁷³ *Gardco Mfg., Inc. v. Herst Lighting Co.*, 820 F.2d 1209, 2 USPQ2d 2015 (Fed. Cir. 1987).

³⁷⁴ *SSIH Equip. S.A. v. U.S. Int’l Trade Comm’n.*, 718 F.2d 365, 218 USPQ 678 (Fed. Cir. 1983).

presumption of validity is a procedural device³⁷⁵ that is not destroyed or weakened by the introduction of more pertinent prior art than that considered by the Examiner.³⁷⁶ The introduction of more pertinent prior art does not shift the burden of persuasion.³⁷⁷ The party attacking the validity of the patent always bears the burden of proof.³⁷⁸ This burden must be satisfied by clear and convincing evidence.³⁷⁹

There is an elevated burden of persuasion when a party relies upon prior art that was considered during the examination of the patent at issue.³⁸⁰ Deference is given to the PTO, which has the expertise for examining the application and is presumed to have properly examined and allowed the application. There also is an elevated burden of persuasion when the patent is allowed after a reexamination.³⁸¹ In contrast, no deference is given the PTO if the prior art was not considered. A prior judicial determination of patent validity does not augment the statutory presumption of validity³⁸²; however, a prior judicial determination may be given weight.³⁸³

Any determination of validity for obviousness or anticipation requires that the claims of the patent be first construed, as discussed previously. Only when the claims have been properly construed can a determination of invalidity proceed. The two-column format may be used to perform the invalidity analysis. In this case, the righthand column is used to describe features disclosed by the prior art that correspond to limitations of the interpreted claim(s). In addition to providing consistency and continuity between the different sections of the opinion, the two-column format provides an efficient and accurate method of comparing the accused claims to the prior art. The use of this format is critical in the evaluation of software and computer systems, where many claims recite means-plus-function limitations and the structure corresponding to the means-plus-function limitations is described in the specification.

Further, by using the two-column format, the claim interpretation can be reevaluated in view of the prior art analyzed in the validity analysis. For example, it may be determined that a feature of the accused system may be an equivalent of the corresponding structure of a means-plus-function

³⁷⁵ *Avia Group Int'l, Inc. v. L.A. Gear Calif., Inc.*, 853 F.2d 1557, 1558, 7 USPQ2d 1548, 1552 (Fed. Cir. 1988).

³⁷⁶ *Gillette Co. v. S.C. Johnson & Son, Inc.*, 919 F.2d 720, 16 USPQ2d 1923 (Fed. Cir. 1990) (presumption of validity places burden of proving patent invalid on challenger, and burden is not lessened by introduction of art not before PTO during prosecution); *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983).

³⁷⁷ 919 F.2d 720.

³⁷⁸ *Tone Bros. Inc. v. Sysco Corp.*, 28 F.3d 1192, 1197 n.4, 31 USPQ2d 1321 n.4 (Fed. Cir. 1994); *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983).

³⁷⁹ *Lindemann Maschinenfabrik Gmbh v. American Hoist & Derrick Co.*, 730 F.2d 1452, 1459, 221 USPQ 481, 486 (Fed. Cir. 1984).

³⁸⁰ *Hughes Aircraft Co. v. United States*, 717 F.2d 1351, 219 USPQ 473 (Fed. Cir. 1983).

³⁸¹ *Custom Accessories, Inc. v. Jeffrey-Allen Indus.*, 807 F.2d 955, 961, 1 USPQ2d 1196, 1200 (Fed. Cir. 1986); *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1139, 227 USPQ 543, 550 (Fed. Cir. 1985); *American Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1359-60, 220 USPQ 763, 769-70 (Fed. Cir. 1984). *See also Greenwood v. Hattori Seiko Co.*, 900 F.2d 238, 14 USPQ2d 1474 (Fed. Cir. 1990) (effect of reexamination on subsequent suit enforcing patent).

³⁸² *Shelcore, Inc. v. Durham Indus., Inc.*, 745 F.2d 621, 223 USPQ 584 (Fed. Cir. 1984).

³⁸³ *Gillette Co. v. S.C. Johnson & Son, Inc.*, 919 F.2d 720, 16 USPQ2d 1923 (Fed. Cir. 1990).

limitation of a claim. Assuming that the prior art has the same feature and discloses the other limitations recited in the claim, the interpretation of the means-plus-function limitation will be affected. In this case, either the claim in question is invalid or the claim will be interpreted in such a way to avoid the structure disclosed by the prior art and the accused system. In either case, there is no liability for infringement. This use of the two-column format allows a recognition and analysis of these issues throughout the opinion.

I. Anticipation

Before the inception of the Federal Circuit, it had long been recognized that insubstantial differences between a device and the prior art could not negate anticipation under Section 102. While the Federal Circuit at first followed this liberal view of anticipation under Section 102,³⁸⁴ the Federal Circuit has now taken a much more restrictive position, requiring complete identity between the claimed invention and the prior art (i.e., all the claim elements must be found in one reference).

In order to anticipate a claim under Section 102 and render it invalid, a single prior art reference must expressly or inherently disclose each and every element set forth in a patent claim.³⁸⁵ Alternatively, a single prior art device or practice must expressly or inherently disclose each and every element set forth in a patent claim.³⁸⁶ There must be no difference between the claimed invention and the prior art disclosure, as viewed by a person of ordinary skill in the art.³⁸⁷

In *In re Lowry*, the Federal Circuit considered a patent application directed to the storage, use, and management of information residing in a memory.³⁸⁸ The patent application disclosed a data structure accessible by different application programs.³⁸⁹ When evaluating patentability of the claims under Sections 102 and 103, the Board of Patent Appeals and Interferences did not give patentable weight to the data structure recited in the claims.³⁹⁰ The Board analogized the data structure to printed matter and, thus, accorded the data structure no patentable weight.³⁹¹ The Board therefore concluded the claims were anticipated. The Federal Circuit reversed this decision, finding that the claimed data structure carried patentable weight and, therefore, distinguished the claims from the

³⁸⁴ See *In re Smith*, 714 F.2d 1127, 218 USPQ 976 (Fed. Cir. 1983).

³⁸⁵ *In re Spada*, 911 F.2d 705, 15 USPQ2d 1655 (Fed. Cir. 1990); *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 9 USPQ2d 1913 (Fed. Cir. 1989); *Diversitech Corp. v. Century Steps, Inc.*, 850 F.2d 675, 7 USPQ2d 1315 (Fed. Cir. 1985); *Akzo N.V. v. U.S. Int'l Trade Comm'n*, 808 F.2d 1471, 1 USPQ2d 1241 (Fed. Cir. 1986); *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1 USPQ2d 1081 (Fed. Cir. 1986); *Rolls-Royce Ltd. v. Crucible Inc.*, 800 F.2d 1101, 231 USPQ 185 (Fed. Cir. 1986); *W.L. Gore & Assocs. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983); *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 9 USPQ2d 1962 (Fed. Cir. 1989) (a reference may anticipate if the teaching is inherent in the cited prior art reference).

³⁸⁶ *Minnesota Min. & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 24 USPQ2d 1321 (Fed. Cir. 1992).

³⁸⁷ *Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565, 18 USPQ2d 1001 (Fed. Cir. 1991); *Continental Can Co. USA, Inc. v. Monsanto Co.*, 948 F.2d 1264, 20 USPQ2d 1746 (Fed. Cir. 1991); *In re Graves*, 69 F.3d 1147, 36 USPQ2d 1697 (Fed. Cir. 1995) (a prior art reference anticipates a claim, even if it does not specifically disclose one of the limitations of the claim, if that limitation is within the knowledge of a skilled artisan).

³⁸⁸ *In re Lowry*, 32 F.3d 1579, 1580, 32 USPQ2d 1031, 1032 (Fed. Cir. 1994).

³⁸⁹ *Id.* at 1581, 32 USPQ2d at 1033.

³⁹⁰ *Id.* at 1582, 32 USPQ2d at 1034.

³⁹¹ *Id.*

art.³⁹² The Federal Circuit stated that the “claims require specific electronic structural elements which impart a physical organization on the information stored in memory.”³⁹³

Extrinsic evidence including other prior art references may be considered when it is used to explain, but not expand, the meaning of an anticipatory reference.³⁹⁴ Prior art references, however, may not be combined to establish anticipation. “Thus, although references cannot be combined for purposes of anticipation, additional references may be used to interpret the allegedly anticipating reference and shed light on what it would have meant to those skilled in the art at the time of the invention.”³⁹⁵

To anticipate, the prior art reference also must be enabling; it must place the claimed subject matter in the possession of the public.³⁹⁶ More than one prior art reference may be reviewed when determining whether a single prior art reference that is claimed to anticipate is enabling.³⁹⁷ That is, the reference must put the claimed invention in the hands of one skilled in the art.³⁹⁸ In *In re Epstein*,³⁹⁹ the Federal Circuit considered whether several publications were enabling.⁴⁰⁰ The applicant argued that the publications were not enabling because they lacked diagrams, flowcharts, and source codes that would enable one of ordinary skill in the art to practice the software-related systems described in the publications.⁴⁰¹ The applicant failed, however, to address why each of the publications “would have been non-enabling of the features for which it has been cited namely, an electronic ordering system for a plurality of vendors (which inherently would have a plurality of buyer stations) and the ability to view a list of vendors.”⁴⁰² The Federal Circuit concluded that the applicant had not met his burden to rebut the Board’s conclusion of enablement of the references.⁴⁰³

There are seven subsections to Section 102. The following paragraphs discuss each subsection. A patent is invalid under Section 102(a) when the claimed invention was publicly known or used in this country or patented or described in a patent publication in this or a foreign country before the patentee’s invention was made.⁴⁰⁴ Whether a document is a printed publication is a legal determination based on underlying fact issue.⁴⁰⁵ A printed publication must be published in the

³⁹² *Id.*

³⁹³ *Id.*

³⁹⁴ *In re Baxter Travenol Labs*, 952 F.2d 388, 21 USPQ2d 1281 (Fed. Cir. 1991).

³⁹⁵ *Ciba-Geigy Corp. v. Alza Corp.*, 68 F.3d 487, 37 USPQ2d 1337 (Fed. Cir. 1995) (nonprecedential).

³⁹⁶ *Akzo N.V. v. U.S. Int’l Trade Comm’n*, 808 F.2d 1471, 1 USPQ2d 1241 (Fed. Cir. 1986); *Ashland Oil, Inc. v. Delta Resins & Refracs., Inc.*, 776 F.2d 281, 227 USPQ 657 (Fed. Cir. 1985); *Reading & Bates Constr. Co. v. Baker Energy Res. Corp.*, 748 F.2d 645, 223 USPQ 1168 (Fed. Cir. 1985).

³⁹⁷ *Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565, 18 USPQ2d 1001 (Fed. Cir. 1991).

³⁹⁸ *In re Donohue*, 766 F.2d 531, 533, 226 USPQ 619, 621 (Fed. Cir. 1985); *Ciba-Geigy Corp. v. Alza Corp.*, 68 F.3d 487, 37 USPQ2d 1337 (Fed. Cir. 1995) (nonprecedential) (citing *Seymour v. Osborn*, 78 U.S. 516, 555 (1870)).

³⁹⁹ 32 F.3d 1559, 31 USPQ2d 1817 (Fed. Cir. 1994).

⁴⁰⁰ *Id.* at 1567-68, 31 USPQ2d at 1823.

⁴⁰¹ *Id.*

⁴⁰² *Id.*

⁴⁰³ *Id.*

⁴⁰⁴ 35 U.S.C. §102(a).

⁴⁰⁵ *Northern Telecom Inc. v. Datapoint Corp.*, 908 F.2d 931, 936, 15 USPQ2d 1321, 1325 (Fed. Cir. 1990).

United States or a foreign country before the applicant's date of invention to be a bar under Section 102(a). A printed publication is a document that is generally accessible.⁴⁰⁶ The document must describe the invention in sufficient detail to enable one skilled in the art to make the claimed invention.⁴⁰⁷

A patent is invalid under Section 102(b) for being in public use if the claimed invention was publicly used in this country more than one year prior to the filing date of the application for the patent.⁴⁰⁸ Whether something is in public use, within the meaning of Section 102(b), and thus properly considered prior art, is a question of law with subsidiary issues of fact.⁴⁰⁹ A public use is the use of a product or process in its natural and intended way, even though the use may not be open to the view of the public.⁴¹⁰ The use of a single product is sufficient to establish a public use. An experimental use, however, will not constitute a public use, even when the public makes incidental use of the invention.⁴¹¹ Experimental use provides the inventor time to perfect and test the invention. The experimental use must not be for commercial exploitation or market testing.⁴¹²

Under Section 102(b), a patent also is invalid if the claimed invention was described in a printed publication in this or a foreign country more than one year prior to the filing date of the patent application.⁴¹³ Whether a document is a printed publication is a question of law that turns upon whether the document has been disseminated, or otherwise made available, to the extent that persons of ordinary skill in the art can locate the document by exercising reasonable diligence and can comprehend from the document the essentials of the claimed invention.⁴¹⁴

A patent is also invalid under Section 102(b) for being on sale, if, more than one year before the filing date of the patent application, the invention is offered for sale in this country primarily for

⁴⁰⁶ *Id.*; *Garrett Corp. v. United States*, 422 F.2d 874, 878, 164 USPQ 521, 524 (Ct. Cl. 1970) (“While distribution to government agencies and personnel alone may not constitute publication . . . distribution to commercial companies without restriction on use clearly does.”). See *Mass. Inst. of Technology v. AB Fortia*, 774 F.2d 1104, 1109, 227 USPQ 428, 432 (Fed. Cir. 1985) (paper orally presented at a scientific meeting open to all persons interested in the subject matter, with written copies distributed without restriction to all who requested it, is a printed publication); *In re Wyer*, 655 F.2d 221, 226-27, 210 USPQ 790, 795 (C.C.P.A. 1981) (foreign patent applications that are made known to and are available to the public without restriction are publications).

⁴⁰⁷ *In re Epstein*, 32 F.3d 1559, 1568, 31 USPQ2d 1817, 1823 (Fed. Cir. 1994); *Akzo N.V. v. U.S. Int’l Trade Comm’n*, 808 F.2d 1471, 1479, 1 USPQ2d 1241, 1245 (Fed. Cir. 1986), *cert. denied*, 482 U.S. 909 (1987).

⁴⁰⁸ 35 U.S.C. §102(b).

⁴⁰⁹ *Manville Sales Corp. v. Paramount Sys., Inc.*, 917 F.2d 544, 549, 16 USPQ2d 1587, 1591 (Fed. Cir. 1990).

⁴¹⁰ *Kiasenbaw v. Deere & Co.*, 741 F.2d 383, 222 USPQ 929 (Fed. Cir. 1984) (even a secret use of the product may be a public use).

⁴¹¹ *TP Labs, Inc. v. Professional Positioners, Inc.*, 724 F.2d 965, 220 USPQ 577 (Fed. Cir. 1990).

⁴¹² Factors that should be considered in connection with the experimental use inquiry include (1) the length of the test period and number of tests as compared with a similar type of test on a similar type of design; (2) whether a user made any payment for the device; (3) whether a user agreed to use the device secretly; (4) whether records were kept of the progress of the test; (5) the number of prototypes tested; and (6) whether persons other than the designer conducted the asserted experiments. *Tone Bros. Inc. v. Sysco Corp.*, 28 F.3d 1192, 1197 n.4, 31 USPQ2d 1321, 1326 (Fed. Cir. 1994). The “critically important” factor is the control that the inventor exerted over the user(s). *Lough v. Brunswick Corp.*, 86 F.3d 1113, 1120, 39 USPQ2d 1100, 1105 (Fed. Cir. 1996).

⁴¹³ 35 U.S.C. §102(b).

⁴¹⁴ *Constant v. advanced Micro Devices, Inc.*, 848 F.2d 1560, 7 USPQ2d 1057 (Fed. Cir. 1988).

purposes of commercial gain, rather than for experimental purposes, and the invention has been reduced to practice at the time of the offer.⁴¹⁵ The test for determining whether the patented invention has been placed on sale was recently established by the U.S. Supreme Court.⁴¹⁶ The on-sale bar applies when two conditions are satisfied before the critical date. First the invention (e.g., the software that embodies the claimed invention) must be the subject of a commercial offer for sale. Second, the invention must be ready for patenting, a condition satisfied in at least two ways: reduction to practice before the critical date or proof that, before the critical date, the inventor had prepared drawings or other descriptions of the invention that were sufficiently specific, clear, and precise to enable a person of ordinary skill in the art to practice the invention.

Under Sections 102(a) and 102(b), it is difficult to identify relevant prior art for software-related inventions. The database of issued patents describing software-related inventions is still limited. Traditionally, companies within the software industry have mainly sought copyright protection for their software-related inventions. As a result, a search of issued patents generally may uncover only a few reference patents that provide a sketchy view of the prior art. In addition, many day-to-day programming practices of those skilled in the art are not well documented and existing documentation and software programs are difficult to access.

The client may be one of the patent counsel's best sources of information for overcoming these difficulties. Generally, the client should be able to provide counsel with the necessary information and tools for performing the prior art search. This includes the identification of publications within the field, identification of documents in the possession of the client, and access to the expert personnel of the client.

In *In re Epstein*, the U.S. Patent and Trademark Office Board of Patent Appeals and Interferences examined whether various thirdparty software products were in public use or on sale more than one year before the applicant's filing date. The software products were described in various abstracts that are not prior art publications.⁴¹⁷ The abstracts did indicate that the products were "first installed" or "released" prior to one year before the applicant's filing date.⁴¹⁸ The applicant argued that the PTO had not met its evidentiary burden of proving the "in public use or on sale" status of the third-party software products by relying solely on the abstracts.⁴¹⁹ In affirming the Board's decision, the Federal Circuit stated, "[T]he abstracts appear on their face to be accurate and reliable, and because [applicant] has failed to proffer any evidence to support his arguments to the contrary, we assume the truthfulness of the various assertions in the abstracts."⁴²⁰ The Federal Circuit

⁴¹⁵ *In re Epstein*, 32 F.3d 1559, 1565, 31 USPQ2d 1817, 1821 (Fed. Cir. 1994). In *Epstein*, the appellants appealed a decision that abstracts describing the sale of software products established a prior sale. The abstracts were dated after the bar date but described "release" and "first installed" dates before the critical date. The court allowed these abstracts to be considered in establishing prior sale of the software product. The appellants argued that the "release" and "first installed" dates listed in the abstracts are hearsay not within any exception to hearsay rules. The Federal Circuit rejected this argument, noting that hearsay statements may be relied upon to establish a rejection.

⁴¹⁶ *Pfaff v. Wells Electronics, Inc.*, 119 S.Ct. 304, 48 USPQ2d 1641 (1998).

⁴¹⁷ *In re Epstein*, 32 F.3d 1559, 1567, 31 USPQ2d 1817, 1822-23 (Fed. Cir. 1994).

⁴¹⁸ *Id.*

⁴¹⁹ *Id.*

⁴²⁰ *Id.* at 1566, 31 USPQ2d at 1822.

further stated that the abstracts support the conclusion that the software products were in public use or on sale within the meaning of Section 102(b) prior to the critical date.⁴²¹

Under Sections 102(c) and (d), respectively, a patent may not be granted (1) if the inventor abandons the invention,⁴²² or (2) if the invention was first patented or caused to be patented by the applicant in a foreign country on an application filed more than 12 months before the filing of the U.S. application.⁴²³ Similarly, under Section 102(e), a patent is invalid if the invention was described in a patent or an application filed by another in the United States before the invention by the applicant.⁴²⁴ A patent also is invalid under Section 102(f) if the applicant did not himself or herself invent the subject matter sought to be patented.⁴²⁵

Generally, under Section 102(g), the first person to reduce his or her invention to practice, either actual or constructive, is the first inventor and has priority over subsequent inventors in obtaining a patent for the invention. There is an exception to this general rule: The first person to conceive the invention may be the first inventor, provided that he or she has exercised reasonable diligence in reducing the invention to practice from a time just prior to when the first person who reduced the invention to practice entered the field. *Conception* requires the idea of desired result, and possession of means to reach that result.⁴²⁶ It is “the formation in the mind of the inventor, of a definite and permanent idea of the complete and operative invention, as it is hereafter to be applied in practice.”⁴²⁷ Because conception is a mental act, courts *require* corroborating evidence of a contemporaneous disclosure that would enable one skilled in the art to make the invention.⁴²⁸

The first person to reduce an invention to practice will lose the right to priority under Section 102(g) if he or she subsequently abandons, suppresses, or conceals the invention.⁴²⁹ However, if such an inventor resumes his or her activities on the invention and proceeds diligently to file a patent application, the date of resumed activity will be used to establish his or her rights to priority of invention.

2. *Obviousness*

Obviousness under Section 103 is a legal conclusion based on an objective “standard of invention” defined by the Supreme Court in *Graham v. John Deere Co.*⁴³⁰ The legal conclusion has four factual predicates: (1) the scope and content of the prior art,⁴³¹ (2) the differences between the

⁴²¹ *Id.* at 1567, 31 USPQ2d at 1822-23.

⁴²² 35 U.S.C. §102(c).

⁴²³ 35 U.S.C. §102(d).

⁴²⁴ 35 U.S.C. §102(e).

⁴²⁵ 35 U.S.C. §102(f).

⁴²⁶ *OKA v. Youssefyeh*, 849 F.2d 581, 7 USPQ2d 1169 (Fed. Cir. 1988).

⁴²⁷ *FilmTec Corp. v. Allied-Signal, Inc.*, 939 F.2d 1568, 19 USPQ2d 1508 (Fed. Cir. 1991).

⁴²⁸ *Burroughs Wellcome Co. v. Barr Lab., Inc.*, 40 F.3d 1223, 32 USPQ2d 1915 (Fed. Cir. 1994) (good overall review of conception law).

⁴²⁹ 35 U.S.C. §102(g).

⁴³⁰ 383 U.S. 1, 148 USPQ 459 (1966).

⁴³¹ *Roton Barrier, Inc. v. Stanley Works*, 79 F.3d 1112, 1127, 37 USPQ2d 1816, 1828 (Fed. Cir. 1996) (“What a reference teaches is a question of fact reviewed under the clearly erroneous standard.”).

subject matter claimed and the prior art, (3) the level of ordinary skill in the art, and (4) other objective indicia of nonobviousness, such as commercial success, long felt but unresolved need, and acquiescence of others in the industry to the patent's validity.⁴³²

The legal standard of obviousness is a difficult principle to apply. In a given technology, such as software and computers, a small structural change may be a monumental new discovery, whereas large structural differences may evidence only an obvious approach to a simple problem. Whether the differences make the "subject matter as a whole" obvious or nonobvious depends, for example, on the results obtained, the level of skill and sophistication in the art, and the problems the art has tried to solve and has solved. To decide in which category a new invention fits, the patent practitioner must look at all the evidence available on these questions, just as the triers of fact in any case must look to all the evidence in deciding disputed issues and their legal consequences. The determination that an invention is obvious or nonobvious is a legal conclusion, but it must necessarily be based on the factual inquiries.⁴³³

An obviousness determination requires either suggestion in the prior art to produce the claimed invention or compelling motivation based on sound scientific principles, accompanied by general knowledge of the existence of techniques recognized in the art for carrying out the proposed invention.⁴³⁴ When an obviousness contention depends on a selective combination of prior art references, there must be some reason for the combination other than hindsight gleaned from the invention itself.⁴³⁵ The prior art under consideration must contain a teaching or motivation or incentive or suggestion to do so.⁴³⁶ "It is, of course, not necessary that either [of the combined references] actually suggest, expressly or in so many words, changes or possible improvements [which the applicant] has made. . . . All that is required to show obviousness is that the applicant [made the] claimed invention merely by applying knowledge clearly present in the prior art."⁴³⁷

⁴³² *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 148 USPQ 459 (1966).

⁴³³ *In re Kulling*, 897 F.2d 1147, 14 USPQ2d 1056 (Fed. Cir. 1990).

⁴³⁴ *Ex parte Kranz*, 19 USPQ2d 1216 (Pat. Off. Bd. App. & Inter. 1990); *Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 37 USPQ2d 1626 (Fed. Cir. 1996); *B.F. Goodrich Co. v. Aircraft Braking Sys. Corp.*, 72 F.3d 1577, 37 USPQ2d 1314 (Fed. Cir. 1996) (expert testimony provided suggestion to modify single reference used in obviousness rejection); *In re Ochiai*, 71 F.3d 1565, 37 USPQ2d 1663 (Fed. Cir. 1996) ("Importantly, the examiner discussed no references containing any suggestion or motivation [to combine the cited references]." The Board's rejection was therefore reversed on the ground that the claims were not prima facie obvious.).

⁴³⁵ *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143, 227 USPQ 543, 551 (Fed. Cir. 1985). *See also* *Uniroyal v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 USPQ2d 1434 (Fed. Cir.), *cert. denied*, 488 U.S. 825 (1988); *In re Deminski*, 796 F.2d 436, 443, 230 USPQ 313, 316 (Fed. Cir. 1986); *In re Kamm*, 452 F.2d 1052, 1056-57, 172 USPQ 298, 301-02 (C.C.P.A. 1972) (it is improper to pick and choose the claimed elements from among the various prior art references using the patent as a blueprint).

⁴³⁶ *Heidelberger Druckmaschinen AG v. Hantscho Commercial Prods., Inc.*, 21 F.3d 1068, 30 USPQ2d 1377 (Fed. Cir. 1994); *Northern Telecom Inc. v. Datapoint Corp.*, 908 F.2d 931, 15 USPQ2d 1321 (Fed. Cir. 1990); *In re Laskowski*, 871 F.2d 115, 10 USPQ2d 1397 (Fed. Cir. 1989); *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

⁴³⁷ *In re Sheckler*, 438 F.2d 999, 1001, 168 USPQ 716, 717 (C.C.P.A. 1971); *Ex parte Berins*, 168 USPQ 374 (Pat. Off. Bd. App. & Inter. 1970) (obviousness not determined by what references expressly state but by what they reasonably suggest to one of ordinary skill in the art); *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992) (Nies, C.J., concurring).

Consider *In re Raynes*,⁴³⁸ where the Board held that it would have been obvious to replace the display system of a prior art reference with a cathode ray tube (CRT). The applicant's invention was directed to a computer-processed interactive automobile service station where the fuel pumps are equipped with means for display of video programming as well as fuel price and quantity and other electronically recorded information.⁴³⁹ The applicant argued that the combination of a video display with a fuel pump would not have been obvious to a person of ordinary skill in view of the prior art.⁴⁴⁰ The prior art disclosed the display of fuel quantity and price information by means other than a CRT.⁴⁴¹ In upholding the Board's decision, the Federal Circuit stated the combination of a video display with the display of other information using a CRT at the fuel pump would have been obvious to a person of ordinary skill in view of the prior art.⁴⁴²

There is no statutory limitation on the number of references that may be combined to demonstrate obviousness.⁴⁴³ When determining the patentability of a claimed invention that combines two known elements, the question is whether there is something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination.⁴⁴⁴ There can be no motivation or suggestion to combine when the prior art in fact teaches away from any combination.⁴⁴⁵

The Federal Circuit has provided guidelines in connection with the combining of references. Two inquiries are of importance. One, would a combination of the teachings of all or any of the references have suggested (expressly or by implication) the possibility of achieving further important results by combining such teachings along the line of the invention in suit?⁴⁴⁶ And, would the claimed invention achieve more than a combination that any or all of the prior art references suggested, expressly or by reasonable implication?⁴⁴⁷ In essence, the prior art must suggest the advantage to the art of the invention, but the prior art need not expressly suggest the changes or possible improvements of the claimed invention if the inventor-applied knowledge is clearly present in the prior art.⁴⁴⁸ Something in the references, alone or together, must suggest the claimed invention as a solution to the problem it solved. Something in the prior art as a whole must suggest the desirability and the obviousness of making the combination.⁴⁴⁹ Noninterchangeability may indicate

⁴³⁸ 7 F.3d 1037, 28 USPQ2d 1630 (Fed. Cir. 1993).

⁴³⁹ *Id.* at 1038, 28 USPQ2d at 1631-32.

⁴⁴⁰ *Id.*

⁴⁴¹ *Id.* at 1039, 28 USPQ2d at 1631.

⁴⁴² *Id.* at 1040, 28 USPQ2d at 1632.

⁴⁴³ *In re Gorman*, 18 USPQ2d 1885 (Fed. Cir. 1991) (number of references not determinative, citing case that relied on eight references); *Ex parte Berins*, 168 USPQ 374 (Pat. Off. Bd. App. & Inter. 1970).

⁴⁴⁴ *In re Beattie*, 974 F.2d 1309, 24 USPQ2d 1040 (Fed. Cir. 1992).

⁴⁴⁵ "A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant. . . . *In re Sponnoble*, 405 F.2d 578, 587, 160 USPQ 237, 244 (C.C.P.A. 1969) (references taken in combination teach away since they would produce a 'seemingly inoperative device')." *In re Gurley*, 27 F.3d 551, 553, 31 USPQ2d 1130, 1131-32 (Fed. Cir. 1994) (other citations omitted). As "a useful general rule," "a reference that 'teaches away' cannot create a prima facie case of obviousness." *Id.*

⁴⁴⁶ *See In re Sernaker*, 702 F.2d 989, 994, 217 USPQ 1, 5 (Fed. Cir. 1983).

⁴⁴⁷ *Id.*

⁴⁴⁸ *Id.* at 994, 217 USPQ at 6.

⁴⁴⁹ *Id.* at 995, 217 USPQ at 7.

the noncombinability of two references,⁴⁵⁰ and conjectural modification may be unwarranted by the disclosure in a reference.⁴⁵¹

In determining obviousness, the trier of fact determines what a reference teaches. This is a question of fact for a jury to decide in injury cases.⁴⁵² When the references are all in analogous fields, knowledge by the hypothetical person of ordinary skill in the art is presumed. Whether a prior art reference is analogous is a question of fact.⁴⁵³

In *In re Paulsen*,⁴⁵⁴ the applicant argued that the particular features recited in the claims were erroneously rejected over nonanalogous references. The claims in question were directed to a portable computer with a hinged display housing and, particularly, to the hinge and latch means of the display housing.⁴⁵⁵ The references were directed to hinges and latches as used in a desktop telephone directory, a piano lid, a kitchen cabinet, a washing machine cabinet, a wooden furniture cabinet, or a two-part housing for storing audio cassettes.⁴⁵⁶ In finding the references analogous, the Federal Circuit stated, “References may be analogous if they are reasonably pertinent to the particular problem with which the inventor is involved.”⁴⁵⁷ In this case, one of ordinary skill in the art would have consulted the mechanical arts for housings, hinges, latches, and springs to solve the problem of attaching the display to the portable computer.⁴⁵⁸

Further, one must determine if there is any suggestion or motivation in the selection and combination of elements from various teachings in order to form the claimed invention. The extent to which this suggestion or motivation must be explicit in or may be inferred from the references is based on the facts of each case and their relationship to the patented invention. The fact that a large number of references is used will not negate the obviousness of the combination.⁴⁵⁹

It is improper to use hindsight or the patented subject matter to recreate that subject matter from prior art references. As was stated by the Federal Circuit:

It is wrong to use the patent in suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit. Monday morning quarterbacking is quite improper when resolving the question of non-obviousness in a court of law.⁴⁶⁰

⁴⁵⁰ *In re Grasselli*, 713 F.2d 731, 218 USPQ 769 (Fed. Cir. 1983).

⁴⁵¹ *Carl Schenck, A.G. v. Nortron Corp.*, 713 F.2d 782, 218 USPQ 698 (Fed. Cir. 1983).

⁴⁵² *Jurgens v. McKasy*, 927 F.2d 1552, 18 USPQ2d 1031 (Fed. Cir. 1991).

⁴⁵³ *In re Paulsen*, 30 F.3d 1475, 1481, 31 USPQ2d 1671, 1675 (Fed. Cir. 1994).

⁴⁵⁴ 30 F.3d 1475, 31 USPQ2d 1671 (Fed. Cir. 1994).

⁴⁵⁵ *Id.* at 1478, 31 USPQ2d at 1672.

⁴⁵⁶ *Id.* at 1481, 31 USPQ2d at 1675.

⁴⁵⁷ *Id.* at 1481, 31 USPQ2d at 1676.

⁴⁵⁸ *Id.* at 1482, 31 USPQ2d at 1676.

⁴⁵⁹ *In re Gorman*, 933 F.2d 982, 18 USPQ2d 1885 (Fed. Cir. 1991).

⁴⁶⁰ *Orthopedic Equipment Co. v. United States*, 702 F.2d 1005, 1012, 217 USPQ 193, 199 (Fed. Cir. 1983).

Consider *In re Bond*,⁴⁶¹ where the Federal Circuit examined the Board's ground of rejection that the use of a microcomputer to achieve a delay would have been obvious to one skilled in the art. The claim in question was directed to control and delay means including "a microcomputer having an internal counter to delay the seizure of said telephone line until the counter reaches a predetermined count."⁴⁶² In its opinion rejecting this claim, the Board stated that one of the two prior art references discloses an analog circuit for counting rings.⁴⁶³ The other reference discloses that it was conventional to count rings digitally in a telephone answering machine by means of a microcomputer.⁴⁶⁴ The Board concluded that the artisan, having the suggestions of the references, would have found it manifestly obvious to combine these teachings to obtain the claimed subject matter.⁴⁶⁵

In overturning the Board's decision, the Federal Circuit stated, "The Board's analysis is a classical example of a hindsight reconstruction of the claimed invention."⁴⁶⁶ The Federal Circuit stated that "[w]hen the claimed invention is contrasted with the [references], a distinct difference becomes apparent-the claimed invention embodies a microcomputer placed within the system which delays seizure of the telephone line for a predetermined period of time following activation of the device's answering mode."⁴⁶⁷ Neither reference expressly or implicitly suggests this limitation in combination with the other limitations of the claim.⁴⁶⁸

The Federal Circuit also has held that objective considerations "must always" be considered if they are properly presented.⁴⁶⁹ Objective evidence of obviousness "may be the most pertinent, probative, and revealing evidence available to aid in reaching a conclusion on the obvious/nonobvious issue."⁴⁷⁰ Objective evidence "may often establish that an invention appearing to have been obvious in light of the prior art is not."⁴⁷¹ The lack of objective evidence does *not* weigh in favor of obviousness.⁴⁷² The Federal Circuit has made clear that objective or "secondary" considerations are secondary in time only, not in importance. The term *objective* is applied because

⁴⁶¹ 910 F.2d 831, 834, 15 USPQ2d 1566, 1568 (Fed. Cir. 1990).

⁴⁶² *Id.*

⁴⁶³ *Id.*

⁴⁶⁴ *Id.*

⁴⁶⁵ *Id.*

⁴⁶⁶ *Id.* at 834, 15 USPQ2d at 1568-69.

⁴⁶⁷ *Id.*

⁴⁶⁸ *Id.* at 835, 15 USPQ2d at 1569.

⁴⁶⁹ *In re Sernaker*, 702 F.2d 989, 217 USPQ 1 (Fed. Cir. 1983).

⁴⁷⁰ *W L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1555, 220 USPQ 303, 314 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984); *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1538, 218 USPQ 871, 879 (Fed. Cir. 1983); *Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc.*, 37 USPQ2d 1626 (Fed. Cir. 1996).

⁴⁷¹ *Minnesota Min. & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 24 USPQ2d 1321 (Fed. Cir. 1992).

⁴⁷² *Miles Labs., Inc. v. Shandon Inc.*, 997 F.2d 870, 27 USPQ2d 1123 (Fed. Cir. 1993).

it refers to evidence of “events proved to have actually happened in the real world.”⁴⁷³ Objective considerations of nonobviousness serve as insurance against the attraction of using hindsight.⁴⁷⁴

The types of objective evidence include the following:

1. The commercial success of a product or process if due to merits of invention⁴⁷⁵;
2. teaching away by the prior art from the claimed invention⁴⁷⁶;
3. unexpected results;
4. copying of the claimed invention by an infringer⁴⁷⁷;
5. long-felt need⁴⁷⁸;
6. failure of others in the art⁴⁷⁹;
7. uniqueness of the claimed invention causing industry to embrace it;
8. passage of time from the date of a crucial prior art reference to conception of the claimed invention;
9. license agreements with others in the industry; and
10. skepticism of experts.⁴⁸⁰

Evidence of secondary considerations may not make an invention patentable when weighed against strong evidence of obviousness, especially when such evidence includes references not considered by the Examiner.⁴⁸¹

In *Graham v. John Deere Co.*,⁴⁸² the patent holder asserted secondary considerations of long-felt need and commercial success found as fact by the lower courts. The Supreme Court, finding the features relied upon to distinguish the claimed device from the prior art to be shown in the prior art,

⁴⁷³ *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1569, 1 USPQ2d 1593, 1598 (Fed. Cir.), *cert. denied*, 481 U.S. 1052 (1987).

⁴⁷⁴ *W L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 313 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984).

⁴⁷⁵ *Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 37 USPQ2d 1626 (Fed. Cir. 1996).

⁴⁷⁶ *In re Dow Chem. Co.*, 837 F.2d 469, 473, 5 USPQ2d, 1529, 1532 (Fed. Cir. 1988); *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1599 (Fed. Cir. 1988).

⁴⁷⁷ *Windsurfing Int'l, Inc. v. AMF, Inc.*, 782 F.2d 995, 998-99, 228 USPQ 562, 565 (Fed. Cir.), *cert. denied*, 477 U.S. 905 (1986).

⁴⁷⁸ *Texas Instruments, Inc. v. U.S. Int'l Trade Comm'n*, 988 F.2d 1165, 26 USPQ2d 1018 (Fed. Cir. 1993); *Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 37 USPQ2d 1626 (Fed. Cir. 1996).

⁴⁷⁹ *Uniroyal v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 1054, 5 USPQ2d 1434, 1440-41 (Fed. Cir.), *cert. denied*, 488 U.S. 825 (1988); *Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 37 USPQ2d 1626 (Fed. Cir. 1996).

⁴⁸⁰ *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1569, 1 USPQ2d 1593, 1598 (Fed. Cir.), *cert. denied*, 481 U.S. 1052 (1987). *See generally In re GPAC Inc.*, 29 USPQ2d 1401 (Pat. Off. Bd. App. & Inter. 1993); *Smith Int'l, Inc. v. Hughes Tool Co.*, 718 F.2d 1573, 219 USPQ 686, 691 (Fed. Cir. 1983); *Uniroyal v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 1053-54, 5 USPQ2d 1434, 1440-41 (Fed. Cir.), *cert. denied*, 488 U.S. 825 (1988); *Continental Can Co. USA, Inc. v. Monsanto Co.*, 948 F.2d 1264, 20 USPQ2d 1746 (Fed. Cir. 1991).

⁴⁸¹ *See Merck & Co. v. Biocraft Lab., Inc.*, 874 F.2d 804, 809 n.*, 10 USPQ2d 1843, 1848 n.* (Fed. Cir.), *cert. denied*, 493 U.S. 975 (1989) (when claims flow logically from prior art, evidence of commercial success is not persuasive of patentability); *EWP Corp. v. Reliance Universal Inc.*, 755 F.2d 898, 907, 225 USPQ 20, 25 (Fed. Cir.), *cert. denied*, 474 U.S. 843 (1985); *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 21 USPQ2d 1053 (Fed. Cir. 1991).

⁴⁸² 383 U.S. 1, 148 USPQ 459 (1966).

held that the objective factors presented do not overcome the rejection of obviousness because the features relied on “would have been obvious to a person reasonably skilled” in the art notwithstanding the secondary considerations. The weight accorded evidence of objective indicia is carefully appraised in relation to facts of the actual case in which it is offered.⁴⁸³

Compare *Symbol Technologies Inc. v. Opticon Inc.*,⁴⁸⁴ where the Federal Circuit considered objective indicia of nonobviousness that included the failure of others to develop the claimed invention and the product’s commercial success.⁴⁸⁵ The patents in issue related to lasers for reading bar code symbols, and methods of using the lasers.⁴⁸⁶ In reaching a determination of nonobviousness, the Federal Circuit relied in part upon testimony that the defendant never conceived or developed an aim-and-shoot scanning device as in the patents of the plaintiff.⁴⁸⁷ Further, the defendant’s technical witness was never able to develop a scanner with the aim-and-shoot feature.⁴⁸⁸ Finally, the Federal Circuit found that the plaintiff’s aim-and-shoot scanners enjoyed tremendous commercial success, with about 200,000 devices sold for more than \$150 million as of the time of trial.⁴⁸⁹

The burden of proving the nexus between the claimed invention and commercial success rests with the patent owner.⁴⁹⁰ In *In re Paulsen*,⁴⁹¹ the patent holder did not establish a sufficient relationship between the objective evidence of nonobviousness and the patented invention, a portable computer with a hinged display housing.⁴⁹² The prior art disclosed a calculator with the same housing structure.⁴⁹³ The patentee submitted evidence of commercial success, copying, and professional recognition of laptop computers.⁴⁹⁴ The objective evidence related, however, to the invention claimed in the independent claims. In rejecting the patentee’s evidence, the Federal Circuit stated:

The term “nexus” is used, in this context, to designate a legally and factually sufficient connection between the proven success and the patented invention, such that

⁴⁸³ *Cable Elec. Prods., Inc. v. Genmark, Inc.*, 770 F.2d 1015, 1026-27, 226 USPQ 881, 887-88 (Fed. Cir. 1985).

⁴⁸⁴ 935 F.2d 1569, 19 USPQ2d 1241 (Fed. Cir. 1991).

⁴⁸⁵ *Id.* at 1578-79, 19 USPQ2d at 1248.

⁴⁸⁶ *Id.* at 1572, 19 USPQ2d at 1243.

⁴⁸⁷ *Id.* at 1578-79, 19 USPQ2d at 1248.

⁴⁸⁸ *Id.*

⁴⁸⁹ *Id.*

⁴⁹⁰ *In re Paulsen*, 30 F.3d 1475, 31 USPQ2d 1671 (Fed. Cir. 1994); *In re GPAC Inc.*, 57 F.3d 1573, 1580, 35 USPQ2d 1116, 1121 (Fed. Cir. 1995) (“For objective evidence to be accorded substantial weight, its proponent must establish a nexus between the evidence and the merits of the claimed invention.”); *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 15 USPQ2d 1525 (Fed. Cir. 1990); *Demaco Corp. v. F. Von Langsdorff Licensing Ltd.*, 851 F.2d 1387, 1392, 7 USPQ2d 1222, 1227 (Fed. Cir. 1988); *Pentec v. Graphic Controls Corp.*, 776 F.2d 309, 315-16, 277 USPQ 766, 770-71 (Fed. Cir. 1985); *Solder Removal Co. v. U.S. Int’l Trade Comm’n*, 582 F.2d 628, 637, 199 USPQ 129, 137 (C.C.P.A. 1978).

⁴⁹¹ 30 F.3d 1475, 31 USPQ2d 1671 (Fed. Cir. 1994).

⁴⁹² *Id.* at 1482, 31 USPQ2d at 1676.

⁴⁹³ *Id.* at 1478, 31 USPQ2d at 1673.

⁴⁹⁴ *Id.* at 1482, 31 USPQ2d at 1676.

the objective evidence should be considered in the determination of nonobviousness. The burden of proof as to this connection or nexus resides with the patentee.⁴⁹⁵

The patentee failed to carry its burden of proof because its objective evidence related to the independent claims, which were found to be unpatentable because of anticipation.⁴⁹⁶ The patentee did not establish that the objective evidence was probative of nonobviousness of the inventions of the dependent claims.⁴⁹⁷

In determining the scope and content of the prior art to be considered in an obviousness determination, one looks to the nature of the problem confronting the inventor. Three factors bear on this determination: (1) the claims in suit, (2) the type of skill required to understand the disclosure, and (3) the type of art applied to the claims by the PTO.⁴⁹⁸

3. *Enabling Disclosure*

A patent may be found to be invalid for lack of enablement.⁴⁹⁹ A decision of whether the claims of a patent are enabled requires “a determination of whether a person skilled in the pertinent art, using the knowledge available to such a person and the disclosure in the patent document, could make and use the invention without undue experimentation.”⁵⁰⁰ Some experimentation to make or use the invention may be appropriate.⁵⁰¹

For example, in *Northern Telecom, Inc. v. Datapoint Corp.*,⁵⁰² the Federal Circuit in 1990 analyzed the enablement of a computerimplemented invention.⁵⁰³ In making its determination of enablement, the court stated that the amount of disclosure that will enable practice of an invention that uses a computer program varies “according to the nature of the invention, the role of the program in carrying it out, and the complexity of the contemplated programming, all from the viewpoint of the skilled programmer.”⁵⁰⁴ Although the court found that the patent specification failed to set forth a computer program for carrying out the claimed invention, sufficient evidence indicated that a programmer of reasonable skill could write a satisfactory program with ordinary effort.⁵⁰⁵ “It is not fatal if some experimentation is needed, for the patent document is not intended to be a production specification.”⁵⁰⁶

⁴⁹⁵ *Id.*

⁴⁹⁶ *Id.*

⁴⁹⁷ *Id.* at 1482-83, 31 USPQ3d at 1676.

⁴⁹⁸ *Orthopedic Equip. Co. v. United States*, 702 F.2d 1005, 217 USPQ 193 (Fed. Cir. 1983).

⁴⁹⁹ *White Consolidated Indus., Inc. v. Vega Servo-Control, Inc.*, 713 F.2d 788, 791, 218 USPQ 961, 963 (Fed. Cir. 1983).

⁵⁰⁰ *Northern Telecom Inc. v. Datapoint Corp.*, 908 F.2d 931, 941, 15 USPQ2d 1321, 1329 (Fed. Cir. 1990).

⁵⁰¹ *Id.*

⁵⁰² 908 F.2d 931, 15 USPQ2d 1321 (Fed. Cir. 1990).

⁵⁰³ *Id.* at 941-43, 15 USPQ2d at 1328-30.

⁵⁰⁴ *Id.* at 941, 15 USPQ2d at 1329.

⁵⁰⁵ *Id.* at 943, 15 USPQ2d at 1330; *see also id.* at 941, 15 USPQ2d at 1329 (“When the challenged subject matter is a computer program that implements a claimed device or method, enablement is determined from the viewpoint of a skilled programmer using the knowledge and skill with which such a person is charged.”).

⁵⁰⁶ *Id.*, 908 F.2d 931, 941, 15 USPQ2d 1321, 1329 (Fed. Cir. 1990).

Compare this with a 1983 decision, *White Consolidated Industries, Inc. v. Vega Servo-Control, Inc.*,⁵⁰⁷ in which the court found the claims of a patent invalid for lack of enablement. It was determined that it would take a person skilled in the art an estimated expenditure of 1.5 man years of work to develop a computer program to implement the claimed invention.⁵⁰⁸ This was found to be undue experimentation.⁵⁰⁹

4. *Best Mode*

A patent may be found to be invalid for failing to disclose the best mode. 35 U.S.C. §112 states in relevant part:

The specification . . . shall set forth the best mode contemplated by the inventor of carrying out his invention.

An analysis of the best mode includes two components.⁵¹⁰ First, determine “whether the inventor knew of a mode of practicing his invention at the time he filed his patent application which he considered to be better than any other.”⁵¹¹ This is a subjective determination that focuses on the inventor’s state of mind at the time he or she filed the application.⁵¹² Second, if the inventor did have a best mode, determine whether “he disclosed it and did so adequately to enable one of ordinary skill in the art to practice the best mode.”⁵¹³ This is an objective determination.

Consider *In re Hayes Microcomputer Products Inc. Patent Litigation*,⁵¹⁴ where it was asserted that the inventor did not disclose the best mode, particularly, the inventor did not disclose the firmware listing for implementing the invention.⁵¹⁵ The court upheld the jury’s finding that the patent disclosed the best mode. The court stated:

Substantial evidence was introduced at trial in support of the conclusion that [the inventor] did not consider the specific firmware listing he used to implement his invention, either in its entirety or in its subparts, to be better than any other firmware listing that implemented his invention. Rather, he believed that the best mode of his

⁵⁰⁷ 713 F.2d 788, 791, 218 USPQ 961, 963 (Fed. Cir. 1983).

⁵⁰⁸ *Id.*

⁵⁰⁹ *Id.* See *Nat’l Recovery Technologies Inc. v. Magnetic Separation Sys. Inc.*, 166 F.3d 1190, 1197, 49 USPQ2d 1671, 1677 (Fed. Cir. 1999) (On the date the patent was filed, “there was no known way for one of ordinary skill in the art of materials processing to distinguish x-ray readings which passed through bottle irregularities from those x-ray readings which did not pass through irregularities.”).

⁵¹⁰ *In re Hayes Microcomputer Prods. Inc. Patent Litigation*, 982 F.2d 1527, 1536, 25 USPQ2d 1241, 1248 (Fed. Cir. 1992).

⁵¹¹ *Id.*

⁵¹² *Id.*

⁵¹³ *Id.*

⁵¹⁴ 982 F.2d 1527, 25 USPQ2d 1241 (Fed. Cir. 1992).

⁵¹⁵ *Id.*

invention was to store a firmware listing in firmware, and not that the various details of the specific firmware listing used in the [invention] were the best mode.⁵¹⁶

Thus, the inventor need only disclose the storage of the listing and not the listing itself.

Typically, it is difficult to make a determination of invalidity for failing to disclose the best mode. The facts for making such a determination are usually not accessible because an evaluation of the failure to disclose the best mode requires information regarding the inventor's state of mind.

5. *Written Description*

A patent may be found to be invalid for failing to adequately describe the invention. The first paragraph of Section 112 states, "The specification shall contain a written description of the invention." This is distinct from the enablement requirement. "The test for sufficiency of support in [an] application is whether the disclosure of the application relied upon 'reasonably conveys to the artisan that the inventor had possession at that time of the later claimed subject matter.'"⁵¹⁷ Whether the written description requirement has been met is a question of fact.⁵¹⁸

In *In re Hayes Microcomputer Products Inc.*,⁵¹⁹ the defendant argued that the patent did not adequately describe the timing means recited in the claims.⁵²⁰ In response, the patent owner stated that the timing means was adequately described and implemented by a microprocessor.⁵²¹ In finding for the patent owner, the court stated, "Disclosing a microprocessor capable of performing certain functions is sufficient to satisfy the requirement of section 112, first paragraph, when one skilled in the relevant art would understand what is intended and know how to carry it out."⁵²²

6. *35 U.S.C. §101*

The claims also should be analyzed to determine if they comply with the requirements of 35 U.S.C. §101. "The plain and unambiguous meaning of Section 101 is that any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may be patented if it meets the requirements for patentability set forth in Title 35, such as those found in Sections 102, 103, and 112."⁵²³ Section 101 states:

⁵¹⁶ *Id.* at 1248 (*Firmware* is a generic term used to describe any computer program permanently stored in ROM associated with a microprocessor. A *firmware listing* is a specific written computer program.)

⁵¹⁷ *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563, 19 USPQ2d 1111, 1116 (Fed. Cir. 1991) (citations omitted).

⁵¹⁸ *Ralston Purina Co. v. Far-Mar-Co.*, 772 F.2d 1570, 1575, 227 USPQ 177, 179 (Fed. Cir. 1985).

⁵¹⁹ 982 F.2d 1527, 25 USPQ2d 1241 (Fed. Cir. 1992).

⁵²⁰ *Id.* at 1533, 25 USPQ2d at 1245.

⁵²¹ *Id.*

⁵²² *Id.* at 1246.

⁵²³ *In re Alappat*, 33 F.3d 1526, 1542, 31 USPQ2d 1545, 1556 (1994).

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.⁵²⁴

The Supreme Court has interpreted the use of the term *any* in Section 101 to mean that Congress intended Section 101 to extend to “anything under the sun that is made by man.”⁵²⁵ Although Section 101 appears to have very broad scope, the Supreme Court has held that “laws of nature, natural phenomena, and abstract ideas” are not patentable.⁵²⁶ The Supreme Court also has held that certain mathematical subject matter is not, standing alone, entitled to patent protection.⁵²⁷ In making this determination, the analysis of the claim is based on the whole claim.⁵²⁸ “A claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula, [mathematical equation, mathematical algorithm,] computer program or digital computer.”⁵²⁹ A computer operating pursuant to software may represent patentable subject matter if the claimed subject matter meets the requirements of Section 101. A computer is apparatus, not mathematics.⁵³⁰

On February 28, 1996, *Examination Guidelines for Computer-Related Inventions* (Guidelines) were published in the *Federal Register*. They became effective on March 29, 1996.⁵³¹ The Guidelines are designed to assist Patent Examiners in reviewing applications during patent prosecution and are intended to be consistent with Supreme Court and Federal Circuit precedent. Although published in the *Federal Register*, the “Guidelines do not constitute substantive rule

⁵²⁴ 35 U.S.C. §101 (1994).

⁵²⁵ *Diamond v. Chakrabarty*, 447 U.S. 303, 309, 206 USPQ 193, 197 (1980), quoting S. REP. No. 1979 at 5 (1952); H.R. REP. No. 1923 at 6 (1952).

⁵²⁶ *Diamond v. Diehr*, 450 U.S. 175, 185, 209 USPQ 1 (1981).

⁵²⁷ *Id.*

⁵²⁸ *Id.* at 192.

⁵²⁹ *In re Alappat*, 33 F.3d at 1543-44, 31 USPQ2d at 1557 (quoting *Diehr*, 450 U.S. at 187).

⁵³⁰ *Id.* See *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 50 USPQ2d 1447 (Fed. Cir. 1999), in which Judge Plager, commenting on Justice Stevens’s dissent in *Diehr*, made the following observations:

Despite the almost twenty years since Justice Stevens wrote, these concerns remain important. His solution was to declare all computer-based programming unpatentable. That has not been the course the law has taken. Rather, it is now clear that computer-based programming constitutes patentable subject matter so long as the basic requirements of Section 101 are met. Justice Stevens’s concerns can be addressed within that framework.

His first concern, that the rules are not sufficiently clear to enable reasonable prediction of outcomes, should be less of a concern today in light of the refocusing of the Section 101 issue that *Alappat* and *State Street* have provided. His second concern, that the ambiguous concept of “algorithm” could be used to make any process unpatentable, can be laid to rest once the focus is understood to be not on whether there is a mathematical algorithm at work, but on whether the algorithm-containing invention, as a whole, produces a tangible, useful, result.

172 F.3d at 1360-61, 50 USPQ2d at 1454.

⁵³¹ *Examination Guidelines for Computer-Related Inventions*, 61 FED. REG. 7478 (1996). See Chapter 4 for a detailed discussion of the Examination Guidelines.

making and hence do not have the force and effect of law.”⁵³² The Federal Circuit sitting en banc in *Trovato* suggested, however, that the Guidelines may be persuasive authority.⁵³³

Examples of computer-related inventions examined for compliance with the requirements of Section 101 are presented in Exhibit 13.03.

7. *New Matter*

A patent may be found to be invalid for adding new matter. 35 U.S.C. §132 provides that no amendment to a patent application shall introduce new matter into the disclosure of the invention. Whether the addition of material to the application constitutes new matter depends on the facts of the case: the nature of the disclosure, the state of the art, and the nature of the added matter.⁵³⁴ A patent is presumed valid under 35 U.S.C. §282. “[T]he fact that the Patent Office allows . . . an amendment without objection thereto as new matter (within the meaning of Title 35 U.S.C. Section 132) is entitled to an especially weighty presumption of correctness.”⁵³⁵

⁵³² *Id.*

⁵³³ *In re Trovato*, 60 F.3d 807, 35 USPQ2d 1570 (1995).

⁵³⁴ *Brooktree Corp. v. Advanced Micro Devices Inc.*, 977 F.2d 1555, 1574, 24 USPQ2d 1401, 1414 (Fed. Cir. 1992).

⁵³⁵ *In re Smythe*, 480 F.2d 1376, 1385 n.5, 178 USPQ 279, 286 n.5 (C.C.P.A. 1973), quoting *Technicon Instruments Corp. v. Cole Instruments, Inc.*, 255 F. Supp. 630, 150 USPQ 227 (N.D. Ill. 1966), *affd*, 385 F.2d 391, 155 USPQ 369 (7th Cir. 1967).

Exhibit 13.03**Computer-Related Inventions Examined for Compliance With 35 U.S.C. §101**

<i>Case</i>	<i>Features Considered</i>	<i>Discussion</i>	<i>Statutory</i>
<i>In re Warmerdam</i> , 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir. 1994)	Claim directed to a data structure	"[The] data structure, of [the] claim . . . is nothing more than another way of describing the manipulation of ideas."	No
<i>In re Lowry</i> , 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994)	Claims recited a data structure	"[T]he claims require specific electronic structural elements which impart a physical organization on the information stored in memory."	Yes
<i>In re Iwahashi</i> , 888 F.2d 1370, 12 USPQ2d 1908 (Fed. Cir. 1989)	Claims directed to an auto-correlation unit for use in pattern recognition to obtain auto-correlation coefficients for stored signal samples	"The claim as a whole certainly defines apparatus in the form of a combination of interrelated means and we cannot discern any logical reason why it should not be deemed statutory subject matter as either a machine or a manufacture as specified in §101."	Yes
<i>In re Schrader</i> , 22 F.3d 290, 30 USPQ2d 1455 (Fed. Cir. 1994)	Claims directed to a method of competitively bidding on a plurality of items	"The only physical effect or result which is required by the claim is the entering of bids in a 'record,' a step that can be accomplished simply by writing the bids on a piece of paper or a chalkboard." This activity is insufficient to impart patentability under Section 101.	No
<i>In re Gelnovatch</i> , 595 F.2d 32, 201 USPQ 136 (C.C.P.A. 1979)	Claims recited step of perturbing the values of a set of process inputs	"In this instance, the perturbed process inputs are not even measured values of physical phenomena, but are instead derived by numerically changing the values in the previous set of process inputs."	No

Exhibit 13.03
(continued)

<i>Case</i>	<i>Features Considered</i>	<i>Discussion</i>	<i>Statutory</i>
<i>In re Walter</i> , 618 F.2d 758, 205 USPQ 397 (C.C.P.A. 1980)	Claim recited final step of magnetically recording the result of a calculation	"If § 101 could be satisfied by the mere recordation of the results of a nonstatutory process on some record medium, even the most unskilled patent draftsman could provide for such a step."	No
<i>In re Abele</i> , 684 F.2d 902, 214 USPQ 682 (C.C.P.A. 1982)	Claim recited final step of displaying result of a calculation "as a shade of gray rather than as simply a number"	"This claim presents no more than the calculation of a number and display of the result, albeit in a particular format."	No
<i>In re De Castelet</i> , 562 F.2d 1236, 195 USPQ 439 (C.C.P.A. 1977)	Claim recited step of transmitting electrical signals representing the result of calculations	"That the computer is instructed to transmit electrical signals, representing the results of its calculations, does not constitute the type of 'post solution activity' found in <i>Flook</i> [437 U.S. 584, 198 USPQ 193 (1978)], and does not transform the claim into one for a process merely using an algorithm."	No
<i>In re Alappat</i> , 33 F.3d 1526, 31 USPQ2d 1545 (Fed. Cir. 1994)	Claims directed to a means for creating a smooth waveform display in a digital oscilloscope	"[The] claim ... is limited to the use of a particularly claimed combination of elements performing the particularly claimed combination of calculations to transform, i.e., rasterize, digitized waveforms (data) into anti-aliased, pixel illumination data to produce a smooth waveform."	Yes

Exhibit 13.03
(continued)

<i>Case</i>	<i>Features Considered</i>	<i>Discussion</i>	<i>Statutory</i>
<i>State Street Bank & Trust Co. v. Signature Financial Group, Inc.</i> , 149 F.3d 1368, 47 USPQ2d 1596 (Fed. Cir. 1998), <i>cert. denied</i> , 119 S.Ct. 851 (1999)	Claims directed to the calculation and storage of data representing the percentage share that each Spoke fund holds in the Hub portfolio; any daily activity affecting the portfolio's assets; allocations of gains, losses, and expenses to each of the member funds; and tracking and updating data	"Today, we hold that the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces 'a useful, concrete, and tangible result'-a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades."	Yes

In *Brooktree Corp. v. Advanced Micro Devices Inc.*,⁵³⁶ Advanced Micro Devices (AMD) asserted that the addition of “for video display” in the claims during prosecution before the PTO was new matter under 35 U.S.C. §132.⁵³⁷ In finding for Brooktree, the court stated, “An amendment that is an introductory statement of intended use or purpose of the invention recited in the claims, may be an embellishment and not of patentable importance and therefore not new matter within the terms of section 132.”⁵³⁸

C. *Enforceability*

A patent may be valid and yet rendered unenforceable for misuse or inequitable conduct.⁵³⁹ Thus, a valid patent may be infringed in the abstract. That is, the accused device may fall within the scope of an otherwise valid claim, but there will be no liability for infringement when the patent is unenforceable.⁵⁴⁰

I. *Inequitable Conduct*

Once inequitable conduct is found to have occurred in the procurement of a patent, all claims of that patent are unenforceable, not just the particular claims to which the inequitable conduct is directly connected.⁵⁴¹ “[P]roving inequitable conduct does not ‘invalidate’ a patent. Rather, it renders the patent unenforceable. . . . Although the practical effect may be the same, the legal concepts are quite different.”⁵⁴²

Inequitable conduct consists of an “affirmative misrepresentation of a material fact, failure to disclose material information, or submission of false material information, coupled with an intent to deceive.”⁵⁴³ Materiality and intent must be proven by clear and convincing evidence.⁵⁴⁴ One must

⁵³⁶ 977 F.2d 1555, 24 USPQ2d 1401 (Fed. Cir. 1992).

⁵³⁷ *Id.* at 1574, 24 USPQ2d at 1414.

⁵³⁸ *Id.*

⁵³⁹ *Gardco Mfg., Inc. v. Herst Lighting Co.*, 820 F.2d 1209, 2 USPQ2d 2015 (Fed. Cir. 1987).

⁵⁴⁰ *Id.*

⁵⁴¹ *Kingsdown Medical Consultants Ltd. v. Hollister Inc.*, 863 F.2d 867, 874, 9 USPQ2d 1384, 1389 (Fed. Cir. 1988); *J.P. Stevens & Co., Inc. v. Lex Tex, Ltd.*, 747 F.2d 1553, 223 USPQ 1089 (Fed. Cir. 1984); *Lumms Indus., Inc. v. D. M. & E. Corp.*, 862 F.2d 267, 8 USPQ2d 1983 (Fed. Cir. 1988); *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 882 F.2d 1556, 1563, 11 USPQ2d 1750, 1756 (Fed. Cir. 1989) (“[W]hen inequitable conduct is found, all claims of the patent are rendered unenforceable, not merely those claims directly affected by the misconduct.”); *Minnesota Min. & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 24 USPQ2d 1321 (Fed. Cir. 1992); *Glaverbel Societe Anonyme v. Northlake Marketing & Supply, Inc.*, 45 F.3d 1550, 1556, 33 USPQ2d 1496, 1500 (Fed. Cir. 1995) (“Failure to disclose material information during the patent procurement process or the submission of material false information, with the intent to mislead or deceive the patent examiner into granting the patent, may render the patent permanently unenforceable.”); *Molins Plc v. Textron, Inc.*, 48 F.3d 1172, 1182, 33 USPQ2d 1823, 1830 (Fed. Cir. 1995) (“Having determined that inequitable conduct occurred in the procurement of the . . . patent, all claims of that patent are accordingly unenforceable.”).

⁵⁴² *Minnesota Min. & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 24 USPQ2d 1321 (Fed. Cir. 1992).

⁵⁴³ *B.F. Goodrich Co. v. Aircraft Braking Sys. Corp.*, 72 F.3d 1577, 1584, 37 USPQ2d 1314, 1319 (Fed. Cir. 1996) (quoting *Molins PLC v. Textron, Inc.*, 48 F.3d 1172, 1178, 33 USPQ2d 1823, 1827 (Fed. Cir. 1995)). *See also* *Kingsdown Medical Consultants Ltd. v. Hollister Inc.*, 863 F.2d 867, 872, 9 USPQ2d 1384, 1389 (Fed. Cir. 1988).

have intended to act inequitably to be guilty of inequitable conduct.⁵⁴⁵ The Federal Circuit has suggested that a finding of gross negligence can support and even compel a finding of an intent to deceive.⁵⁴⁶ The Federal Circuit also has held, however, that gross negligence does not of itself justify an inference of intent to deceive.⁵⁴⁷ The conduct in question, viewed in light of all the evidence, including evidence indicative of good faith, must indicate sufficient culpability to require a finding of intent to deceive.⁵⁴⁸

2. Patent Misuse

Patent misuse arises when a patent is exploited in violation of the antitrust laws or when the scope of the patent is improperly extended. Accordingly, the analysis of patent misuse centers on the patentee and his or her actions.⁵⁴⁹ The concept of patent misuse arose to restrain practices that did not in themselves violate any law, but that drew anticompetitive strength from the patent right, and thus were deemed to be contrary to public policy.⁵⁵⁰ The policy purpose was to prevent a patentee from using the patent to obtain market benefit beyond that which inheres in the statutory patent right.⁵⁵¹

A number of practices can arise to the level of patent misuse, including tying and price-fixing restrictions.⁵⁵² The enforceability of restrictions on the use of patented goods and services comes from the patent grant, which provides the right to exclude.⁵⁵³ 35 U.S.C. §154 provides that every patent shall contain a grant of the right to exclude others from making, using, or selling the invention. This right to exclude may be waived.⁵⁵⁴ “The conditions of such waiver are subject to patent, contract, antitrust, and any other applicable law, as well as equitable considerations such as are reflected in the law of patent misuse.”⁵⁵⁵ When evaluating the patentee’s actions to determine if there is patent misuse, 35 U.S.C. §271(d) must be considered, which provides that certain acts shall not constitute patent misuse.

⁵⁴⁴ B.F. Goodrich Co. v. Aircraft Braking Sys. Corp., 72 F.3d 1577, 1584, 37 USPQ2d 1314, 1319 (Fed. Cir. 1996); Kingsdown Medical Consultants Ltd. v. Hollister Inc., 863 F.2d 867, 872, 9 USPQ2d 1384, 1389 (Fed. Cir. 1988); J.P. Stevens & Co., Inc. v. Lex Tex Ltd., Inc., 747 F.2d 1553, 1559, 223 USPQ 1089, 1092 (Fed. Cir. 1984), cert. denied, 474 U.S. 822 (1985).

⁵⁴⁵ Kingsdown Medical Consultants Ltd. v. Hollister Inc., 863 F.2d 867, 872, 9 USPQ2d 1384, 1389 (Fed. Cir. 1988); FMC Corp. v. Manitowoc Co., Inc., 835 F.2d 1411, 1415, 5 USPQ2d 1112, 1115 (Fed. Cir. 1987).

⁵⁴⁶ *In re Jerabek*, 789 F.2d 886, 891, 229 USPQ 530, 533 (Fed. Cir. 1986); *Driscoll v. Cebalo*, 731 F.2d 878, 885, 221 USPQ 745, 751 (Fed. Cir. 1984).

⁵⁴⁷ Kingsdown Medical Consultants Ltd. v. Hollister Inc., 863 F.2d 867, 873, 9 USPQ2d 1384, 1389 (Fed. Cir. 1988).

⁵⁴⁸ *Id.*; see also *Norton v. Curtiss*, 433 F.2d 779, 167 USPQ 532 (C.C.P.A. 1970).

⁵⁴⁹ *Milton Hodosh v. Block Drug Co. Inc.*, 833 F.2d 1575, 1577, 4 USPQ2d 1935, 1937 (Fed. Cir. 1987).

⁵⁵⁰ *Mallinckrodt Inc. v. Medipart Inc.*, 976 F.2d 700, 704, 24 USPQ2d 1173, 1175 (Fed. Cir. 1992).

⁵⁵¹ *Id.*

⁵⁵² *Id.* at 704, 24 USPQ2d at 1176.

⁵⁵³ *Id.*

⁵⁵⁴ *Id.*

⁵⁵⁵ *Id.*

§13.06 Attorney-Client Privilege

A. *Opinion Letters Relying on the Advice of Counsel*

As a general rule, courts consider the preparation of opinion letters to be within the scope of the attorney-client privilege.⁵⁵⁶ But because the attorney-client privilege may be waived,⁵⁵⁷ accused infringers facing willful infringement charges are faced with a difficult dilemma: If the accused infringer chooses to rely on the advice-of-counsel defense and thereby discloses or asserts an opinion of counsel on invalidity or noninfringement, that disclosure or assertion may constitute a waiver of the attorney-client privilege with regard to that opinion and any other opinions of counsel concerning the same subject matter.⁵⁵⁸ The rationale for the rule is based on principles of fairness—a party should not be allowed to rely on self-serving documents in its defense while withholding potentially damaging information under the guise of the attorney-client privilege.⁵⁵⁹ So an accused infringer is often confronted with the difficult choice of either (1) relying on the advice-of-counsel defense and consequently waiving the attorney-client privilege, or (2) not using the advice-of-counsel defense.⁵⁶⁰

I. *Scope*

The scope of a waiver of attorney-client privilege varies with regard to subject matter and person.⁵⁶¹

a. Subject Matter. Disclosure of an otherwise privileged opinion letter generally results in some degree of waiver regarding documents relating to the subject matter discussed in the opinion.⁵⁶² The idea behind this doctrine is “the principle that it is unfair to allow a party to choose among its privileged communications and produce only those favorable to the party’s case.”⁵⁶³ In determining

⁵⁵⁶ *Collins & Aikman Corp. v. J.P. Stevens & Co., Inc.*, 51 F.R.D. 219, 220, 169 USPQ 296, 297, (D.S.C. 1971) (“Work product and attorney-client privileges exist in the field of patent law and must be respected by the court in regulating discovery.”).

⁵⁵⁷ *Tasby v. United States*, 504 F.2d 332, 336 (8th Cir. 1974), cert. denied, 419 U.S. 1125 (1975).

⁵⁵⁸ *Amsted Indus. Inc. v. National Castings Inc.*, 16 USPQ2d 1737, 1743 (N.D. 111. 1990); *W.L. Gore & Assocs. Inc. v. Tetratex Corp.*, 15 USPQ2d 1048, 1051 (E.D. Pa. 1989); *Mellon v. Beecham Group PLC*, 17 USPQ2d 1149, 1153 (D.N.J. 1989); *Board of Trustees of Leland Stanford Jr. Univ. v. Coulter Corp.*, 4 USPQ2d 1652 (S.D. Fla. 1987).

⁵⁵⁹ *See Handgards, Inc. v. Johnson & Johnson*, 413 F. Supp. 926, 929, 192 USPQ 316, 318 (N.D. Calif. 1976).

⁵⁶⁰ *See* Lawrence H. Pretty, *The Boundaries of Discovery in Patent Litigation: Privilege, Work Product and Other Limits*, 18 AIPLA Q.J. 101 (1990).

⁵⁶¹ *See generally* Harry R. Silver, *Is Advice a Virtue? The Scope of Waiver Occasioned by the Disclosure of Opinions of Counsel*, 75 J. PAT. & TRADEMARK OFF. SOC’Y 885, 895 (Nov. 1993).

⁵⁶² *See McCormick-Morgan Inc. v. Teledyne Indus. Inc.*, 765 F. Supp. 611, 613-14 (N.D. Cal. 1991); *see also* FED. R. EVID. 401 (relevant evidence is “evidence having any tendency to make the existence of any fact that is of consequence to the determination of the action more probable or less probable than it would be without the evidence”); *see also* *Thorn EMI N. Am., Inc. v. Micron Technology, Inc.*, 837 F. Supp. 616, 620 (D. Del. 1993) (When alleged infringer responds to a claim of willful infringement by asserting good-faith reliance on advice of counsel, information relating to that advice is probative of the alleged infringer’s state of mind.).

⁵⁶³ *J. Dragseth, Coerced Waiver of the Attorney-Client Privilege for Opinions of Counsel in Patent Litigation*, 80 MINN. L. REV. 167, 182 (Nov. 1995); *Board of Trustees of Leland Stanford Jr. Univ. v. Coulter Corp.*, 118 F.R.D. 532, 533 (S.D. Fla. 1987) (“it would be inequitable to have [the accused] present selected

the scope of the subject matter waiver, the first question most courts will ask is whether the disclosure was made voluntarily or involuntarily.⁵⁶⁴

If disclosure is involuntary, depending on the jurisdiction, courts will then apply a subjective standard, an objective standard, or a balancing test. According to the subjective standard, inadvertent disclosure only can result in no waiver, or at most a “limited waiver.”⁵⁶⁵ The rationale for this rule is that one cannot waive the privilege without intending to do so. On the other hand, courts applying an objective standard do not look beyond the mere fact that the document was turned over to opposing counsel. The reasoning behind this rule is that, even if the production was inadvertent, the confidentiality of the document has nevertheless been breached by the disclosure, thereby destroying the basis for the continuing existence of the privilege.⁵⁶⁶ A third line of cases provides that inadvertent disclosure may or may not result in a waiver of the privilege, depending on whether the party producing the documents took steps to protect the privilege.⁵⁶⁷ Courts adhering to this rule apply a balancing test, considering factors such as (1) the reasonableness of the precautions taken to prevent the disclosure, (2) the time taken to rectify the error, (3) the scope of the discovery, (4) the extent of the disclosure, and (5) the overriding issue of fairness.⁵⁶⁸

If disclosure of an opinion of counsel is voluntary, most courts hold that the scope of a waiver encompasses the entire subject matter for which the attorney-client privilege could be asserted.⁵⁶⁹ This means all other opinions of counsel concerning the same subject matter will be effectively waived. The district court adhered to this standard in *Mushroom Associates v. Monterey Mushrooms*,

communications in its defense, while withholding from [the plaintiff] possibly damaging communications under the guise of the attorney-client privilege”).

⁵⁶⁴ *Golden Valley Microwave Foods v. Weaver Popcorn Co.*, 18 USPQ2d 1867, 1868-70 (N.D. Ind. 1990) (in considering patentability and infringement letter, court classifies disclosure thereof inadvertent, reasoning that “[i]t is a far different matter . . . to treat the inadvertent disclosure as a waiver with respect to other material that was not turned over. Although the inadvertent disclosure works something of a windfall by giving the opponent materials he would not otherwise have, there is no need to take the much greater step and treat it as a waiver. It is simply an inadvertent disclosure of evidence that could have been held back.”) (citing Richard L. Marcus, *The Perils of Privilege: Waiver and Litigation*, 84 MICH. L. REV. 1605, 1636 (1986)).

⁵⁶⁵ *See Connecticut Mut. Life Ins. Co. v. Shields*, 18 F.R.D. 448, 451 (S.D.N.Y. 1955); *see also* Alan J. Meese, *Inadvertent Waiver of the Attorney-Client Privilege by Disclosure of Documents: An Economic Analysis*, 53 CREIGHTON L. REV. 513 (1990).

⁵⁶⁶ *See Underwater Storage, Inc. v. United States Rubber Co.*, 314 F. Supp. 546, 548-49, 165 USPQ 97, 98 (D.D.C. 1970).

⁵⁶⁷ *See Suburban Sew ‘N Sweep, Inc. v. Swiss-Bernia, Inc.*, 91 F.R.D. 254, 258-60 (N.D. Ill. 1981).

⁵⁶⁸ *Hartford Fire Ins. Co. v. Garvey*, 109 F.R.D. 323, 332 (N.D. Cal. 1985).

⁵⁶⁹ *See, e.g., Macrovision Corp. v. VSA Ltd.*, 1989 WL 112808, at *1, 12 USPQ2d 2011, 2013 (D. Or. Sept. 20, 1989) (“voluntary disclosure of the content of a privileged attorney communication waives the privilege as to all other attorney communications on the same subject”); *Abbott Labs v. Baxter Travenol Labs*, 676 F. Supp. 831, 832, 6 USPQ2d 1398, 1399 (N.D. 111. 1987) (“by virtue of producing the three opinions regarding infringement . . . defendant has waived his privilege as to any other such opinions of counsel on the same subject matter”); *Fonar Corp. v. Johnson and Johnson*, 227 USPQ 886, 888 (D. Mass. 1985) (“where, as here, the advice of counsel has been put in issue, all advisory opinions on the same matter may need be discoverable if the evils of ‘opinion shopping’ and selective disclosure are to be avoided”); *Smith v. Alyeska Pipeline Sev. Co.*, 538 F. Supp. 977, 979-80, 218 USPQ 468, 469-70 (D. Del. 1982) (requiring production of all the documents relating to infringement), *affd*, 758 F.2d 668 (Fed. Cir. 1984), *cert. denied*, 471 U.S. 1066 (1985); *Nye v. Sage Prods., Inc.*, 98 F.R.D. 452, 453 (N.D. 111. 1982) (“Production of some privileged documents waives privilege as to all documents of the same subject matter.”).

Inc.,⁵⁷⁰ rejecting the argument that the waiver should be limited to documents pertaining to willful infringement. The court reasoned that it “is difficult to perceive the distinction between documents pertaining to infringement and documents pertaining to willful infringement.”⁵⁷¹ In fact, if the disclosure is voluntary, some courts include within the scope of the waiver nearly all information concerning the subject matter. In *McCormick-Morgan, Inc. v. Teledyne Indus., Inc.*,⁵⁷² the court held that the waiver encompassed communications to and from counsel, as well as views and information on validity, enforceability, and infringement that were privately held by McCormick-Morgan, Inc. (MMI), including those not shared with counsel.⁵⁷³ The court treated MMI’s voluntary disclosure of an opinion letter as placing its state of mind in issue: “To explore that state of mind, it is not sufficient to examine only communications coming into it. . . . [I]t is necessary to explore how MMI reacted to those communications, what it thought of and about them, what information and thoughts MMI might have generated (on issues related to willfulness) on its own, or from sources other than counsel, and what communications MMI made to its counsel.”

Many questions remain concerning the subject matter of a waiver of attorney-client privilege.⁵⁷⁴

b. Person. A recipient of an opinion who has disclosed it may or may not be encompassed by a waiver, depending on the relationship between that individual and the author of the opinion.⁵⁷⁵ If the recipient is the client, and the author is that client’s only attorney, disclosure by the client generally will result in a waiver with respect to all other documents concerning the same subject matter made or reviewed by that attorney.⁵⁷⁶ If the client is an organization having inhouse attorneys, as well as outside counsel, disclosure of in-house opinions generally extends both to inside and outside counsel.⁵⁷⁷ In fact, in several cases the courts have put forth the following proposition:

“[I]rrespective of whether attorneys can be classified into such categories as in-house or outside counselors, the general rule [is] that whenever a client has received legal advice from several attorneys, interjecting the advice of any one counselor into litigation

⁵⁷⁰ 24 USPQ2d 1767 (N.D. Calif. 1992).

⁵⁷¹ *Id.*

⁵⁷² 134 F.R.D. 275, 280-81 (N.D. Cal.), *aff’d in part, redd in part on other grounds*, 765 F. Supp. 611 (N.D. Cal. 1991).

⁵⁷³ *Id.*; see also *Kelsey Hayes Co. v. Motor Wheel Corp.*, Case No. 5:90 CV 36, 1991 U.S. Dist. LEXIS 3645 (W.D. Mich. 1991) (accused infringer must produce all documents or other materials used or prepared by either the accused infringer or its counsel that refer to the opinion in question, and “any other opinions which support, contradict or weaken” the opinion).

⁵⁷⁴ See generally Harry R. Silver, *Is Advice a Virtue? The Scope of Waiver Occasioned by the Disclosure of Opinions of Counsel*, 75 J. PAT. & TRADEMARK OFF. SOC’Y 885, 895 (Nov. 1993) (“will an accused infringer’s production of an infringement opinion also occasion a waiver as to legal advice received on the issue of patent validity? Conversely, will a patentholder’s production of a validity opinion to counter changes of bad faith litigation mandate the production of opinions, or other documents, examining whether the defendant’s products infringed the patents in question?”).

⁵⁷⁵ *Id.*

⁵⁷⁶ *Macrovision Corp. v. VSA, Ltd.*, 12 USPQ2d 2011, 2012, 2013 (D. Or. 1989).

⁵⁷⁷ *Fonar Corp. v. Johnson and Johnson*, 227 USPQ 886, 887 (D. Mass. 1985).

proceedings creates a waiver with respect to advice received on the same subject from all other attorneys.”⁵⁷⁸

The analysis becomes more complicated if the waiver pertains to work of attorneys not employed by the individual making the waiver. As a general rule, if individuals are joined either as co-defendants or through the common-interest doctrine, each individual must agree to a disclosure before a disclosure by any individual can be regarded as a waiver of the attorney-client privilege with regard to all parties.⁵⁷⁹ Alternatively, some courts adhere to a “fairness” standard, under which disclosure will result in a waiver whenever the disclosure threatens to prejudice a party’s opponent by providing the opponent with a self-serving view of a party’s communications.⁵⁸⁰

If individuals are neither related as co-defendants, nor by the common-interest doctrine, disclosure of an opinion by one individual to the other generally will waive any privilege that the one individual may have had with respect to that opinion.⁵⁸¹

2. Drawing Inferences

“Where no exculpatory opinion of counsel is produced, a court may infer that either no opinion was obtained or, if an opinion was obtained, it was contrary to the position taken by the alleged infringer.”⁵⁸² Indeed, the Federal Circuit has consistently held that where an accused infringer relies on the advice-of-counsel defense but does not produce an exculpatory opinion of counsel, a district court is free to draw unfavorable inferences.⁵⁸³ By the same token, “there is no per se rule that an

⁵⁷⁸ Harry R. Silver, *Is Advice a Virtue? The Scope of Waiver Occasioned by the Disclosure of Opinions of Counsel*, 75 J. PAT. & TRADEMARK OFF. SOC’Y 885, 900 n.49 (Nov. 1993); *Technitrol, Inc. v. Digital Equipment Corp.*, 181 USPQ 731, 732 (N.D. Ill. 1974); *Abbott Labs v. Baxter Travenol Labs*, 676 F. Supp. 831, 832 (N.D. Ill. 1987).

⁵⁷⁹ *In re Grand Jury Subpoenas*, 89-3 and 89-4, 902 F.2d 244, 248 (4th Cir. 1990) (“a joint defense privilege cannot be waived without the consent of all parties who share the privilege”); *Ohio-Sealy Mattress Mfg. Co. v. Kaplan*, 90 F.R.D. 21, 29 (N.D. Ill. 1980), *cert. denied*, 111 S. Ct. 1683 (1991) (“the joint defense privilege cannot be waived without the consent of all parties to the defense”).

⁵⁸⁰ *McCormick-Morgan, Inc. v. Teledyne Indus., Inc.*, 134 F.R.D. 275, 279 (N.D. Cal.), *aff’d in part, rev’d in part on other grounds*, 765 F. Supp. 611, 614 (N.D. Cal. 1991) (“it would be unfair for a party to insist on the protection of the attorney-client privilege for damaging communications while disclosing other selected communications because they are self-serving”).

⁵⁸¹ *Macrovision Corp. v. VSA, Ltd.*, 12 USPQ2d 2011, 2012, 2013 (D. Or. 1989) (the court refused to grant protection to documents shared by the defendant with third parties who did not share a “common interest in litigation”).

⁵⁸² *Lambton Mfg. Ltd. v. Young*, 833 F. Supp. 610, 614, 27 USPQ2d 1775, 1777 (W.D. Ky. 1993).

⁵⁸³ *Fromson v. Western Litho Plate and Supply Co.*, 853 F.2d 1568, 7 USPQ2d 1606 (Fed. Cir. 1988), *cert. denied*, 499 U.S. 907 (1991) (where defendant refused to answer interrogatories on whether it obtained an infringement opinion before it undertook infringing activities, the Federal Circuit affirmed the district court’s decision to draw negative inferences therefrom); *Kloster Speedsteel AB v. Crucible Inc.*, 793 F.2d 1565, 230 USPQ 81 (Fed. Cir. 1986) (“silence on the subject, in alleged reliance on the attorney-client privilege, would warrant the conclusion that [Stora] either obtained no advice of counsel or did so and was advised that its importation and sale of the accused products would be an infringement of valid U.S. patents”), *cert. denied sub nom. Stora Kopparbergs Bergslags AB v. Crucible Inc.*, 479 U.S. 1034 (1987); see also *Electro Medical Sys., S.A. v. Cooper Life Sciences, Inc.*, 34 F.3d 1048, 32 USPQ2d 1017 (Fed. Cir. 1994) (Federal Circuit reversed district court decision to draw adverse inference from EMS’s refusal to produce an opinion of counsel based on six-year delay in entering market,

opinion letter from patent counsel will necessarily preclude a finding of willful infringement, . . . nor is there a per se rule that the lack of such a letter necessarily requires a finding of willfulness.”⁵⁸⁴

3. Recourses

Several recourses may be available to an accused infringer, depending on which district court is hearing the case.

4. Work Product Immunity

In some jurisdictions, the accused infringer may rely on the litigation work product privilege to protect certain information notwithstanding reliance on the advice-of-counsel defense.⁵⁸⁵ For example, in *Nobelpharma AB vs. Implant Innovations, Inc.*,⁵⁸⁶ the district court held that Nobelpharma was “entitled to discovery concerning documents or other materials which refer to the opinion letter,” but not to documents that are “protected by the work product doctrine,” such as “ideas for legal strategies for dealing with a patent claim.” Other courts have not permitted such practice.⁵⁸⁷

Work product immunity is not absolute. According to Rule 26(b)(3) of the Federal Rules of Civil Procedure, the work product will be discoverable “upon a showing that the party seeking discovery has substantial need of the materials in the preparation of the party’s case and that the party is unable without undue hardship to obtain the substantial equivalent of the materials by other means.”⁵⁸⁸ And as the Northern California District Court pointed out in *Mushroom Associates v. Monterey Mushrooms, Inc.*, “in most instances where the advice of counsel is an issue, the party seeking discovery will be able to meet the standard imposed by Rule 26(b)(3). A substantial need exists for the work product so that the discovering party can adequately address the advice of counsel defense.”⁵⁸⁹

Similar to the questions of scope respecting waiver of attorney-client privilege, a work product waiver may have fluctuating breadth, depending on the circumstances of each case. In *McCormick-Morgan, Inc. v. Teledyne Indus., Inc.*,⁵⁹⁰ the court struggled with this dilemma, reasoning that

but stated “the district court was free to draw an inference adverse to EMS when, asserting the attorney-client privilege, EMS refused to produce an opinion of counsel”).

⁵⁸⁴ *Rite-Hite Corp. v. Kelley Co.*, 819 F.2d 1120, 1125, 2 USPQ2d 1915 (Fed. Cir. 1987); *see also* *Electro Medical Sys., S.A. v. Cooper Life Sciences, Inc.*, 34 F.3d 1048, 1056-57, 32 USPQ2d 1017 (Fed. Cir. 1994) (defendant’s assertion of the privilege did not raise irrebutable presumption of willfulness because other facts also need to be considered in order to respect the right to the attorney-client privilege).

⁵⁸⁵ FED. R. CIV. P. 26(b)(3).

⁵⁸⁶ 23 USPQ2d 1476 (N.D. Ill. 1992).

⁵⁸⁷ *See, e.g.*, *W.L. Gore & Assocs., Inc. v. Tetratec Corp.*, 15 USPQ2d 1048, 1051 (E.D. Pa. 1989) (“where a party asserts the advice of counsel as an essential element of its defense, work product immunity, like attorney-client privilege, is waived with respect to the subject of that advice”); *Nye v. Sage Prods., Inc.*, 98 F.R.D. 452, 453 (N.D. 111. 1982) (“production of some privileged documents waives privilege as to all documents of the same subject matter”).

⁵⁸⁸ FED. R. CIV. P. 26(b)(3).

⁵⁸⁹ *Mushroom Assocs. v. Monterey Mushrooms, Inc.*, 24 USPQ2d 1767 (N.D. Calif. 1992).

⁵⁹⁰ 134 F.R.D. at 282.

disclosure of an opinion does not necessarily extend to all communications relating to the litigation strategy. The court stated as follows:

[V]irtually everything a lawyer or client does or thinks in relation to a given case might be “related to” (as lawyers so expansively use that phrase) their litigation strategy. So, if we permit the fact that disclosure has been made of one communication that might have some connection with litigation strategy to serve as a predicate for a holding that there has been a waiver with respect to all communications that relate to litigation strategy, we would be completely eviscerating the concept of “subject matter” waiver and offending the law’s mandate to construe the scope of a waiver. This we decline to do.

A second solution may be to bifurcate trial and discovery, separating the issue of willfulness from the issues of infringement, validity, and damages.⁵⁹¹ The Federal Circuit urged district courts to consider bifurcated patent trials in *Quantum Corp. v. Tandom Corp.*,⁵⁹² by stating:

An accused infringer . . . should not, without the trial court’s careful consideration, be forced to choose between waiving the privilege and maintaining the privilege. . . . Trial courts . . . should give serious consideration to a separate trial on willfulness whenever the particular attorney-client communications, once inspected by the court in camera, reveal that the defendant is indeed confronted with this dilemma.⁵⁹³

Consequently, in a bifurcated trial, an accused infringer will be confronted with the decision of whether to divulge privileged information only after infringement has been found. Therefore, the accused infringer “need not worry about divulging its plans to either opposing counsel or the jury during the liability portion of the trial.”⁵⁹⁴ Many district courts have been reluctant, however, to adopt the Federal Circuit’s recommendations, reasoning that it would be contrary to the interests of judicial economy.⁵⁹⁵

⁵⁹¹ 7 D. CHISUM, CHISUM ON PATENTS §20.03[4][b][v][J], at 20-364, “Attorney-Client Privilege Waiver—Inferences from Failure to Produce Opinions—Separate Trials” (1998).

⁵⁹² 940 F.2d 642 (Fed. Cir. 1991).

⁵⁹³ *Quantum Corp. v. Tandom Corp.*, 940 F.2d 642, 643-44 (Fed. Cir. 1991).

⁵⁹⁴ J. Dragseth, *Coerced Waiver of the Attorney-Client Privilege for Opinions of Counsel in Patent Litigation*, 80 MINN. L. REV. 167 (Nov. 1995); *see also* 1993-94 A.B.A. SEC. INT. PROP. L. ANN. REP. 362. By delaying introduction of an opinion letter until a later trial, bifurcation eliminates the danger that the accused infringer will be prejudiced because its defenses in the opinion letter differ from those at trial.

⁵⁹⁵ *See, e.g.*, *IPPV Enter. v. Cable/Home Comm. Corp.*, 26 USPQ2d 1714, 1717 (S.D. Cal. 1993) (bifurcation denied); *Spectra-Physics Lasers, Inc. v. Uniphase Corp.*, 144 F.R.D. 99, 100 (N.D. Cal. 1992) (bifurcation denied); *Blumenthal v. Barber-Colman Holdings Corp.*, No. 90C-20365, 1991 WL 352523, at *1 (N.D. Ill. Oct. 3, 1991) (denying bifurcation and refusing to stay discovery); *Keyes Fibre Co. v. Packaging Corp. of Am.*, 763 F. Supp. 374, 376, 19 USPQ2d 1472 (N.D. Ill. 1991) (damage issues were not so complex as to warrant separate trials); *THK Am., Inc. v. Nippon Seiko K.K.*, 141 F.R.D. 463, 465 (N.D. Ill. 1991) (denying bifurcation, reasoning that a single jury must decide liability and willfulness).