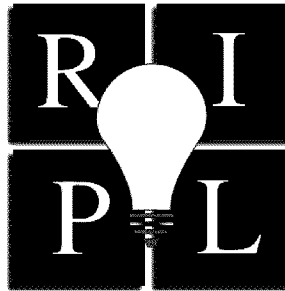


THE JOHN MARSHALL REVIEW OF INTELLECTUAL PROPERTY LAW



PREFERRED EMBODIMENTS IN PATENTS

TOM BRODY

ABSTRACT

It is a tradition in patent drafting to refer to one or more examples as “preferred” or as a “preferred embodiment.” While these “preferred embodiments” reside in the specification, they can influence the interpretation of the claims. The role of preferred embodiments in claim construction was the issue in two cases, *Laitram Corp. v. Cambridge Wire Cloth Co.* and *Vitronics Corp. v. Conceptronic, Inc.* These cases represent two different lineages of the case law that refer to preferred embodiments, where application of these cases broadens (or prevents narrowing of) claim scope. *Laitram* warns against confining the claim to a specific example disclosed in the specification, where the example is a preferred embodiment. *Vitronics* warns that the claims should not be interpreted in a way that excludes the preferred embodiment. Where an example is labeled as “preferred,” this labeling almost always works to the advantage of the patentee during litigation. But, this labeling can also backfire against the patentee, resulting in claim invalidation. Two arguments can turn the preferred embodiment against the patentee. The first causes the claim to fall under the scope of the prior art, resulting in invalidation under 35 U.S.C. § 102. The second invokes the best mode requirement, thereby demanding a high degree of enablement under 35 U.S.C. § 112. Where a high degree of enablement is required, it can raise the question of validity for lack of enablement.

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PREFERRED EMBODIMENTS IN PATENTS

TOM BRODY*

INTRODUCTION

Patents contain two sections, the specification and the claims.¹ The claims identify the legal boundaries of the intellectual property, while the specification contains background information useful for interpreting the claims and for providing guidance for making and using the claimed invention.² Mainstream concerns for patent drafters include determining the persons to be named as inventors,³ determining the date of conception and the patent's priority date,⁴ drafting working and prophetic examples for the specification,⁵ duty to disclose,⁶ foreign filing strategies,⁷ and claim drafting.⁸ This article concerns claim construction and focuses exclusively on the role of preferred embodiments in claim construction. Claim construction, a task that occurs during litigation, must occur before the court

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¹ 35 U.S.C. § 112 (2006).

² *Id.*

³ See generally Dale L. Carlson & James R. Barney, *The Division of Rights Among Joint Inventors: Public Policy Concerns after Ethicon v. U.S. Surgical*, 39 IDEA 251 (1999) (discussing joint inventorship issues after *Ethicon, Inc. v. U.S. Surgical Corp.*, 135 F.3d 1456 (Fed. Cir. 1998)); David Hrucik et al., *Save a Little Room For Me: The Necessity of Naming as Inventors Practitioners Who Conceive of Claimed Subject Matter*, 55 MERCER L. REV. 635 (2004) (discussing whether The Patent Act precludes a prosecuting patent attorney from being a named inventor on the patent he or she is prosecuting).

⁴ See Paula K. Davis & Steven P. Caltrider, *Timing (of Invention) is Everything: The Essential Role of the Written Description Requirement in Determining Conception*, 15 FED. CIR. BAR J. 39, 51–52 (2005) (discussing several issues related to the “timing of invention”); Charles L. Gholz, *A Critique of the New Rules and the New Standing Order in Contested Case/Interference Practice*, 87 J. PAT. & TRADEMARK OFF. SOC'Y. 62, 68–70 (2005) (discussing new regulation relating to priority challenges in interference actions). See generally Mark A. Lemley & Colleen V. Chien, *Are the U.S. Patent Priority Rules Really Necessary?*, 54 HASTINGS L.J. 1299 (2003) (discussing the merits and trends of “first to invent” systems with “first to file systems”).

⁵ See Brian P. O'Shaughnessy, *The False Inventive Genus: Developing a New Approach for Analyzing the Sufficiency of Patent Disclosure Within the Unpredictable Arts*, 7 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 147, 167–71 (1996) (discussing how courts have evaluated the adequacy of patent specifications in the “unpredictable arts”). See generally Thomas P. Nound, Mark S. Carlson, & Paul T. Meiklejohn, *Patent Law Issues Affected by the Predictability of Technology in the Field of Invention*, 88 J. PAT. & TRADEMARK OFF. SOC'Y. 603 (2006) (discussing specification requirements for “non-predictable technology”).

⁶ See generally Tom Brody, *Duty to Disclose: Dayco Products v. Total Containment*, 7 J. MARSHALL REV. INTELL. PROP. L. 325 (2008) (discussing the duty to disclose patent subject matter).

⁷ See generally Douglas N. Modlin & Michael A. Glenn, *International Patent Strategies for Individual Inventors*, 6 J. HIGH TECH. L. 129 (2006) (describing patent filing strategies of individual inventors).

⁸ See generally Tom Brody, *Functional Elements Can Ensure Allowance of Genus Claims*, 90 J. PAT. & TRADEMARK OFF. SOC'Y. 621 (2008) (addressing the use of “functional language” in claim drafting).

evaluates the claim-invalidating effects of prior art publications, and before the court determines if an accused infringer had actually infringed the claims.⁹ The Federal Circuit's flow chart (or decision tree) used for claim construction is detailed in the author's article in *Virginia Journal of Law and Technology*.¹⁰

I. THE EARLIEST PREFERRED EMBODIMENT

Labeling one or more examples in the specification as "preferred" is an old tradition in the patent drafting art.¹¹ In the earliest years of U.S. patents, the term "preferred" or "preferable" occurs in the patent specification at intervals of every 20-40 patents (Appendix One).¹² A number of nineteenth century cases from the U.S. Supreme Court, dealing with patents, have equated the terms "preferred," "preference," or "preferable" as meaning non-essential or merely a recommendation.¹³ For example, *Russell v. Dodge* found that preferable has the meaning of, "mere adjuncts which may be used or abandoned at pleasure."¹⁴ Several opinions from nineteenth century patent cases from the U.S. District Courts have also characterized these terms in this same way.¹⁵

In recent times, the term "preferred embodiment" has occurred in 55–73% of all patents.¹⁶ This article discloses that labeling an example as "preferred" or as a "preferred embodiment" enables the patentee to make use of two bodies of case law, as represented by *Laitram Corp. v. Cambridge Wire Cloth Co.*,¹⁷ and *Vitronics v. Conceptoronic, Inc.*¹⁸ These two cases provide the patentee with two distinct arguments for maintaining or broadening claim scope.¹⁹ In other words, the simple

⁹ *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (1995).

¹⁰ Tom Brody, *Claim Construction Using Contexts of Implications*, 13 VA. J.L. & TECH. 3, 23–25 tbl.2 (2008) [hereinafter Brody, *Contexts of Implications*].

¹¹ See, e.g., *Machine for Manufacturing Silver Spoons*, U.S. Patent No. 26 (issued Sept. 20, 1836) ("[T]he short roller with but one cutter upon it will be *preferable*." (emphasis added).

¹² See *infra* app. One.

¹³ E.g., *Russell v. Dodge*, 93 U.S. 460, 462 (1876); *Sewall v. Jones*, 91 U.S. 171, 181–85 (1875); *Klein v. Russell*, 86 U.S. 433, 447–49, 467 (1873); *Winans v. N.Y. & Erie R.R. Co.*, 62 U.S. 88, 99 (1858).

¹⁴ 93 U.S. at 462.

¹⁵ E.g., *Marsh v. Dodge & Stevenson Mfg. Co.*, 16 F. Cas. 805, 808 (N.D.N.Y. 1873); *West v. Silver Wire & Skirt Mfg. Co.*, 29 F. Cas. 727, 728 (S.D.N.Y. 1867); *Whipple v. Middlesex Co.*, 29 F. Cas. 940, 942 (D. Mass. 1859); *Buchanan v. Howland* 4 F. Cas. 529, 534–35 (N.D.N.Y. 1863). *Contra* *Hawes v. Gage*, 11 F. Cas. 867, 868 (N.D.N.Y. 1871) (holding that the claim language limited the invention to the preferred embodiment).

¹⁶ The percentage of issued patents containing the term preferred embodiment(s) from the years 1980 to 2005 are as follows. The dates are the priority date (not the date of allowance or issue). 55% (1980), 57% (1981), 58% (1982), 60% (1983), 61% (1984), 62% (1985), 63% (1986), 63% (1987), 65% (1988), 67% (1989), 70% (1990), 69% (1991), 70% (1992), 71% (1993), 70% (1994), 72% (1995), 72% (1996), 73% (1997), 72% (1998), 72% (1999), 68% (2000), 66% (2001), 65% (2002), 62% (2003), 59% (2004), and 58% (2005). These numbers were determined using the STN program available from the American Chemical Society and the USPatfull database.

¹⁷ 863 F.2d 855 (Fed. Cir. 1988).

¹⁸ 90 F.3d 1576 (Fed. Cir. 1996).

¹⁹ See *Laitram*, 863 F.2d at 865 (expanding the scope of the claim beyond the preferred embodiment); *Vitronics*, 90 F.3d at 1583 (asserting that the preferred embodiment must be consistent with the claims).

expedient of including the word “preferred” in a patent, together with application of one of these often-cited cases, can persuade a court to broaden claim scope, to the advantage of the patentee.²⁰

Where the word “preferred” is included in a patent, the word is typically placed within commentary about one or more examples.²¹ Alternatively, or in addition, inventors may include the term “preferred” in the title of a section within the patent, where the title reads, e.g., “DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT” or “DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS.”²² To provide an example, Reissue Patent RE 30,341 was the subject of *Laitram Corp. v. Cambridge Wire Cloth Co.*²³ The terms “preferred” and “preferably” occurred 13 times in the specification of RE 30,341.²⁴ The context of one of these instances is as follows:

Although other noncircular cross sections such as hexagonal may be employed, the square cross section is *preferred* because it provides maximum strength coupled with maximized driving force-impacting surfaces and corners, is symmetrical with respect to the rotational axis and lends itself to fabrication simply and easily of a variety or combination of materials.²⁵

II. THE NATURE OF THE PROBLEM

In construing patent claims, the lower courts sometimes make the mistake of unjustly limiting a claim to require certain features of one of the written examples of the invention, as found in the specification.²⁶ The result is undue narrowing of claim scope.²⁷ This practice of limiting claims generally works to the advantage of the accused infringer, and to the disadvantage of the patentee.²⁸ The term “mistake,” as used here, rests on the fact that the Federal Circuit had reversed the narrow claim construction of the lower court in the cited cases.²⁹ The term “mistake” also rests on the Federal Circuit’s characterization of the mistake as a common one.³⁰ The Federal Circuit has characterized the practice as “a classic attempt to limit the scope of a

²⁰ See *Laitram*, 863 F.2d at 865 (expanding the scope of the claim beyond the preferred embodiment); *Vitronics*, 90 F.3d at 1583 (asserting that preferred embodiment must be consistent with the claims).

²¹ E.g., *Conveyor Drive*, U.S. Patent No. Re 30,341 col. 2 ll. 28–45 (filed June 22, 1978) (reissued July 22, 1980).

²² E.g., *Personal Mobility Vehicle*, U.S. Patent No. 4,570,739 col. 3 ll. 22–24 (filed Sep. 29, 1983) (issued Feb. 18, 1986).

²³ 863 F.2d 855, 856 (Fed. Cir. 1988).

²⁴ ’341 Patent col. 1 l. 67, col. 2 ll. 2, 37, 42–43, col. 4 ll. 25, 33, 37, 47, 51, col. 5 ll. 12, 34–35, 51, 61.

²⁵ *Id.* col. 4 ll. 35–42 (emphasis added).

²⁶ See, e.g., *Apex Inc. v. Raitan Computer, Inc.*, 325 F.3d 1364, 1377 (Fed. Cir. 2003). See generally *infra* tbl.3 (examining cases where lower courts limited claims by the written examples).

²⁷ See *Apex Inc.*, 325 F.3d at 1377.

²⁸ See *id.*

²⁹ See *id.* at 1374–75.

³⁰ See *id.* at 1374.

claim limitation to the preferred embodiment.”³¹ The fact that the mistake is common is evident from the term “classic.”³²

For some lower court opinions, the labeling of an example as “preferred” appears to have been the source of inspiration for the lower court’s limiting the claims to features of that embodiment, as is evident from *Callicrate v. Wadsworth Manufacturing*.³³ *Playtex Products, Inc. v. Procter and Gamble Co.*, also indicates that the mere disclosure of an example as preferred, by virtue of its appearing as a figure (drawing), was the source of inspiration for the lower court’s limiting of the claims to features of that embodiment.³⁴ The opinion wrote, “By its reliance on the figures, the district court improperly limited claim 1 to a preferred embodiment. We have consistently advised against this approach to claim construction.”³⁵ *RF Delaware, Inc. v. Pacific Keystone Technologies, Inc.* discloses the fact-pattern where the lower court did not follow *stare decisis*, that is, the rule of *Laitram*, but instead had formulated an incorrect home-grown rule for claim construction.³⁶ Referring to the lower court’s mistake, the Federal Circuit wrote, “[t]he district court concluded that the preferred embodiment described the entire claimed invention, because it found correlation between the teachings of the preferred embodiment and the various dependent claims.”³⁷ See also, the opinion of the lower court in *RF Delaware, Inc. v. Pacific Keystone Technologies, Inc.*³⁸ In other words, it is a mistake to limit the claims to the features found in a preferred embodiment, merely on the basis that the features in the example and in the claims are found to track each other.³⁹

Table 1 discloses a number of cases where the accused infringer argued that the claim should be limited to one or more features of a preferred embodiment.⁴⁰ This argument was set forth before both the lower court and the Federal Circuit.⁴¹ In a subset of these cases, the lower court actually accepted this argument and proceeded to import a limitation from the preferred embodiment to the claims.⁴² The lower

³¹ *Id.*

³² *Id.*

³³ 427 F.3d 1361, 1367 (Fed. Cir. 2005).

The district court construed this term as “a lever pivotally mounted to a ligation tool body such that the lever pivots about a fulcrum pin which is substantially perpendicular to the direction in which the preformed endless loop is pulled during the tightening operation.” The district court reached this definition because the preferred the embodiment in the specification speaks “of a ‘lever pivotally mounted on the body of the tool.’”

Id. (citation omitted).

³⁴ 400 F.3d 901, 906–07 (Fed. Cir. 2005).

³⁵ *Id.* at 907.

³⁶ No. CV-01-PT-0348-M, 2002 U.S. Dist. LEXIS 27205, at *81, *84–85 (N.D. Ala. Apr. 21, 2002), *rev’d*, 326 F.3d 1255, 1264 (Fed. Cir. 2003).

³⁷ *RF Del.*, 326 F.3d at 1264.

³⁸ 2002 U.S. Dist. LEXIS 27205 at *81, *84–86.

³⁹ *RF Del.*, 326 F.3d at 1264.

⁴⁰ See *infra* tbl.1. In preparing this article, the author reviewed all the cases from the Federal Circuit containing the term “preferred embodiment” (over 300 cases) and then reviewed additional cases that cited *Laitram* or *Vitronics*.

⁴¹ *E.g.*, *RF Del.*, 2002 U.S. Dist. LEXIS 27205, at *57–60 (recounting the alleged infringer’s narrowing argument); Brief of Appellee at 18–19, *RF Del., Inc. v. Pac. Keystone Techs., Inc.*, 326 F.3d 1255 (Fed.Cir. 2003).

⁴² See *infra* notes 43–69.

court's practice of limiting the claims in this way is documented in the following cases: *Liebel-Flarsheim Co. v. Medrad, Inc.*,⁴³ *Abbott Laboratories v. Baxter Pharmaceutical Products, Inc.*,⁴⁴ *Acumed LLC v. Stryker Corp.*,⁴⁵ *Anchor Wall Systems, Inc. v. Rockwood Retaining Walls, Inc.*,⁴⁶ *Apex Inc. v. Raritan Computer, Inc.*,⁴⁷ *Burke, Inc. v. Bruno Independent Living Aids, Inc.*,⁴⁸ *Callicrate v. Wadsworth Manufacturing, Inc.*,⁴⁹ *Cordis Corp. v. Medtronic Ave, Inc.*,⁵⁰ *Dayco Products, Inc. v. Total Containment, Inc.*,⁵¹ *Dow Chemical Co. v. United States*,⁵² *DSW, Inc. v. Shoe Pavilion, Inc.*,⁵³ *Ekchian v. The Home Depot, Inc.*,⁵⁴ *Gart v. Logitech, Inc.*,⁵⁵ *The Gillette Co. v. Energizer Holdings, Inc.*,⁵⁶ *Home Diagnostics, Inc. v. Lifescan, Inc.*,⁵⁷ *IEX Corp. v. Blue Pumpkin Software, Inc.*,⁵⁸ *Interactive Gift Express, Inc. v. Compuserve Inc.*,⁵⁹ *Inverness Medical Switzerland GmbH v. Warner Lambert Co.*,⁶⁰ *Karlin Technology, Inc. v. Surgical Dynamics, Inc.*,⁶¹ *Lampi Corp. v. American Power Products, Inc.*,⁶² *Mantech Environmental Corp. v. Hudson Environmental Services, Inc.*,⁶³ *Playtex Products, Inc. v. Procter and Gamble Co.*,⁶⁴ *Prima Tek II, L.L.C. v. Polypap, S.A.R.L.*,⁶⁵ *RF Delaware, Inc. v. Pacific Keystone Technologies, Inc.*,⁶⁶ *Sandisk Corp. v. Memorex Products, Inc.*,⁶⁷ *Turbocare Division of Demag Delaval Turbomachinery Corp. v. General Electric Co.*,⁶⁸ and *Varco, L.P. v. Pason Systems USA Corp.*⁶⁹

*Liebel-Flarsheim Co. v. Medrad, Inc.*⁷⁰ provides a typical example of the lower court's error. In a dispute relating to patents claiming a motorized syringe and its method of use,⁷¹ the Federal Circuit characterized the lower court's decision as

⁴³ 358 F.3d 898, 904 (Fed. Cir. 2004).

⁴⁴ 334 F.3d 1274, 1279 (Fed. Cir. 2003).

⁴⁵ 483 F.3d 800, 807 (Fed. Cir. 2007).

⁴⁶ 340 F.3d 1298, 1309 (Fed. Cir. 2003).

⁴⁷ 325 F.3d 1364, 1373–74, 1377 (Fed. Cir. 2003).

⁴⁸ 183 F.3d 1334, 1341 (Fed. Cir. 1999).

⁴⁹ 427 F.3d 1361, 1367–68 (Fed. Cir. 2005).

⁵⁰ 339 F.3d 1352, 1356–57 (Fed. Cir. 2003).

⁵¹ 258 F.3d 1317, 1326 (Fed. Cir. 2001).

⁵² 226 F.3d 1334, 1342 (Fed. Cir. 2000).

⁵³ 537 F.3d 1342, 1346, 1348 (Fed. Cir. 2008).

⁵⁴ 104 F.3d 1299, 1302–03 (Fed. Cir. 1997).

⁵⁵ 254 F.3d 1334, 1340–42 (Fed. Cir. 2001).

⁵⁶ 405 F.3d 1367, 1374 (Fed. Cir. 2005).

⁵⁷ 381 F.3d 1352, 1355–57 (Fed. Cir. 2004).

⁵⁸ 122 F. App'x 458, 464–65 (Fed. Cir. 2005) (unpublished table decision).

⁵⁹ 256 F.3d 1323, 1339 (Fed. Cir. 2001).

⁶⁰ 309 F.3d 1373, 1377, 1379 (Fed. Cir. 2002).

⁶¹ 177 F.3d 968, 970–73 (Fed. Cir. 1999).

⁶² 228 F.3d 1365, 1375–76 (Fed. Cir. 2000).

⁶³ 152 F.3d 1368, 1370, 1374 (Fed. Cir. 1998).

⁶⁴ 400 F.3d 901, 907 (Fed. Cir. 2005).

⁶⁵ 318 F.3d 1143, 1149–51 (Fed. Cir. 2003).

⁶⁶ 326 F.3d 1255, 1260, 1262 (Fed. Cir. 2000).

⁶⁷ 415 F.3d 1278, 1285–86 (Fed. Cir. 2005).

⁶⁸ 264 F.3d 1111, 1115, 1117, 1121 (Fed. Cir. 2001).

⁶⁹ 436 F.3d 1368, 1371, 1375 (Fed. Cir. 2006).

⁷⁰ 358 F.3d 898 (Fed. Cir. 2004).

⁷¹ *Id.* at 901; Method of Front Loading an Injector and Injecting Fluid into Animals Therewith, U.S. Patent No. 5,456,669 col. 13 ll. 60–61 (filed Nov. 30, 1993) (issued Oct. 10, 1995); Disposable

follows. “The district court concluded that ‘the specification makes clear that the injector includes a pressure jacket.’”⁷² Continuing with its commentary on the lower court’s holding, the Federal Circuit added, “[b]ased largely on the fact that the . . . patents do not contain any description of an injector that *lacks* a pressure jacket, the district court construed all the asserted claims . . . to require a pressure jacket.”⁷³

To repeat, the problem is that the lower courts frequently make the mistake of construing the claims to be limited to elements or features of the invention that are expressly disclosed in the specification, and to exclude elements that happen not to be disclosed.⁷⁴

III. THE NATURE OF THE SOLUTION

Where the lower court narrows a claim by importing language from an example labeled as a “preferred,” and where there is an appeal, the Federal Circuit often invokes *Laitram* and consequently properly construes the claim more broadly.⁷⁵ Similarly, if the lower court narrows the claim in a way that prevents the claim from encompassing an example labeled as “preferred,” the Federal Circuit invokes *Vitronics*, resulting in a more broadly construed claim.⁷⁶

Laitram and *Vitronics* are applied with remarkable frequency to repair claim construction errors made by the lower courts, and have been applied with remarkable success in the patentee’s efforts to maintain broad claim scope.⁷⁷

However, labeling one or more examples in the specification as “preferred,” can introduce a level of unpredictability and can backfire, resulting in invalidation of the claims.⁷⁸ This article discloses various techniques for arguing that a claim is invalid, based on the labeling of an embodiment as “preferred.”

IV. OUTLINE OF CLAIM CONSTRUCTION, AND HOW *LAITRAM* AND *VITRONICS* FIT IN

Claim construction typically begins by assessing if the disputed terms in a litigated claim have any accepted or customary meaning in the art.⁷⁹ Then the court reviews all of the *claims* of the patent for contexts that might help assess meaning of these terms.⁸⁰ The court then reviews the *specification* for further contexts that

Front Loadable Syringe, U.S. Patent No. 5,658,261 col. 13 ll. 62–63 (filed Apr. 6, 1995) (issued Aug. 19, 1997).

⁷² *Liebel-Flarsheim*, 358 F.3d at 901.

⁷³ *Id.* (emphasis added).

⁷⁴ *See, e.g., supra* notes 43–69.

⁷⁵ *See, e.g., infra* tbl.1.

⁷⁶ *See, e.g., infra* tbl.3.

⁷⁷ *See, e.g., infra* tbls.1, 3.

⁷⁸ *See infra* notes 355–376.

⁷⁹ *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995).

⁸⁰ *Id.*

might provide meaning.⁸¹ For example, these contexts may take the form of an explicit definition of the term.

As a first step in claim construction, the Federal Circuit attempts to find the customary meaning of the claim term in the relevant technology, as used by the person having ordinary skill in the art (PHOSITA) as of the date of filing the patent application.⁸² This meaning can be provided by the life experiences of the judges, by dictionaries, or by the consensus of both plaintiffs and defendants.⁸³ For example in *Wenger v. Coating Machinery*, the issue was the meaning of “circulation.”⁸⁴ The opinion wrote that “in common parlance, it is customary to speak of ‘circulating’ something once . . . without ‘recirculating’ it a second time.”⁸⁵ In *Sunrace Roots Enterprises Co. v. SRAM Corp.*, the ordinary and customary meaning was assessed by a consensus between all parties involved.⁸⁶

Explicit contexts can take two forms, definitions in the specification and disclaimers set forth during the prosecution phase of the patent application.⁸⁷ Explicit contexts generally prevail over any ordinary and customary meaning of a claim term.⁸⁸ Explicit contexts also prevail over any weaker contexts as might be found in the specification.⁸⁹ The weaker contexts include a group of literary environments known as “contexts of implication.”⁹⁰

The Federal Circuit has identified four types of *contexts of implication*.⁹¹ These particular contexts reside in the specification of the patent.⁹² These four contexts, which are weaker than explicit contexts, include global comments, statements of advantage of the invention over a competing device, statements of disadvantages of a competitor’s device compared to the claimed invention, and statements of a repeated and consistent nature.⁹³ The term contexts of “implication” was expressly used to refer to these contexts in the cited cases.⁹⁴ For example, *Hockerson-Halberstadt, Inc. v. Avia Group International, Inc.* set forth the role of contexts of implication:

⁸¹ *Id.*

⁸² *Hoescht Celanese Corp. v. BP Chems. Ltd.*, 78 F.3d 1575, 1578 (Fed. Cir. 1996); *Vitronics Corp. v. Conceptronc, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996).

⁸³ *E.g.*, *Sunrace Roots Enters. Co. v. SRAM Corp.*, 336 F.3d 1298, 1302, 1304 (Fed. Cir. 2003) (using the consensus of both parties to define a term); *Wenger Mfg., Inc. v. Coating Machinery Sys., Inc.*, 239 F.3d 1225, 1233 (2001) (using a dictionary and judge’s experience to define a term).

⁸⁴ 239 F.3d 1225, 1231–32 (Fed. Cir. 2000).

⁸⁵ *Id.* at 1233.

⁸⁶ 336 F.3d 1298, 1302 (Fed. Cir. 2003).

⁸⁷ *Computer Docking Station Corp. v. Dell, Inc.*, 519 F.3d 1366, 1374 (Fed. Cir. 2008).

⁸⁸ *Id.* at 1373–74.

⁸⁹ *See id.* at 1374.

⁹⁰ *See Brody, Contexts of Implications, supra* note 10, ¶ 56 tbl.2.

⁹¹ *See, e.g.*, *Alloc, Inc. v. Int’l Trade Comm’n*, 342 F.3d 1361, 1368–69, 1373 (2003) (using global comments, statement of advantage disadvantage, and statements of repeated and consistent nature).

⁹² *See id.* ¶ 1.

⁹³ *See, e.g.*, *Alloc, Inc. v. Int’l Trade Comm’n*, 342 F.3d 1361, 1368–69, 1373 (2003) (using global comments, statement of advantage disadvantage, and statements of repeated and consistent nature); *see also Brody, Contexts of Implications, supra* note 10, ¶¶ 1, 56 tbl. 2, 57–64 app. 3. (discussing each context of implication and its placement in the claim construction hierarchy).

⁹⁴ *Bell Atlantic Network Servs., Inc. v. Covad*, 262 F.3d 1258, 1268 (Fed. Cir. 2001); *Hockerson-Halberstadt, Inc. v. AVIA Group Int’l, Inc.*, 222 F.3d 951, 955 (Fed. Cir. 2000); *Microsoft Corp. v. Multi-Tech Sys., Inc.*, 357 F.3d 1340 (Fed. Cir. 2004); *Microsoft Corp. v. Multi-Tech Sys., Inc.*, 357 F.3d 1340, 1356 (Fed. Cir. 2004); *Alloc, Inc. v. Int’l Trade Comm’n*, 342 F.3d 1361 (2003).

The court, therefore, must examine a patent's specification . . . to determine whether the patentee has given the term an unconventional meaning. *See* [Vitronics Corp. v. Conceptoronic, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996)] (holding that “it *is always* necessary to review the specification to determine whether the inventor has used any terms in a manner inconsistent with their ordinary meaning [because the specification] acts as a dictionary when it expressly defines terms . . . or when it defines terms by implication” (emphasis added)) . . .⁹⁵

Claim construction follows a predictable hierarchy.⁹⁶ First, the court tries to assess the ordinary and customary meaning of the disputed claim term.⁹⁷ This is followed by an exploration of any meaning that might be provided by the entire claim set, and then by an exploration of the specification for explicit and implicit contexts.⁹⁸ *Laitram* and *Vitronics* fit into the claim construction hierarchy, as follows. When the court has finished reviewing the claims, and is reviewing the specification (or the patentee’s remarks in the prosecution history), the patentee can invoke these two cases in an effort to maintain or expand claim breadth.⁹⁹

V. APPLICATION OF *LAITRAM* TO INCREASE CLAIM BREADTH, TO THE ADVANTAGE OF THE PATENTEE

Table 1 lists nearly all of the available cases from the Federal Circuit where *Laitram* was applied to maintain or broaden claim scope, and where the broadened claim scope worked to the advantage of the patentee.¹⁰⁰

Acumed LLC v. Stryker Corp. provides a dramatic example of the application of *Laitram* because the *Laitram* holding was separately applied to two different claim terms.¹⁰¹

Acumed concerned U.S. Pat. No. 5,472,444, which claimed a surgical nail for inserting into bone.¹⁰² The patent used the term “preferred” at seven locations, including as the heading of a section, where the heading was, “Detailed Description of a Preferred Embodiment,” and to characterize the figures, where it recited, “FIG. 1 is a side view of a preferred embodiment of the invention.”¹⁰³

⁹⁵ *Hockerson-Halberstadt*, 222 F.3d at 955.

⁹⁶ *Vitronics Corp. v. Conceptoronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996); *see* Brody, *Contexts of Implications*, *supra* note 10, ¶ 56 tbl.2.

⁹⁷ *Vitronics Corp.*, 90 F.3d at 1582; *see* Brody, *Contexts of Implications*, *supra* note 10, ¶ 56 tbl.2.

⁹⁸ *Vitronics Corp.*, 90 F.3d at 1582; *see* Brody, *Contexts of Implications*, *supra* note 10, ¶ 56 tbl.2.

⁹⁹ *See Vitronics Corp.*, 90 F.3d at 1582; *see also* Brody, *Contexts of Implications*, *supra* note 10, ¶ 56 tbl.2.

¹⁰⁰ *Infra* tbl.1.

¹⁰¹ 483 F.3d 800, 806–09 (Fed. Cir. 2007).

¹⁰² *Id.* at 802; Humeral Nail for Fixation of Proximal Humeral Fractures, U.S. Patent No. 5,472,444 col. 5 ll. 44–45 (filed May 13, 1994) (issued Dec. 5, 1995).

¹⁰³ 444 Patent col. 1 l. 60, col. 2 ll. 5, 20, col. 3 l. 50, col. 4 ll. 44, 49, col. 5 l. 4.

The disputed claim term was “curved.”¹⁰⁴ The *accused infringer* argued that “curved” narrowly required a “continuous” bend, meaning that the nail must be smoothly curved, where the basis for this argument was that the patent disclosed smoothly curved nails to have an advantage over nails manufactured by competitors.¹⁰⁵

In contrast, the *patentee* argued that “curved” more broadly encompassed having a “bend . . . without sharp corners,” which encompassed smooth bends as well as somewhat jagged bends, as found in stone archways.¹⁰⁶

The Federal Circuit held for the broader meaning, primarily because the ordinary and customary meaning of the word “bent” broadly encompasses completely smooth curves as well as curves occurring as fractals, e.g., curved archways made of rectangular bricks.¹⁰⁷ The secondary basis for the holding was the rule of *Laitram*.¹⁰⁸ The court held that the accused infringer had made “an attempt to import a feature from a *preferred embodiment* into the claims . . . we have repeatedly warned against confining the claims to those embodiments.”¹⁰⁹ This case demonstrates that labeling an example as “preferred” can work to the advantage of the patentee.

Another disputed claim term was “transverse.”¹¹⁰ The accused infringer argued that “transverse” holes narrowly encompassed only perpendicular transverse holes.¹¹¹ The basis for this argument was that the specification only disclosed transverse holes that are perpendicular.¹¹² The Federal Circuit held for a broader meaning that did not require the characteristic of perpendicular, primarily on the basis that the perpendicular transverse hole embodiment was disclosed as a *preferred embodiment*.¹¹³ Again, this case demonstrates that labeling an example as preferred can work to the advantage of the patentee.

VI. HOLDINGS SIMILAR TO *LAITRAM* IN THE EUROPEAN PATENT COURTS

Before continuing with details of United States patent law relating to preferred embodiments, it might be pointed out that the European case law provides holdings similar to that of *Laitram*.¹¹⁴ Inventors often file duplicates of the same patent application in the United States and in Europe.¹¹⁵ The European Patent Office

¹⁰⁴ *Acumed*, 483 F.3d at 804.

¹⁰⁵ *Id.* at 804–05.

¹⁰⁶ See Brief for Plaintiff-Appellee Acumed LLC at 33–37, *Acumed LLC v. Stryker Corp.*, Nos. 06-1260, 06-1437 (Fed. Cir. Oct. 6, 2006); see also *Acumed*, 483 F.3d at 804 (noting that the district court “defined ‘curved shank’ as ‘a shank that has a bend or deviation from a straight line without sharp corners or sharp angles.’”).

¹⁰⁷ *Acumed*, 483 F.3d at 805.

¹⁰⁸ See *id.*

¹⁰⁹ *Id.* (quoting *Phillips v. AWH Corp.*, 415 F.3d 1303, 1334 (Fed. Cir. 2005)).

¹¹⁰ *Id.* at 807.

¹¹¹ *Id.*

¹¹² See, e.g., *Humeral Nail for Fixation of Proximal Humeral Fractures*, U.S. Patent No. 5,472,444 col. 2 ll. 56–59 (filed May 13, 1994) (issued Dec. 5, 1995).

¹¹³ *Acumed*, 482 F.3d at 809.

¹¹⁴ E.g., *Honeywell, Inc.* (2005) T 1259/01 at 7.

¹¹⁵ E.g., *Method and Apparatus for Piercing Ears*, U.S. Patent No. 5,499,993 (issued Mar. 19, 1996) (based on International Application No. PCT/EP90/02033 (filed Nov. 27, 1990)); *Method and*

(EPO) ¹¹⁶ has held that the term “preferred embodiment” is synonymous with “optional,” a situation reminiscent to that of *Laitram*.¹¹⁷ See, for example, *Honeywell, Inc.* (2005) T 1259/01, where the opinion found that, “the board observes that the disclosure of a document has to be taken as a whole and cannot be limited to a preferred embodiment.”¹¹⁸ Other cases from the EPO have found that “preferably” is synonymous with “not necessarily have to”¹¹⁹ or with “optional.”¹²⁰ Hence, U.S. patent practitioners may include the term “preferred” in their patents with the confidence that this term can maintain claim scope in both U.S. and European courts.

Apparatus for Piercing Ears, European Patent No. 559,637 (issued May 31, 1995) (based on International Application No. PCT/EP90/02033 (filed Nov. 27, 1990)).

¹¹⁶ Decisions from the European Patent Office can be found at <http://www.epo.org/patents/appeals/search-decisions.html> (last visited Nov. 23, 2009). Also instructive is DIRECTORATE-GENERAL 3 (APPEALS) LEGAL RESEARCH AND ADMINISTRATION, EUROPEAN PATENT OFFICE, CASE LAW OF THE BOARDS OF APPEAL OF THE EUROPEAN PATENT OFFICE, (Albert Ballester Rodès et al. eds., 5th ed. 2006), available at <http://www.epo.org/patents/appeals/case-law.html>.

¹¹⁷ *Colgate-Palmolive Co. v. Westone Prods. Ltd.* (1999) T 0374/96 at 6.

¹¹⁸ *Honeywell, Inc.* (2005) T 1259/01 at 7.

¹¹⁹ *Shell Internationale Research Maatschappij B.V. v. Sasol Tech. (Pty) Ltd.* (2007) T 0016/05 at 12.

¹²⁰ *Colgate-Palmolive Co. v. Westone Products Ltd.* (1999) T 0374/96 at 6.

Table 1. Cases Where Application of <i>Laitram</i> , or an Equivalent Case, Resulted in a Holding of a Broader Claim Interpretation, Where the Broader Claim Scope Worked to the Advantage of the Patentee.				
Case	U.S. Pat. No.	Disputed claim term	Narrow interpretation (interpretation favored by accused infringer)	Broad interpretation (interpretation favored by patentee)
<i>Laitram Corp. v. Cambridge Wire Cloth Co.</i> ¹²¹	Reissue RE: 30,341	Shaft	Shaft with a square cross-section.	Shaft with any non-circular cross-section.
<i>Abbott Laboratories v. Baxter Pharmaceutical Products, Inc.</i> ¹²²	5,990,176	Effective amount of water	The effective amount of water must be above 131 parts per million (ppm).	Any amount of water can be used as long as it is effective, including amounts below and above 131 ppm.
<i>Acumed LLC v. Stryker Corp.</i> ¹²³	5,472,444	Curved	“Curved” narrowly requires a “continuous” bend, meaning that the nail must be smoothly curved.	“Curved” broadly encompasses smooth curves, as well as slightly jagged curves.
		Transverse	“Transverse” holes narrowly encompassed only perpendicular transverse holes.	“Transverse” does not require the characteristic of perpendicular.

¹²¹ 863 F.2d 855, 856, 862, 865 (Fed. Cir. 1988).

¹²² 334 F.3d 1274, 1276–77, 1279–80 (Fed. Cir. 2003).

¹²³ 483 F.3d 800, 802–03, 804–05, 807 (Fed. Cir. 2007).

<i>Anchor Wall Systems, Inc. v. Rockwood Retaining Walls, Inc.</i> ¹²⁴	5,490,363	Protrusion	“Protrusion” narrowly requires that the claimed masonry block have a central narrow portion.	“Protrusion” does not require that the masonry block have a central narrow portion.
<i>Apex Inc. v. Raritan Computer, Inc.</i> ¹²⁵	5,937,176	Serial data packet	The serial data packet must be capable of including both a keyboard signal and a mouse signal.	The serial data packet need not be capable of including both a keyboard and mouse signal.
<i>Atmel Corp. v. Silicon Storage Technology, Inc.</i> ¹²⁶	4,511,811	Increments of charge	Increments must be transferred discretely.	The transfer may or may not be discrete.
<i>Burke, Inc. v. Bruno Independent Living Aids, Inc.</i> ¹²⁷	4,570,739	Floor pan	The floor pan must be sheet metal.	The floor pan may be sheet metal, or it may be made of discontinuous pieces of metal.
<i>Callicrate v. Wadsworth Manufacturing, Inc.</i> ¹²⁸	5,997,553	Lever	The lever must be mounted on a pivot, where the pivot is mounted on the body of the device.	The lever did not need to be mounted on a pivot.

¹²⁴ 340 F.3d 1298, 1300, 1308 (Fed. Cir. 2003).

¹²⁵ 325 F.3d 1364, 1367–68, 1375 (Fed. Cir. 2003). The accused infringer did not specifically argue that the “serial data packet” element must be limited to the feature of the disclosed example, but broadly argued that all the words of the claim must be limited to the various features of this example. *Id.* at 1377. The Federal Circuit refused, in part, on the basis that the example was labeled as “preferred.” *Id.*

¹²⁶ 76 F. App’x 298, 300, 304–05 (Fed. Cir. 2003) (unpublished table decision).

¹²⁷ 183 F.3d 1334, 1336, 1339–42 (Fed. Cir. 1999).

¹²⁸ 427 F.3d 1361, 1363, 1367–68 (Fed. Cir. 2005).

<i>Comark Communications, Inc. v. Harris Corp.</i> ¹²⁹	5,198,904	Video delay circuit	The circuit must function to compensate for a delay.	The circuit need not function to compensate for a delay.
<i>Cordis Corp. v. Medtronic Ave, Inc.</i> ¹³⁰	4,739,762	Slots formed therein	“Slots formed therein” requires that the slots be manufactured by removing material from a pre-existing wall surface.	Slots can be formed in a wall surface by means other than removing material, such as by constructing the wall with openings built into it.
<i>Dayco Products, Inc. v. Total Containment, Inc.</i> ¹³¹	5,199,752	Length that is different from	Projections have a length greater than recesses.	Projections have a length not equal to recesses.
		Plurality of projections	Plurality must mean three or more.	Plurality means two or more.
<i>Dow Chemical Co. v. United States</i> ¹³²	3,817,039	Injection rate	The injection rate must follow a formula in the specification.	The injection rate is not limited to the formula in the specification.
<i>DSW, Inc. v. Shoe Pavilion, Inc.</i> ¹³³	6,948,622	Movably positioned stack divider	Movably positioned stack divider with a track and roller.	Movably positioned stack divider, either with or without a track roller.

¹²⁹ 156 F.3d 1182, 1183, 1186–87 (Fed. Cir. 1998).

¹³⁰ 339 F.3d 1352, 1355, 1356–57 (Fed. Cir. 2003).

¹³¹ 258 F.3d 1317, 1319, 1326–28 (Fed. Cir. 2001).

¹³² 226 F.3d 1334, 1336, 1338–39 (Fed. Cir. 2000).

¹³³ 537 F.3d 1342, 1344, 1347–48 (Fed. Cir. 2008).

<i>Ekchian v. The Home Depot, Inc.</i> ¹³⁴	4,624,140	Conductive liquid-like medium	Conductivity must be equal or greater to that shown in the specification.	Conductivity can be lower or greater than that shown in specification, as long as it can support function as a capacitor.
<i>Enercon v. United States International Trade Commission.</i> ¹³⁵	5,083,039	Rotating	Rotating that must use the technique of rotational transformation	Any technique of rotating.
<i>Eolas Technologies, Inc. v. Microsoft Corp.</i> ¹³⁶	5,838,906	Executable application	Standalone computer programs.	Any type of computer program.
<i>Franklin Electric Co., Inc. v. Dover Corp.</i> ¹³⁷	5,085,257	Facilitate positioning	Facilitate positioning requires physical contact.	Facilitate positioning does not require contact. Contact is optional.
<i>Gart v. Logitech, Inc.</i> ¹³⁸	4,862,165	Angular medial surface of a computer mouse	“Angular medial surface” narrowly requires a ledge on the computer mouse.	“Angular medial surface” broadly encompasses either a ledge, or some other structure, on the computer mouse.

¹³⁴ 104 F.3d 1299, 1300–03 (Fed. Cir. 1997).

¹³⁵ 151 F.3d 1376, 1378, 1384–85 (Fed. Cir. 1998).

¹³⁶ 399 F.3d 1325, 1328, 1336 (Fed. Cir. 2005).

¹³⁷ 2007 U.S. App. LEXIS 5083, at *1, *13, *17–18 (Fed. Cir. June 6, 2007).

¹³⁸ 254 F.3d 1334, 1336, 1340, 1342 (Fed. Cir. 2001).

<i>The Gillette Co. v. Energizer Holdings, Inc.</i> ¹³⁹	6,212,777	Razor blade unit	“Razor blade unit” narrowly encompasses only a unit with three blades.	“Razor blade unit” broadly encompasses a unit with three blades or more blades.
<i>Home Diagnostics, Inc. v. Lifescan, Inc.</i> ¹⁴⁰	6,268,162	Suitably stable endpoint	The endpoint must be with reference to predetermined timing.	The endpoint can be either with reference to predetermined timing, by reference to reflectance readings, or by other methods.
<i>IEX Corp. v. Blue Pumpkin Software, Inc.</i> ¹⁴¹	6,044,355	Skill group	All agents in a skill group must possess the same skills.	Agents in a skill group must possess one given same skill, but may also possess additional skills.
<i>Interactive Gift Express, Inc. v. Compuserve Inc.</i> ¹⁴²	4,528,643	Authorization code	“Authorization code” narrowly required a code for enabling the machine to decode the information.	“Authorization code” does not impose any requirement for a code that enables the machine to decode information.
<i>Inverness Medical Switzerland GmbH v. Warner Lambert Co.</i> ¹⁴³	5,622,871	On	“On” narrowly means on top of.	“On” broadly encompasses on top of, as well as soaked within.

¹³⁹ 405 F.3d 1367, 1368–69, 1371, 1374 (Fed. Cir. 2005).

¹⁴⁰ 381 F.3d 1352, 1354–55 (Fed. Cir. 2004).

¹⁴¹ 122 F. App’x 458, 459, 462, 465 (Fed. Cir. 2005) (unpublished table decision).

¹⁴² 256 F.3d 1323, 1327, 1340–41 (Fed. Cir. 2001).

¹⁴³ 309 F.3d 1373, 1374, 1377–79 (Fed. Cir. 2002).

<i>Johnson Worldwide Associates, Inc. v. Zebco Corp.</i> ¹⁴⁴	5,202,835	Coupled	“Coupled” narrowly encompasses only mechanical or physical coupling.	“Coupled” broadly encompasses mechanical, physical, and other types of coupling, e.g., by radio signals.
<i>Karlin Technology, Inc. v. Surgical Dynamics, Inc.</i> ¹⁴⁵	5,015,247	Series of threads	Threads must be periodically interrupted to resist unscrewing. Series refers to one particular thread having many interruptions.	The series of threads is like that of any ordinary screw, where there are several threads, each tracking the entire length of the screw.
<i>Lampi Corp. v. American Power Products, Inc.</i> ¹⁴⁶	5,169,227	Housing having two half-shells	The housing must have only two half-shells.	Housing more broadly encompasses only two half-shells as well as two half-shells plus extra components.
<i>Liebel-Flarshem Co. v. Medrad, Inc.</i> ¹⁴⁷	5,928,197	Physical indicia	“Physical indicia” narrowly means only length.	“Physical indicia” broadly encompasses length or volume.

¹⁴⁴ 175 F.3d 985, 987–88, 992 (Fed. Cir. 1999).

¹⁴⁵ 177 F.3d 968, 969, 971–72 (Fed. Cir. 1999); Brief for Defendants-Appellants Karlin Technology, Inc. and Sofamor Danek Group, Inc. at 28, *Karlin Tech., Inc. v. Surgical Dynamics, Inc.* 177 F.3d 968 (Fed. Cir. 1999); Brief for Plaintiff-Apellee Surgical Dynamics, Inc. at 21–22, *Karlin Tech., Inc. v. Surgical Dynamics, Inc.* 177 F.3d 968 (Fed. Cir. 1999).

¹⁴⁶ 228 F.3d 1365, 1367, 1375–76 (Fed. Cir. 2000).

¹⁴⁷ 358 F.3d 898, 900, 912–13 (Fed. Cir. 2004).

<i>Mantech Environmental Corp. v. Hudson Environmental Services, Inc.</i> ¹⁴⁸	5,286,141	Well	“Well” narrowly requires a structure that must enable <u>both</u> monitoring groundwater and injecting the groundwater.	“Well” broadly encompasses that structures that could enable either of these functions or both of these functions.
<i>Oiestad v. Ag-Industrial Equipment Co., Inc.</i> ¹⁴⁹	4,821,486	Roller	Roller must have a pointed end.	Roller has an end that can be pointed or non-pointed, i.e., merely a projecting end.
<i>Playtex Products, Inc. v. Procter & Gamble Co.</i> ¹⁵⁰	4,536,178	Substantially flattened surfaces	The surfaces must be flat within an established manufacturing tolerance.	The surfaces must be substantially flat but not narrowly within any established manufacturing tolerance.
<i>Prima Tek II, L.L.C. v. Polypap, S.A.R.L.</i> ¹⁵¹	5,410,856	Floral holding material	“Floral holding material” narrowly requires flowers be inserted into and through the material.	“Floral holding material” broadly encompasses flowers inserted into and through, as well as inserted into pre-existing holes in the material.

¹⁴⁸ 152 F.3d 1368, 1369, 1371, 1375 (Fed. Cir. 1998). The court did not specifically cite any case holding that it was improper to import limitations from a preferred embodiment to the claims. *Id.* at 1375. However, the court repeatedly observed that the example that had been used as the source of the limitation, and used by the lower court for limiting the claims, was an example that was disclosed in the specification as being “preferred.” *Id.* at 1374–75.

¹⁴⁹ Case No. 96-1478, 1997 U.S. App. LEXIS 18219, at *2, *4, *12–13 (Fed. Cir. July 22, 1997).

¹⁵⁰ 400 F.3d 901, 902, 906–07 (Fed. Cir. 2005).

¹⁵¹ 318 F.3d 1143, 1145, 1147, 1149–50 (Fed. Cir. 2003).

<i>Resonate Inc. v. Alteon Websystems, Inc.</i> ¹⁵²	5,774,660	Transmitting	Data that is transmitted from the server to the client must bypass the load balancer.	Data that is transmitted from the server to the client may, or may not, bypass the load balancer.
<i>RF Delaware, Inc. v. Pacific Keystone Technologies, Inc.</i> ¹⁵³	5,198,124	Filter bed	“Filter bed” should narrowly be limited to filter beds with multiple layers.	“Filter bed” broadly encompasses filter beds that are one-layer embodiments or multiple-layer embodiments.
<i>Rexnord Corp. v. Laitram Corp.</i> ¹⁵⁴	5,634,550	Portion	Multi-piece devices	1-piece devices and multi-piece devices
<i>SanDisk Corp. v. Memorex Products, Inc.</i> ¹⁵⁵	5,602,987	Memory cell	Every memory cell must be partitioned.	Memory cells can be either partitioned or non-partitioned.
<i>Transmatic, Inc. v. Gulton Industries, Inc.</i> ¹⁵⁶	4,387,415	Light housing	Light housing must not extend beyond the associated light cover.	Light housing may or may not extend beyond the light cover.

¹⁵² 338 F.3d 1360, 1361, 1365–66 (Fed. Cir. 2003).

¹⁵³ 326 F.3d 1255, 1258, 1262–64 (Fed. Cir. 2000).

¹⁵⁴ 274 F.3d 1336, 1340–41 (Fed. Cir. 2001).

¹⁵⁵ 415 F.3d 1278, 1280, 1284–86 (Fed. Cir. 2005).

¹⁵⁶ 53 F.3d 1270, 1272, 1277 (Fed. Cir. 1995).

<i>Turbocare Division of Demag Delaval Turbomachinery Corp. v. General Electric Co.</i> ¹⁵⁷	4,436,311	Large clearance position	“Large clearance position” requires that the outward facing surface of an inner portion of a seal ring touch the inward facing surface of the casing shoulders.	“Large clearance position” does not impose this requirement.
<i>Uniloc USA, Inc. v. Microsoft Corp.</i> ¹⁵⁸	5,490,216	Licensee unique ID	The ID must contain information specific to the user, e.g., credit card number, name, or address.	The ID may be based on personal information, or on other unique information, e.g., the name of the user’s employer or church.
<i>Varco, L.P. v. Pason Systems USA Corp.</i> ¹⁵⁹	5,474,142	Relaying	Valves used in relaying step must be pneumatic valves.	Valves used in relaying step can be any kind of valve.
<i>Verizon Services Corp. v. Vonage Holdings Corp.</i> ¹⁶⁰	6,282,574	Translation	Translation requiring conversion of higher level protocol to lower level protocol.	Translation without this requirement.

VII. CAN DIRECTING THE COURT’S ATTENTION TO THE PREFERRED EMBODIMENT, AND INVOKING *LAI TRAM*, PREVAIL OVER CONTEXTS FOUND IN THE SPECIFICATION?

An accused infringer usually argues that the ordinary and customary meaning of the disputed claim term, as well as various contexts found in the specification, all

¹⁵⁷ 264 F.3d 1111, 1113, 1123 (Fed. Cir. 2001).

¹⁵⁸ 290 F. App’x 337, 339, 342 (Fed. Cir. 2008) (unpublished table decision).

¹⁵⁹ 436 F.3d 1368, 1369, 1372, 1375 (Fed. Cir. 2006).

¹⁶⁰ 503 F.3d 1295, 1298, 1302 (Fed. Cir. 2007).

militate for a narrow, restricted meaning of the disputed term.¹⁶¹ In contrast, the patentee usually argues that the ordinary and customary meaning, as well as these contexts, all support a broader meaning.¹⁶² But the patentee has an additional tool, a tool usually not useful to the infringer's arguments. This tool takes the form of referring to an example that is labeled as "preferred," and then invoking *Laitram*.¹⁶³ A question that arises, therefore, is this. Can the broad meaning militated by applying *Laitram* prevail over the narrow meaning that is required or suggested by various contexts found in the specification, e.g., definitions, recitations of advantage of the invention over devices of competitors, global comments, and the like?

VIII. EXPLICIT CONTEXTS

A. *Laitram Fails to Prevail Over an Explicit Context.*

Modine Manufacturing Co. v. United States International Trade Commission provides an example where *Laitram* failed to prevail over an explicit context.¹⁶⁴ The explicit context took the form of a disclaimer made during prosecution.¹⁶⁵ The disputed claim term was "relatively small hydraulic diameter," and what was in question was whether the diameter needed to be in the narrow range of 0.015-0.040 inches, or if the range could be as wide as 0.070 inches.¹⁶⁶ The opinion observed that the smaller diameter range was the *preferred embodiment*, and noted the rule of *Laitram*.¹⁶⁷ However, during prosecution of the patent application, the applicant had submitted a continuing patent application where the range of "0.015-0.070 inches" was replaced with the narrower range, "0.015-0.040."¹⁶⁸ Thus, the applicant had changed the *specification* to recite a narrow the range, but had not changed the *claims* to narrow the range.¹⁶⁹ This type of behavior constitutes prosecution disclaimer.¹⁷⁰ The court held that the range must be the same as the narrow range found in the preferred embodiment (0.015-0.040 inches), because "this change was conspicuous and unambiguous."¹⁷¹ In a nutshell, an attempt to invoke *Laitram* failed to maintain a broad claim scope.¹⁷² The attempt failed because prosecution disclaimer militated for a narrower interpretation.¹⁷³

¹⁶¹ See, e.g., *Honeywell Int'l Inc. v. ITT Indus., Inc.*, 452 F.3d 1312, 1317 (Fed. Cir. 2006).

¹⁶² See, e.g., *id.*

¹⁶³ See *Laitram Corp. v. Cambridge Wire Cloth Co.*, 863 F.2d 855, 865 (Fed. Cir. 1988) (holding that descriptions in preferred embodiments should not limit the scope of the claims).

¹⁶⁴ 75 F.3d 1545, 1551-52 (Fed. Cir. 1996).

¹⁶⁵ *Id.*

¹⁶⁶ *Id.* at 1549, 1550-52.

¹⁶⁷ *Id.* at 1551; *Laitram*, 863 F.2d at 865.

¹⁶⁸ *Modine*, 75 F.3d at 1552.

¹⁶⁹ See *id.*

¹⁷⁰ *Purdue Pharma L.P. v. Endo Pharms. Inc.*, 438 F.3d 1123, 1136 (Fed. Cir. 2006) ("Under the doctrine of prosecution disclaimer, a patentee may limit the meaning of a claim term by making a clear and unmistakable disavowal of scope during prosecution.").

¹⁷¹ *Modine*, 75 F.3d at 1552.

¹⁷² See *id.* at 1551.

¹⁷³ See *Purdue Pharma*, 438 F.3d at 1136 (defining the doctrine of prosecution disclaimer).

Similarly, *Kinik Co. v. International Trade Commission* discloses the fact pattern where an explicit context (prosecution disclaimer) governed the meaning of the claim, where this meaning was narrow and was confined to that set forth in the preferred embodiment.¹⁷⁴ The disputed claim term was “mixture,” where the disclaimer militated that “mixture” only encompassed mixtures having a high ratio of liquid binder to powdered matrix.¹⁷⁵

To conclude, it is unlikely that *Laitram* can ever prevail over an explicit context, that is, explicit definitions and prosecution disclaimers.¹⁷⁶

IX. CONTEXTS OF IMPLICATION

Statements of advantage, as they might appear in the written description part of a patent, are a common type of implicit context.¹⁷⁷ This means that the patent discloses that the invention has one or more advantages over devices or compositions manufactured by a competitor.¹⁷⁸ Statements of advantages were used as part of the basis for arriving at the meaning of a claim term in the following opinions. In *Tronzo v. Biomet, Inc.*, the advantage was that competing devices were inferior.¹⁷⁹ In *Gaus v. Conair Corp.*, the advantage was preventing electric shock.¹⁸⁰ In *Hockerson-Halberstadt, Inc. v. AVIA Group International, Inc.*, the advantage was cushioning.¹⁸¹ In *Sofamor Danek Group, Inc. v. DePuy-Motech, Inc.*, the advantage was eliminating awkward bulkiness.¹⁸² Further examples are provided in the footnote.¹⁸³ Although it is a tradition in patent drafting to label one or more examples as having some *advantage over competing devices or compositions*,¹⁸⁴ this technique frequently works against the patentee during litigation, by inspiring the

¹⁷⁴ 362 F.3d 1359, 1364–66 (Fed. Cir. 2004).

¹⁷⁵ *Id.* at 1365–66.

¹⁷⁶ *See e.g., id.; Modine*, 75 F.3d at 1551.

¹⁷⁷ *See, e.g., Gaus v. Conair Corp.*, 363 F.3d 1284, 1289–90 (Fed. Cir. 2004) (limiting the patent claims based on the advantages of the invention over the prior art as stated in the specification).

¹⁷⁸ *E.g., Protective Mechanism in Electrically Operated Devices*, U.S. Patent No. 4,589,047 col. 2 l. 55–61 (filed Mar. 4, 1983) (issued May 13, 1986); *Gaus*, 363 F.3d at 1289.

¹⁷⁹ 156 F.3d 1154, 1159 (Fed. Cir. 1998).

¹⁸⁰ 363 F.3d 1284, 1285, 1289 (Fed. Cir. 2004).

¹⁸¹ 222 F.3d 951, 956 (Fed. Cir. 2000).

¹⁸² 74 F.3d 1216, 1220 (Fed. Cir. 1996).

¹⁸³ *Alloc, Inc. v. Int'l Trade Comm'n*, 342 F.3d 1361, 1368–69 (Fed. Cir. 2003) (the advantage was play between floor boards); *TAP Pharm. Prods., Inc. v. Owl Pharms., L.L.C.*, 419 F.3d 1346, 1348–49 (Fed. Cir. 2005) (the advantage was improved stability); *Seachange Int'l, Inc. v. C-COR, Inc.*, 413 F.3d 1361, 1366, 1369–70 (Fed. Cir. 2005) (the advantage was more efficient use of the read and write bandwidth); *Phillips v. AWH Corp.*, 415 F.3d 1303, 1335–36 (Fed. Cir. 2005) (en banc) (the advantage was that a baffle disposed at a more acute angle could deflect bullets); *Toro Co. v. White Consol. Indus., Inc.*, 199 F.3d 1295, 1301 (Fed. Cir. 1999) (the advantage was automatic removal of a ring); *Howmedica Osteonics Corp. v. Tranquil Prospects, Ltd.*, 401 F.3d 1367, 1368–69, 1371–72 (Fed. Cir. 2005) (the advantage was improved stem stabilization); *Gen. Am. Transp. Corp. v. Cryo-Trans, Inc.*, 93 F.3d 766, 770 (Fed. Cir. 1996) (the advantage was that all parts of the load will be more uniformly maintained at the desired low temperature).

¹⁸⁴ *See D. C. Toedt, Reengineering the Inventor Interview*, 78 J. PAT. & TRADEMARK OFF. SOC'Y, 19, 26–27 (1996).

court to narrow the claims in a way that is aligned with one or more features of the advantageous embodiment.¹⁸⁵

Statements of a repeated and consistent nature, another type of context of implication, are often used by the Federal Circuit to narrow the scope of a disputed claim.¹⁸⁶ Examples of this type of implicit context are disclosed in the footnoted cases.¹⁸⁷

The following provides a concrete example of a repeated and consistent statement. *Union Oil Co. of California v. Atlantic Richfield Co.* concerned a patent that claimed a type of gasoline.¹⁸⁸ The dispute was whether the claim covered any type of gasoline, e.g., for commuter automobiles, race cars, and airplanes, or if it narrowly encompassed only gasoline for commuter autos.¹⁸⁹ The opinion observed that the specification *repeatedly and consistently referred* to use of the gasoline in ordinary commuter automobiles.¹⁹⁰ At four points in the patent, the specification disclosed air pollution.¹⁹¹ Also, the patent disclosed that the claimed gasoline had been tested in ordinary commuter automobiles, Oldsmobile Calais, Ford Tempo, Honda Accord, Plymouth Shadow, Chevrolet Suburban.¹⁹² On the basis of the *repeated and consistent* disclosures relating to commuter autos (and not to race cars or to aviation) the court held that the claim to a gasoline must encompass only gasolines suitable for passenger cars.¹⁹³

A further implicit context is the global comment.¹⁹⁴ The phrase, “present invention” is sometimes interpreted to be a global comment.¹⁹⁵ Global comment means that the elements found in a particular embodiment (labeled as “present invention”) apply to all embodiments of the invention that are encompassed by the claims.¹⁹⁶ In a number of cases, the Federal Circuit found that the term “present invention,” when used to refer to an example, was a global comment that must limit

¹⁸⁵ *E.g.*, *Gaus*, 363 F.3d at 1289.

¹⁸⁶ *See, e.g., infra* note 187.

¹⁸⁷ *Fuji Photo Film Co., Ltd. v. Int'l. Trade Comm'n.*, 386 F.3d 1095, 1098–99 (Fed. Cir. 2004) (relying on the repeated term “opening”); *Alloc, Inc. v. Int'l Trade Comm'n.*, 342 F.3d 1361, 1367 (Fed. Cir. 2003) (relying on the repeated term “play”); *Union Oil Co. of Cal. v. Atl. Richfield Co.*, 208 F.3d 989, 996 (Fed. Cir. 2000) (depending on repeated statements relating to use in ordinary commuter automobiles); *Kraft Foods, Inc. v. Int'l Trading Co.*, 203 F.3d 1362, 1370 (Fed. Cir. 2000) (looking to the repeated term “protecting”); *Toro Co. v. White Consol. Indus., Inc.*, 199 F.3d 1295, 1301–02 (Fed. Cir. 1999) (relying on repeated statements regarding the attachment of a restriction ring); *Multiform Dessicants, Inc. v. Medzam, Ltd.*, 133 F.3d 1473, 1477–78 (Fed. Cir. 1998) (looking to repeated statements regarding how envelopes degrade); *Bell Commc's Research, Inc. v. Fore Sys., Inc.*, 62 F. App'x 951, 956–57 (Fed. Cir. 2003) (unpublished table decision) (depending on repeated statements which related to the simultaneous transmission of empty frames).

¹⁸⁸ 208 F.3d 989, 992 (Fed. Cir. 2000).

¹⁸⁹ *Id.* at 995.

¹⁹⁰ *Id.* at 995–96.

¹⁹¹ *Gasoline Fule*, U.S. Patent No. 5,288,393 col.1 ll. 9–16, 33–40, col.16 ll. 2–8, col.17 ll. 40–44 (filed Dec. 13, 1990) (issued Feb. 22, 1994).

¹⁹² *Id.* figs.7–9; *Union Oil*, 208 F.3d at 996.

¹⁹³ *Union Oil*, 208 F.3d at 996.

¹⁹⁴ *See, e.g.*, *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 864 (Fed. Cir. 2004); *Digital Biometrics, Inc. v. Identix, Inc.*, 149 F.3d 1335, 1347 (Fed. Cir. 1998); *Pliant Corp. v. MSC Mktg. & Tech., Inc.*, 416 F. Supp. 2d 632, 643 (N.D. Ill. 2006).

¹⁹⁵ *E.g.*, *IP Innovation, L.L.C. v. Ecollege.com*, 156 F. App'x 317, 322 (Fed. Cir. 2005) (unpublished table decision).

¹⁹⁶ *See C.R. Baird*, 388 F.3d at 864.

the claims to features found in that example.¹⁹⁷ Although it is a tradition in patent drafting to label one or more examples as the “present invention,”¹⁹⁸ this technique frequently backfires against the patentee during litigation, by inspiring the court to narrow the claims in a way that is aligned with specific features of the embodiment so labeled.¹⁹⁹ Concrete examples are found in the footnote.²⁰⁰

A. *Laitram Can Prevail Over Contexts of Implication*

Northrop Grumman Corp. v. Intel Corp. concerned U.S. Pat. No. 4,453,229, which claimed a component (bus interface unit) of a computer system.²⁰¹ The accused infringer argued, and the lower court agreed, that the claim should be limited to a bus interface unit that used a “command/response protocol.”²⁰² The basis for limiting the claim was that “[t]he patent refers repeatedly to the *advantages* of the invention in that context”²⁰³ But the Federal Circuit expressly observed that this embodiment was labeled as a preferred embodiment.²⁰⁴ In face of a context of implication (a disclosure of advantage), and in face of the lower court’s holding that the claim must be limited on the basis of this advantage, the Federal Circuit reversed, applied the rule of *Laitram*, and refused to limit the claim.²⁰⁵ *Laitram* prevailed over a context of implication.

Also, in *Uniloc USA, Inc. v. Microsoft Corp.* the accused infringer (and the dissent) argued that a term referring to the identity of a licensee must be narrowly based on personal information, such as the licensee’s name or home address.²⁰⁶ This argument was based on a context of implication -- a *repeated and consistent* disclosure found in the specification.²⁰⁷ But the majority observed that the example

¹⁹⁷ *Honeywell Int’l, Inc. v. ITT Indus., Inc.*, 452 F.3d 1312, 1318 (Fed. Cir. 2006); *nCube Corp. v. Seachange Int’l, Inc.* 436 F.3d 1317, 1329–30 (Fed. Cir. 2006) (Dyk, J., dissenting); *C.R. Bard*, 388 F.3d at 864; *Scimed Life Sys. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1343–45 (Fed. Cir. 2001); *IP Innovation*, 156 F. App’x at 321–22; *Ocean Innovations, Inc. v. Archer*, 145 F. App’x 366, 370–71 (Fed. Cir. 2005) (unpublished table decision).

¹⁹⁸ *See, e.g.*, *Electrostatically Dissipative Fuel System Component*, U.S. Patent No. 5,164,879 col. 1 ll. 26, 40, col. 3 l. 41 (filed July 1, 1991) (issued Nov. 17, 1992).

¹⁹⁹ *See, e.g., infra* note 200.

²⁰⁰ *nCube Corp. v. Seachange Int’l*, 436 F.3d 1317, 1329 (Fed. Cir. 2006) (Dyk, J., dissenting) (stating that the use of the term “present invention” is strong evidence that the use applies to the invention as a whole). *Gaus v. Conair Corp.*, 363 F.3d 1284, 1289–90 (Fed. Cir. 2004) (identifying a global comment by the phrase, “according to the invention,” and another global comment identified by the phrase, “the object of the invention,” and limiting the claims to the features disclosed by these phrases).

²⁰¹ 325 F.3d 1346, 1347, 1349 (Fed. Cir. 2003); *Bus Interface Unit*, U.S. Patent No. 4,453,229 (filed Mar. 11, 1982) (issued June 5, 1984).

²⁰² *Northrop Grumman*, 325 F.3d at 1355.

²⁰³ *See id.* (emphasis added).

²⁰⁴ *Id.*

²⁰⁵ *Id.* at 1355–56.

²⁰⁶ 290 F. App’x 337, 342, 345 (Fed. Cir. 2008) (unpublished table decision).

²⁰⁷ *See id.* at 342; Brief of Defendant-Appellee at 45–46, *Uniloc USA, Inc. v. Microsoft Corp.*, 290 F. App’x 337 (Fed. Cir. 2008) (No. 2008-1121).

was a preferred embodiment, applied the rule of *Laitram*, and held for a broader meaning of the term.²⁰⁸ Thus, *Laitram* prevailed over the implicit context.

Similarly, in *Northern Telecom Ltd. v. Samsung Electronics Co., Ltd.* the accused infringer argued that a claim to aluminum etching should be limited to exclude “ion bombardment” on the basis of a context of implication, namely, the patent’s disclosure that ion bombardment had the *disadvantage* of causing damage.²⁰⁹ The Federal Circuit refused to limit the claim, on the basis that the patent expressly disclosed that reduced or excluded ion bombardment was merely a preferred embodiment.²¹⁰ The court applied the rule of *Laitram*, and refused to limit the claim.²¹¹ *Laitram* trumped over the implicit context.

B. *Laitram Fails to Prevail Over a Context of Implication*

Table 2 discloses opinions where a narrower meaning of a claim term, as suggested by a context of implication, prevailed over the broader meaning dictated by applying *Laitram*.²¹² The fact that contexts of implication trumped over *Laitram* demonstrates that *Laitram* is a relatively weak doctrine.

Astrazeneca AB v. Mutual Pharmaceutical Co., Inc. concerned U.S. Pat. No. 4,803,081, which claims a drug formulation consisting of an active drug combined with a solubilizer.²¹³ The disputed claim term was “solubilizer.”²¹⁴ The accused infringer argued that “solubilizer” narrowly encompassed only surfactants (and to exclude co-solvents), while the patentee argued that “solubilizer” broadly encompassed surfactants and co-solvents.²¹⁵ The Federal Circuit observed that the specification disclosed surfactants as the *preferred embodiment* and recognized the rule of *Laitram*, writing, “it is of course improper to limit the claims to the particular preferred embodiments described in the specification”²¹⁶

But unfortunately for the patentee, the Federal Circuit also observed various contexts that appeared to dictate the meaning of “solubilizer,” writing that, “[t]he specification may define claim terms ‘by implication’”²¹⁷ Three contexts of implication were found in the specification: (1) Repeated and consistent disclosure; (2) Global comment; and (3) Recitation of advantage.²¹⁸

To view the big picture, the rule of *Laitram* was overwhelmed by the various contexts of implication, and the court held for a narrow meaning, to the disadvantage of the patentee.²¹⁹

²⁰⁸ *Uniloc*, 290 F. App’x at 342–43.

²⁰⁹ 215 F.3d 1281, 1293 (Fed. Cir. 2000); Brief of Defendants-Cross Appellants at 41, *N. Telecom Ltd. v. Samsung Elec. Co.*, 215 F.3d 1281 (Fed. Cir. 2000) (Nos. 99-1208, 99-1227).

²¹⁰ *N. Telecom*, 215 F.3d at 1293.

²¹¹ *Id.*

²¹² *See infra* tbl.2.

²¹³ 384 F.3d 1333, 1335–36 (Fed. Cir. 2004); *New Pharmaceutical Preparations with Extended Release*, U.S. Patent No. 4,803,081 (filed Apr. 3, 1987) (issued Feb. 7, 1989).

²¹⁴ *Astrazeneca*, 384 F.3d at 1336.

²¹⁵ *Id.* at 1336, 1338.

²¹⁶ *Id.* at 1340.

²¹⁷ *Id.* at 1339.

²¹⁸ *See id.* at 1338–41.

²¹⁹ *See id.* at 1341.

Case	The Preferred Embodiment	Context of Implication	Holding
<i>Astrazeneca AB v. Mutual Pharmaceutical Co., Inc.</i> ²²⁰	Solubilizers that are surfactants	Three different contexts of implication: repeated and consistent comments about surfactants; global comment about surfactants; and advantage of surfactants.	The court narrowed the claim to the preferred embodiment.
<i>Bell Atlantic Network Services, Inc. v. Covad Communications Group, Inc.</i> ²²¹	Mode that is conventional, bi-directional, or reversible (but no disclosure of modes with varied rates)	Repeated and consistent use of “mode” and “rate” to refer to separate concepts.	The court narrowed the claim to the preferred embodiment.
<i>Black & Decker, Inc. v. Robert Bosch Tool Corp.</i> ²²²	Power conversion circuit with a DC/DC converter ²²³	Repeated disclosure of power conversion circuit with a DC/DC converter.	The court narrowed the claim to the preferred embodiment.
<i>Dentsply International, Inc. v. Hu-Friedy Mfg. Co., Inc.</i> ²²⁴	The tip of a dental tool is disclosed as a separate attachment.	Repeated and consistent disclosure that the tip is a separate attachment. Global comment that the tip is a separate attachment.	The court narrowed the claim to the preferred embodiment.
<i>Gentry Gallery, Inc. v. Berkline Corp.</i> ²²⁵	Controls are on the sofa’s console	Repeated and consistent disclosures of controls being mounted on the console.	The court narrowed the claim to the preferred embodiment.

²²⁰ 384 F.3d 1333, 1339–40, 1342 (Fed. Cir. 2004).

²²¹ 262 F.3d 1258, 1270–71, 1273 (Fed. Cir. 2001).

²²² 260 F. App’x 284, 288–89 (Fed. Cir. 2008) (unpublished table decision).

²²³ *Id.* at 288. Though the specification failed to explicitly indicate the “preferred embodiment,” the court looked to the prosecution history in deciding which embodiment was “preferred.” See *id.* at 289; see *Ruggedized Tradesworkers Radio*, U.S. Patent No. 6,308,059 (filed Dec. 11, 1998) (issued Oct. 23, 2001) (failing to explicitly identify a “preferred embodiment”).

²²⁴ 202 F. App’x 464, 467–68 (Fed. Cir. 2006) (unpublished table decision).

²²⁵ 134 F.3d 1473, 1478–79 (Fed. Cir. 1998).

<i>Renishaw PLC v. Marposs Societa' Per Azioni</i> ²²⁶	When a probe (or stylus) touches the workpiece and deflects, a signal occurs at about the exact moment of touching	Repeated and consistent disclosures that when the probe touches the workpiece, a signal occurs at about the exact moment of touching.	The court narrowed the claim to the preferred embodiment.
<i>VLT, Inc. v. Artesyn Technologies, Inc.</i> ²²⁷	A current mirror that maximizes flux swing, and entailing that all the magnetizing energy be returned to the transformer.	Repeated and consistent disclosure a current mirror that maximizes flux swing, thus entailing that all the magnetizing energy be returned to the transformer.	The court narrowed the claim to the preferred embodiment.
<i>Wang Laboratories, Inc. v. America Online, Inc.</i> ²²⁸	A frame that is a character-based protocol	Repeated and consistent comments about character-based protocol.	The court narrowed the claim to the preferred embodiment.

The exceptional power of *Laitram* derives from the following sources. First, *Laitram* generally prevails because stronger bases for arguments, such as explicit definitions, usually do not exist in patents, and therefore cannot be used in arguments by the accused infringer.²²⁹

Second, it is easy to articulate an argument based on *Laitram*. All it requires is directing the court's attention to an example labeled as "preferred" and requesting that the claims not be limited to features of that example.²³⁰

Third, the Federal Circuit is unusually willing to apply *Laitram*, even as the primary or only argument in claim construction.²³¹ This willingness to apply *Laitram* contrasts with the Federal Circuit's view of another weak doctrine of claim construction, the doctrine of claim differentiation.²³² The court has characterized

²²⁶ 158 F.3d 1243, 1252–53 (Fed. Cir. 1998).

²²⁷ 103 F. App'x 356, 359–60 (Fed. Cir. 2004) (unpublished table decision).

²²⁸ 197 F.3d 1377, 1381–82 (Fed. Cir. 1999).

²²⁹ Compare *supra* tbl.1 (listing thirty-nine cases where the rule of *Laitram* prevailed), with *supra* tbl.2 (listing eight cases where the rule of *Laitram* did not prevail).

²³⁰ See *Laitram Corp. v. Cambridge Wire Cloth Co.*, 863 F.2d 855, 865 (Fed. Cir. 1988).

²³¹ See, e.g., *supra* tbl.1.

²³² See *Multiform Desiccants, Inc. v. Medzam, Ltd.*, 133 F.3d 1473, 1480 (Fed. Cir. 1998) (“[T]he doctrine of claim differentiation cannot broaden claims beyond their correct scope, determined in light of the *specification* and the prosecution history and any relevant extrinsic evidence.”) (emphasis added).

claim differentiation as a “limited tool of claim construction”²³³ or that “it is not a hard and fast rule of construction.”²³⁴ The Federal Circuit has never discounted *Laitram* in this manner.

X. MEANS PLUS FUNCTION CLAIMS

The Federal Circuit has provided very little guidance as to how *Laitram* impacts means plus function claims. The available guidance is as follows. Means plus function claims find a statutory basis in 35 U.S.C. § 112, paragraph six.²³⁵ This type of claim represents a special situation in patent law, as claim construction requires a review of the specification for structures that correspond to the function recited in the claims, and then limiting of the claims to encompass only these structures, and their equivalents.²³⁶ The means plus function claim uses a recitation of function as a surrogate for one or more parts of a machine, device, or chemical composition.²³⁷ In construing a means plus function claim, the meaning of the functional term must be limited to an example, e.g., a structure or composition, recited in the specification, or to its equivalent.²³⁸

Where the court encounters a particular example disclosed in the specification, an issue that might arise is whether the claim is to be broadly applied to all the features of that particular example, or if the claim must more narrowly be confined by requiring the recitation of all elements found in all of the examples.²³⁹

Versa Corp. v. Ag-Bag International Ltd. concerned U.S. Pat. No. 5,426,910, which claimed a machine that fills bags with compost.²⁴⁰ The specification of the patent disclosed a machine that contained two structures used for introducing air into the bags, namely, a flute and a perforated pipe.²⁴¹ The issue was whether the term “means” in the claim phrase, “means for creating air channels” absolutely required the presence of both a flute and perforated pipe, or merely required a perforated pipe and optionally a flute.²⁴²

The accused infringer, Ag-Bag, made a machine that did not include a flute.²⁴³ Ag-Bag wanted to escape a holding of infringement. Therefore, Ag-Bag argued that the claim absolutely required that the claimed machine contain a flute.²⁴⁴

²³³ *Curtiss-Wright Flow Control Corp. v. Velan, Inc.*, 438 F.3d 1374, 1378 (Fed. Cir. 2006).

²³⁴ *Kraft Foods, Inc. v. Int'l Trading Co.*, 203 F.3d 1362, 1368 (Fed. Cir. 2000) (quoting *Comark Commc'ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1186 (1998)).

²³⁵ 35 U.S.C. § 112 (2006).

²³⁶ *Kemco Sales, Inc. v. Control Papers Co.*, 208 F.3d 1352, 1360 (Fed. Cir. 2000); see U.S. PATENT & TRADEMARK OFFICE, U.S. DEPT OF COMMERCE, MANUAL OF PATENT EXAMINING PROCEDURE § 2181 (8th ed., 7th rev. 2008) [hereinafter MPEP].

²³⁷ See 35 U.S.C. § 112.

²³⁸ See *Kemco Sales*, 208 F.3d at 1361–62.

²³⁹ See Evan Finkel, *Means-Plus-Ends Function Claims in Light of Donaldson and Other Recent Case Developments*, 10 SANTA CLARA COMPUTER & HIGH TECH. L.J. 267, 270–71 (1994).

²⁴⁰ 392 F.3d 1325, 1326 (Fed. Cir. 2004); *Means for Creating Air Channels in Bagged Compost Material*, U.S. Patent No. 5,426,910 (filed Mar. 21, 1994) (issued June 27, 1995).

²⁴¹ *Id.* col. 3 ll. 5–37.

²⁴² *Versa Corp.*, 392 F.3d at 1328.

²⁴³ *Id.*

In reviewing the specification for a structure corresponding to the claim term “means,” the Federal Circuit observed that the specification disclosed text and drawings showing the presence of both a flute and perforated pipe.²⁴⁵

But the court also observed that the specification recited, “It is believed that sufficient air will be present to achieve decomposition with either the channels 48 or the perforated pipe 50 although it is *preferred* that both the *flutes* 46 and the pipe 50 be utilized.”²⁴⁶ Apparently, the specification’s use of the term “preferred” helped persuade the court that a machine using both a flute and a pipe was optional and held, “[w]e conclude that, in light of this disclosure, flutes are not essential.”²⁴⁷ Because flutes were optional, Ag-Bag was found to infringe.²⁴⁸ The *Versa v. Ag-Bag* holding worked to the advantage of the patentee. It can be seen that *Versa v. Ag-Bag* is similar to *Laitram*, in that both cases find that the term “preferred,” as it might appear in the specification, is synonymous with the word, “optional.”²⁴⁹

XI. BROADENING CLAIM SCOPE UNDER *VITRONICS*

Vitronics holds that claims should usually not be construed in a way that *excludes* the preferred embodiment.²⁵⁰ Table 3 discloses a number of cases where *Vitronics* was applied, and where the result worked to the advantage of the patentee. *Neomagic v. Trident Microsystems, Inc.*²⁵¹ and *Rhodia Chimie v. PPG Industries*²⁵² represent dramatic examples of the application of *Vitronics* to broaden or maintain claim scope.²⁵³

A. NeoMagic v. Trident Microsystems (Fed. Cir. 2002)

NeoMagic Corp. v. Trident Microsystems, Inc. concerned U.S. Pat. No. 5,703,806, which claimed an integrated circuit.²⁵⁴ The patent contained a section heading reading, “Description of the Preferred Embodiment(s),” as well as a statement applying to all the examples.²⁵⁵ This statement read, “Therefore, while the

²⁴⁴ Brief of Defendant-Appellee at 10, *Versa Corp. v. Ag-Bag Int’l Ltd.*, No 03-1445 (Fed. Cir. Sept. 19, 2003).

²⁴⁵ *Versa Corp.*, 392 F.3d at 1328–29.

²⁴⁶ *Id.* at 1329 (citing ’910 Patent col. 3 ll. 29–34) (emphasis added).

²⁴⁷ *Id.*

²⁴⁸ *Id.* at 1331.

²⁴⁹ Compare *Versa Corp. v. Ag-Bag Int’l Ltd.*, 392 F.3d 1325, 1329 (Fed. Cir. 2004) (concluding that because flutes were preferred they were not required), with *Laitram Corp. v. Cambridge Wire Cloth Co.*, 863 F.2d 855, 865 (Fed. Cir. 1989) (“References to a preferred embodiment, such as those often present in a specification, are not claim limitations.”).

²⁵⁰ *Vitronics Corp. v. Conceptron, Inc.*, 90 F.3d 1576, 1584 (Fed. Cir. 1996).

²⁵¹ 287 F.3d 1062 (Fed. Cir. 2002).

²⁵² 402 F.3d 1371 (Fed. Cir. 2005).

²⁵³ See *id.* at 1377; *NeoMagic Corp.*, 287 F.3d at 1074.

²⁵⁴ 287 F.3d 1062, 1068 (Fed. Cir. 2002); *Graphics Controller Integrated Circuit Without Memory Interface*, U.S. Patent No. 5,703,806 col. 10 ll. 21–35 (filed Aug. 16, 1996) (issued Dec. 30, 1997).

²⁵⁵ ’806 Patent col. 2 ll. 55–56, col. 10 ll. 4–8.

description above provides a full and complete disclosure of the preferred embodiments of the present invention”²⁵⁶

The disputed claim term was “power supply.”²⁵⁷ The accused infringer argued, and the lower court agreed, that “power supply” narrowly requires a constant voltage.²⁵⁸ The patentee argued that “power supply” more broadly encompasses devices that have a constant voltage and also devices with a fluctuating voltage.²⁵⁹

The Federal Circuit observed that the *preferred embodiment* of the claimed power supply likely shows a degree of fluctuation.²⁶⁰ In observing that the *preferred embodiment* likely has some degree of fluctuation, the court cited *Vitronics*, writing that “[i]t is elementary that a claim construction that *excludes* the preferred embodiment ‘is rarely, if ever, correct’”²⁶¹ The argument deriving from *Vitronics* was the only argument used by the Federal Circuit applied to the claim term “power supply.”²⁶² This case dramatically demonstrates that labeling an embodiment as preferred can work to the advantage of the patentee, particularly in situations where no other arguments are available.²⁶³

B. Rhodia Chimie v. PPG Industries (Fed. Cir. 2005)

Chimie v. PPG Industries concerned U.S. Pat. No. 6,013,234, which claimed silica particles.²⁶⁴ The disputed claim term was “dust-free and non-dusting.”²⁶⁵ The accused infringer argued that this term narrowly meant no dust whatsoever.²⁶⁶ The patentee argued that the term more broadly meant very low dust, thus encompassing a range of dust levels.²⁶⁷ The Federal Circuit held for the broader interpretation, primarily on the basis of *Vitronics*.²⁶⁸ The opinion applied *Vitronics*, writing, “[b]ecause . . . ‘no dust cloud whatsoever,’ would not read on the preferred embodiment, we agree . . . that a person of ordinary skill in the art would not interpret this term in that manner.”²⁶⁹

Labeling an embodiment as a preferred embodiment worked to the advantage of the patentee.²⁷⁰ This case demonstrates that *Vitronics* can be the first argument to which the court turns in the exercise of claim construction.²⁷¹

²⁵⁶ *Id.* col. 10 ll. 4–6.

²⁵⁷ *NeoMagic Corp.*, 287 F.3d at 1069.

²⁵⁸ *Id.* at 1073.

²⁵⁹ *See id.* at 1074.

²⁶⁰ *Id.*

²⁶¹ *Id.* (emphasis added) (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996)).

²⁶² *See id.*

²⁶³ *See id.*

²⁶⁴ 402 F.3d 1371, 1374–75 (Fed. Cir. 2005); Silica Pigment Particulates, U.S. Patent No. 6,013,234 col. 13 ll. 60–67 (filed June 7, 1995) (issued Jan. 11, 2000).

²⁶⁵ *Rhodia Chime*, 402 F.3d at 1374.

²⁶⁶ *Id.* at 1375.

²⁶⁷ *Id.*

²⁶⁸ *Id.* at 1377.

²⁶⁹ *Id.*

²⁷⁰ *See id.* (concluding that “dust free” and “non-dusting” does not narrowly mean “no dust cloud whatsoever”).

²⁷¹ *See id.* (omitting other theories of support for the Court’s construction).

Table 3. Cases Where application of <i>Vitronics</i> Resulted in a Holding of Broader Claim Interpretation, Where the Broader Claim Scope Worked to the Advantage of the Patentee.				
Case	Patent	Disputed claim term	Narrow interpretation (or interpretation favored by accused infringer)	Broad interpretation (or interpretation favored by patentee)
<i>American Seating Co. v. USSC Group, Inc.</i> ²⁷²	5,888,038	Means for engaging being locked to said vehicle	Locked directly to the floor of the vehicle	Locked either directly or indirectly to the floor of the vehicle
<i>Amgen Inc. v. Hoechst Marion Roussel, Inc.</i> ²⁷³	5,955,422	Purified	Purified from cell culture medium only	Purified from cells or from cell culture medium
<i>Automed Technologies, Inc. v. Microfil, LLC</i> ²⁷⁴	6,449,927	Vibratory dispenser	Exclusively vibratory	Exclusively vibratory or vibration in conjunction with gravity
<i>Bowers v. Baystate Technologies, Inc.</i> ²⁷⁵	4,933,514	Each	All	At least two groups
<i>Burke, Inc. v. Bruno Independent Living Aids, Inc.</i> ²⁷⁶	4,570,739	Floor pan	The floor pan must be in a single flat plane	The floor pan may be in a single flat plane or in multiple plane
<i>Cytologix Corp. v. Ventana Medical Systems, Inc.</i> ²⁷⁷	6,180,061	Separate electrical power connections	Connections must be off of a platform	Connections could be either on or off a platform

²⁷² 91 F. App'x 669, 671–73 (Fed. Cir. 2004) (unpublished table decision).

²⁷³ 314 F.3d 1313, 1319, 1348–49 (Fed. Cir. 2003).

²⁷⁴ 244 F. App'x 354, 356, 358 (Fed. Cir. 2007) (unpublished table decision).

²⁷⁵ 320 F.3d 1317, 1322, 1332 (Fed. Cir. 2003).

²⁷⁶ 183 F.3d 1334, 1335–36, 1340–41 (Fed. Cir. 1999).

²⁷⁷ 424 F.3d 1168, 1169, 1174–75 (Fed. Cir. 2005).

<i>Dow Chemical Co. v. Sumitomo Chemical Co., Ltd.</i> ²⁷⁸	4,499,255	Boiling point	Place thermometer in liquid	Place thermometer in vapor above liquid
<i>Gentry Gallery, Inc. v. Berkline Corp.</i> ²⁷⁹	5,064,244	Fixed	Attachment with no part can move or pivot	Attachment where there is, or is not, moving or pivoting
<i>Glaxo Group Ltd. v. Apotex, Inc.</i> ²⁸⁰	4,562,181	Purity of at least 95%	Impurities could include unwanted contaminants as well as additives	Impurities mean only unwanted contaminants
<i>Globetrotter Software, Inc. v. Elan Computer Group, Inc.</i> ²⁸¹	5,390,297	Prevent	<u>Required</u> the claim to require the software to <u>actively prevent</u> a program from running, when no license is available	Software can either allow or prevent a program from running, when no license is available
<i>Hoechst Celanese Corp. v. BP Chemicals Ltd.</i> ²⁸²	4,615,806	Stable	Resin must not change more than 50% in volume	Resin must not change more than 50% in diameter
<i>IEX Corp. v. Blue Pumpkin Software, Inc.</i> ²⁸³	6,044,355	Skill group	Skill group consists of a group of agents	Skill group consists of one or more agents
<i>Invitrogen Corp. v. Biocrest Manufacturing, L.P.</i> ²⁸⁴	4,981,797	Growth	Growth at 18°-32°, but never growth at higher temperatures	Growth at 18°-32°, with or without growth at a higher temperature

²⁷⁸ 257 F.3d 1364, 1367, 1374–75, 1378 (Fed. Cir. 2001).

²⁷⁹ 134 F.3d 1473, 1474, 1476–77 (Fed. Cir. 1998).

²⁸⁰ 376 F.3d 1339, 1342, 1346–47 (Fed. Cir. 2004).

²⁸¹ 362 F.3d 1367, 1368, 1379–81 (Fed. Cir. 2004).

²⁸² 78 F.3d 1575, 1579–81 (Fed. Cir. 1996).

²⁸³ 122 F. App'x 458, 459, 464–65 (Fed. Cir. 2005) (unpublished table decision).

²⁸⁴ 327 F.3d 1364, 1366–69 (Fed. Cir. 2003).

<i>Mattox v. Infotopia, Inc.</i> ²⁸⁵	5,499,961	Support	Gliding on a support requires a support that is a guide track	Gliding on a support encompasses a support that can be a guide rack, or merely a floor
<i>MBO Laboratories, Inc. v. Becton, Dickinson & Co.</i> ²⁸⁶	Reissue Patent No. 36,885	Adjacent	Required connection of the flange to the body	"Next to," i.e., either connected or non-connected
<i>Microsoft Corp. v. Multi-Tech Systems, Inc.</i> ²⁸⁷	5,764,627	Speaker phone	Speaker phone requires a housing	Speaker phone does not require a housing
<i>Moba, B.V. v. Diamond Automation, Inc.</i> ²⁸⁸	4,519,494	Urge	Urge requires a downward force	Urge more broadly means to move
<i>Nellcor Puritan Bennett, Inc. v. Masimo Corp.</i> ²⁸⁹	4,934,372	Attenuated and filtered	Completely removed	Completely removed or not eliminated altogether
<i>NeoMagic Corp. v. Trident Microsys, Inc.</i> ²⁹⁰	5,703,806	Power supply	Power supply with constant voltage	Power supply with constant voltage or a degree of fluctuation
<i>Oatey Co. v. IPS Corp.</i> ²⁹¹	6,148,850	First and second juxtaposed drain ports	Drain ports totally separate	Drain ports either totally separate, or consisting of one port with a dividing wall (partition) inside

²⁸⁵ 136 F. App'x 366, 366, 368 (Fed. Cir. 2005) (unpublished table decision).

²⁸⁶ 474 F.3d 1323, 1326, 1328, 1333 (Fed. Cir. 2007).

²⁸⁷ 357 F.3d 1340, 1342, 1353–54 (Fed. Cir. 2004).

²⁸⁸ 325 F.3d 1306, 1309, 1316–17 (Fed. Cir. 2003).

²⁸⁹ 402 F.3d 1364, 1365–67 (Fed. Cir. 2005).

²⁹⁰ 287 F.3d 1062, 1069, 1073–74 (Fed. Cir. 2002).

²⁹¹ 514 F.3d 1271, 1272, 1275–76 (Fed. Cir. 2008).

<i>On-Line Technologies, Inc. v. Bodenseewerk Perkin-Elmer GMBH</i> ²⁹²	5,440,143	Mirror	Only spherical mirrors	Spherical or toroidal mirrors
<i>Osram GMBH v. International Trade Commission</i> ²⁹³	6,066,861	Mean grain diameter	Mean grain diameter, where the mean was volumetric	Mean grain diameter, where the mean was number-based
<i>Pandrol USA, LP v. Airboss Railway Products, Inc.</i> ²⁹⁴	5,110,046	Adhering material	Adhering material requires bonding	Adhering material encompasses attachment by bonding and non-bonding methods
<i>Paymaster Technologies, Inc. v. United States</i> ²⁹⁵	5,292,283	Form set	Form sets must have one sheet of paper (single ply)	Form sets with either one sheet of paper (single ply) or several sheets of paper (multiply)
<i>Primos, Inc. v. Hunter's Specialties, Inc.</i> ²⁹⁶	5,520,567	Engaging	Sealing	To come in contact with
<i>Chimie v. PPG Industries, Inc.</i> ²⁹⁷	6,013,234	Dust-free and non-dusting	Absolutely no dust	Relatively free of dust
<i>Sandisk Corp. v. Memorex Products, Inc.</i> ²⁹⁸	5,602,987	Memory cell	Every memory cell must be partitioned	Memory cells can be either partitioned or non-partitioned
<i>Verizon Services Corp. v. Vonage Holdings Corp.</i> ²⁹⁹	6,282,574	Destination address	Address encompasses only the final destination.	Address encompasses intermediate and/or final destinations

²⁹² 386 F.3d 1133, 1135, 1137–38 (Fed. Cir. 2004).

²⁹³ 505 F.3d 1351, 1353, 1355 (Fed. Cir. 2007).

²⁹⁴ 320 F.3d 1354, 1358, 1363 (Fed. Cir. 2003).

²⁹⁵ 180 F. App'x 942, 943–45 (Fed. Cir. 2006) (unpublished table decision).

²⁹⁶ 451 F.3d 841, 843, 847 (Fed. Cir. 2006).

²⁹⁷ 402 F.3d 1371, 1375, 1377 (Fed. Cir. 2005).

²⁹⁸ 415 F.3d 1278, 1280, 1284–85 (Fed. Cir. 2005).

²⁹⁹ 503 F.3d 1295, 1298, 1304 (Fed. Cir. 2007).

<i>Vitronics Corp. v. Conceptronic, Inc.</i> ³⁰⁰	4,654,502	Solder reflow temperature	Liquidus temperature	Peak reflow temperature
<i>Zimmer, Inc. v. Howmedica Osteonics Corp.</i> ³⁰¹	5,782,920	Modular	One-piece stem	One-piece stem or two-piece stem

XII. *VITRONICS* IS A RELATIVELY WEAK DOCTRINE

Vitronics is a relatively weak doctrine. The available opinions demonstrate that *Vitronics* may fail to maintain claim scope when faced with arguments deriving from prosecution disclaimer, or when faced with arguments based on the ordinary and customary meaning of a claim term.³⁰² However, the extraordinary power of *Vitronics* lies in the frequency with which the Federal Circuit has applied this case to maintain claim scope, and the extreme ease in drafting arguments based on *Vitronics*.³⁰³

The closest the Federal Circuit has ever come to characterizing *Vitronics* as a weak doctrine comes from *Cybersettle, Inc. v. National Arbitration Forum, Inc.*³⁰⁴ The court found that it was not compelled to apply *Vitronics* to one particular claim (Claim 1) and held that it was acceptable to *exclude* the preferred embodiment from this claim.³⁰⁵ The court's rationale was as follows. The embodiment excluded from this claim was adequately encompassed by another claim (Claim 133).³⁰⁶ Claim 1 was the subject of controversy in this case (Claim 133 was not an issue).³⁰⁷ This holding worked to the disadvantage of the patentee.³⁰⁸

³⁰⁰ 90 F.3d 1576, 1578, 1580, 1583 (Fed. Cir. 1996).

³⁰¹ 111 F. App'x 593, 595, 599 (Fed. Cir. 2004) (unpublished table decision).

³⁰² *E.g.*, *N. Am. Container v. Plastipak Packaging*, 415 F.3d 1335, 1343, 1345–46, 1351 (Fed. Cir. 2006) (using prosecution disclaimer over the *Vitronics* doctrine to construe claims); *Elekta Instrument SA v. O.U.R. Scientific Int'l, Inc.* 214 F.3d 1302, 1308 (Fed. Cir. 2000) (using the ordinary and customary meaning over the *Vitronics* doctrine to define a claim term).

³⁰³ Keith A. Orso, *On Excluding Preferred Embodiments*, 90 J. PAT. & TRADEMARK OFF. SOC'Y. 918, 922 (2008) (positing that the *Vitronics* doctrine has "taken on a life of its own" and is disregarded only rarely).

³⁰⁴ 243 F. App'x 603 (Fed. Cir. 2007) (unpublished table decision).

³⁰⁵ *Id.* at 607.

³⁰⁶ *Id.* at 608.

³⁰⁷ *Id.* at 604.

³⁰⁸ *Id.* at 610.

A. Vitronics Fails to Prevail Over Prosecution Disclaimer

1. North American Container v. Plastipak Packaging (Fed. Cir. 2006)

North American Container, Inc. v. Plastipak Packaging, Inc. concerned Reissue patent RE 36,639, which claimed a plastic soda pop bottle, in particular, the base of the bottle.³⁰⁹ The disputed claim term was “generally convex.”³¹⁰

The patentee wanted the claim to broadly encompass bottles that are entirely convex, mixture of straight and convex, and generally convex *with some concave portions*.³¹¹ The basis for this argument was that the preferred embodiment (Figure 14 of the patent) showed a bottle *with concave portions*.³¹² The patentee argued that the claims should not exclude this preferred embodiment.³¹³

During prosecution, the patentee distinguished his invention from a bottle that was disclosed in the prior art (Dechenne’s U.S. Pat. No. 4,231,483).³¹⁴ During prosecution, the patentee acknowledged that the prior art bottle had a concave portion.³¹⁵

Thus, prosecution disclaimer prevailed over an attempt to invoke *Vitronics*, and the result was a narrowing of claim scope to the patentee’s disadvantage.³¹⁶ *Slip Track Systems, Inc. v. Metal Lite, Inc.*³¹⁷ and *Rheox, Inc. v. Entact, Inc.*³¹⁸ also disclose the fact-pattern where an attempt to invoke *Vitronics* (with the goal of increasing claim scope) failed in the face of prosecution disclaimer.³¹⁹

B. Vitronics Fails to Prevail Over the Ordinary and Customary Meaning of a Claim Term

1. Elekta Instrument SA v. O.U.R. Scientific International, Inc. (Fed. Cir. 2000)

Elekta Instrument S.A. v. O.U.R. Scientific International, Inc. concerned U.S. Pat. No. 4,780,898, which claimed a machine used for radiation therapy.³²⁰

Claim 1 read: “An arrangement in a gamma unit, comprising a plurality of radiation sources . . . having beam channels directed radially from said radiation

³⁰⁹ 415 F.3d 1335, 1338 (Fed. Cir. 2005).

³¹⁰ *Id.* at 1344.

³¹¹ *Id.* at 1344–45.

³¹² *Id.* at 1345.

³¹³ *Id.*

³¹⁴ *Id.* at 1340.

³¹⁵ *Id.* at 1342–43.

³¹⁶ *Id.* at 1345–46.

³¹⁷ 113 F. App’x 930 (Fed. Cir. 2004) (unpublished table decision).

³¹⁸ 276 F.3d 1319 (Fed. Cir. 2002).

³¹⁹ *Slip Track Sys.*, 113 F. App’x at 938 (Fed. Cir. 2004) (holding that a prosecution disclaimer outweighed the “general rule” to not exclude preferred embodiments when construing claims); *Rheox*, 276 F.3d at 1326–27 (Fed. Cir. 2002) (holding that the patentee could not claim preferred embodiments which were disclaimed during prosecution).

³²⁰ 214 F.3d 1302, 1304 (Fed. Cir. 2000).

sources toward a common focal point . . . only within a zone extending between latitudes 30°–45°”³²¹

The disputed claim term was “only.”³²² What was disputed was the width (angle) of the zone, that is, whether it was a narrow zone or a broad zone.³²³

The accused infringer argued that the zone could extend only from 30°–45° (narrow zone), on the basis of the ordinary and customary meaning, as understood by the skilled artisan.³²⁴

But the patentee argued that the zone could extend from 0° to a region that was between latitudes 30°–45° (a broad zone), on the basis that the accused infringer’s interpretation would exclude the preferred embodiment.³²⁵

The Federal Circuit refused to apply *Vitronics*, and held that the ordinary and customary meaning of the claim term “only” served to unambiguously limit the sweep to a narrow sweep.³²⁶

Similarly, *North American Container, Inc. v. Plastipak Packaging, Inc.*,³²⁷ *Brocar Products, Inc. v. Bobrick Washroom*,³²⁸ and *T.F.H. Publications, Inc. v. Hartz Mountain Corp.*,³²⁹ found that the meaning found by applying *Vitronics* (a meaning that does not exclude the preferred embodiment) could not trump over the ordinary and customary meaning of a claim term.³³⁰

To conclude, an attorney drafting an opinion letter or arguments to be submitted in patent litigation, might expect any meaning compelled by applying *Vitronics* to be overwhelmed by the meaning found in the ordinary and customary meaning as understood by the skilled artisan, and to be overwhelmed by any explicit context (definitions and prosecution disclaimer).³³¹ *Vitronics* is a relatively weak doctrine.³³² However, the exceptional power of *Vitronics* is self-evident from the data in Table 3.³³³ Table 3 demonstrates the high frequency by which *Vitronics* has worked to the advantage of the patentee.³³⁴

³²¹ Arrangement in a Gamma Unit, U.S. Patent No. 4,780,898 col. 3 ll. 15–27 (filed Apr. 30, 1987) (issued Oct. 25, 1998).

³²² *Elekta*, at 1306.

³²³ *Id.*

³²⁴ *Id.* at 1306–07.

³²⁵ *Id.* at 1307.

³²⁶ *Id.* at 1308.

³²⁷ 415 F.3d 1335 (Fed. Cir. 2005).

³²⁸ 527 F.3d 1379 (Fed. Cir. 2008).

³²⁹ 67 F. App’x 599 (Fed. Cir. 2003) (unpublished table decision).

³³⁰ *Brocar Prods.*, 527 F.3d at 1383; *N. Am. Container*, 415 F.3d at 1346; *T.F.H. Publ’ns.*, 67 F. App’x at 603.

³³¹ See, e.g., *N. Am. Container*, 415 F.3d at 1346 (prosecution disclaimer); *Elekta Instrument SA v. O.U.R. Scientific Int’l, Inc.* 214 F.3d 1302, 1308 (Fed. Cir. 2000) (ordinary and customary meaning).

³³² See *supra* notes 304–330 and accompanying text (providing examples where the *Vitronics* doctrine did not prevail).

³³³ See *supra* tbl.3.

³³⁴ See *supra* tbl.3.

XIII. MEANS PLUS FUNCTION CLAIMS

The Federal Circuit has provided very little guidance on how *Vitronics* impacts means plus function claims. The available information is as follows. *Vitronics*, which warns against interpreting the claims to *exclude* a preferred embodiment,³³⁵ may be used in the construction of a means plus function claim. For means plus function claims, *Vitronics* is supplemented by *Micro Chemical Inc. v. Great Plains Chemical*.³³⁶ *Micro Chemical v. Great Plains* applies specifically to means plus function claims.³³⁷ This opinion held that when multiple embodiments in the specification correspond to the function recited in a means plus function claim, what is required is that the claim be construed broadly enough to encompass each and every one of the separate embodiments.³³⁸

A. Application of Both Laitram and Vitronics, Where Laitram was Applied to One Preferred Embodiment, and Vitronics was Applied to a Different Preferred Embodiment

The following case provides a textbook example that summarizes some of the teachings of this essay. *Anchor Wall Systems, Inc. v. Rockwood Retaining Walls, Inc.* concerned U.S. Pat. No. 5,490,363, which claims a type of brick.³³⁹ Claim 1 reads, “A pinless composite masonry block comprising a front surface, a back surface, a top surface and bottom surface . . . said block comprising a *protrusion* . . .”³⁴⁰

The disputed claim term was “protrusion.”³⁴¹ The accused infringer argued that “protrusion” narrowly encompasses only structures that have a central narrow portion.³⁴² The court observed that the patent contained a preferred embodiment having a dogbone shape, and observed that, “[w]hile the protrusions may take any number of shapes, they *preferably* have a kidney or dogbone shape.”³⁴³ The court applied *Laitram*, and held that the claim must not be limited to dogbone-shaped protrusions.³⁴⁴

Additionally, the district court found that the meaning of “protrusion” *excludes* circular protrusions.³⁴⁵ The court observed that one of the preferred embodiments (Figure 3A) took the form of a circular protrusion, and applied *Vitronics*, and held that the properly construed claim must not exclude circular protrusions.³⁴⁶ Table 4 summarizes the results of the dramatic holding of *Anchor Wall v. Rockwood Retaining Walls*.

³³⁵ *Vitronics Corp. v. Conceptronics, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996).

³³⁶ 194 F.3d 1250 (Fed. Cir. 1999).

³³⁷ *Id.* at 1257.

³³⁸ *Id.* at 1258.

³³⁹ 340 F.3d 1298, 1300 (Fed. Cir. 2003); Composite Masonry Block, U.S. Patent No. 5,490,363 col. 12 ll. 64–67, col. 13 ll. 1–6 (filed Oct. 13, 1994) (issued Feb. 13, 1996).

³⁴⁰ ’363 Patent col. 12 ll. 64–67, col. 13 ll. 1–6 (emphasis added).

³⁴¹ *Anchor Wall*, 340 F.3d at 1307.

³⁴² *Id.* at 1305, 1308.

³⁴³ *Id.* at 1308 (citing the ’363 Patent col. 4 ll. 55–56).

³⁴⁴ *Id.* at 1308–09.

³⁴⁵ *See id.* at 1305.

³⁴⁶ *See id.* at 1309 (citing the ’363 Patent fig.3A).

Table 4. Application of <i>Laitram</i> to One Preferred Embodiment, and <i>Vitronics</i> to Another Preferred Embodiment, Where the Result was Increased Claim Scope.		
Preferred embodiment	Applied rule used to maintain claim breadth	Result of application of the rule
Protrusion having a central narrow portion, that is, dogbone shaped protrusions.	<i>Laitram</i>	Claims must not be limited to a protrusion having a central narrow portion.
Protrusion that is circular.	<i>Vitronics</i>	Claims must not exclude protrusions that are circular.

Burke, Inc. v. Bruno Independent Living Aids, Inc.,³⁴⁷ *IEX Corp. v. Blue Pumpkin Software, Inc.*,³⁴⁸ *Sandisk Corp. v. Memorex Products, Inc.*,³⁴⁹ and *Verizon Services Corp. v. Vonage Holdings Corp.*³⁵⁰ are other remarkable cases where the Federal Circuit separately applied both *Laitram* and *Vitronics* as a basis for maintaining claim scope, to the advantage of the patentee.³⁵¹ These holdings demonstrate the striking power of labeling an example as “preferred,” where this labeling facilitates the patentee’s efforts to maintain or expand claim scope, and where these efforts take advantage of the *Laitram* and *Vitronics* holdings.

B. Applying *Laitram* or *Vitronics* can Result in Invalidation of a Claim

In viewing the statistics, labeling an example as “preferred” has worked to the advantage of the patentee, during litigation, in an overwhelming number of cases.³⁵² However, the word “preferred” also introduces a measure of uncertainty in the patent.³⁵³ The following demonstrates that labeling an example as “preferred” can inspire the accused infringer to use arguments that threaten claim scope. In a nutshell, the application of *Laitram* or *Vitronics* can be used to broaden claim scope, causing the claim to fall under the invalidating umbrella of the prior art.³⁵⁴

³⁴⁷ 183 F.3d 1334 (Fed. Cir. 1999).

³⁴⁸ 122 F. App’x 458 (Fed. Cir. 2005) (unpublished table decision).

³⁴⁹ 415 F.3d 1278 (Fed. Cir. 2005).

³⁵⁰ 503 F.3d 1295 (Fed. Cir. 2007).

³⁵¹ *Verizon*, 503 F.3d at 1302–03, 1305; *Sandisk*, 415 F.3d at 1285–86; *Burke*, 183 F.3d at 1341; *IEX Corp.*, 122 F. App’x at 464–66.

³⁵² See *supra* tbls.1, 3 (citing more than fifty cases where the court broadened the claim scope in light of a preferred embodiment).

³⁵³ See, e.g., *In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1369–70 (Fed. Cir. 2004) (refusing to limit claim scope to the preferred embodiment and under the proper broad construction, the claims were anticipated).

³⁵⁴ E.g., *id.*

C. Application of Laitram or Vitronics to a Claim, Thereby Expanding Claim Scope, Resulting in the Claim Falling Under the Umbrella of the Prior Art

1. *In re American Academy of Science Tech Center* (Fed. Cir. 2004)

*In re American Academy of Science Tech Center*³⁵⁵ concerned U.S. Pat. No. 4,714,989.³⁵⁶ The patentee argued for narrow claim scope, with the goal of preventing the claim from falling under the invalidating effects of the prior art.³⁵⁷ Unfortunately for the patentee, the Federal Circuit noted that an embodiment found in the specification, which corresponded to this narrow claim scope, was expressly labeled as “preferred.”³⁵⁸ The opinion observed that “[t]he specification makes clear that the database simulator is a *preferred embodiment*.”³⁵⁹ After making this observation, the court applied *Laitram* to ensure that the claims had a scope broader than the “preferred embodiment.”³⁶⁰ As a result of the broad claim construction, the court caused the claim to fall under the invalidating effects of the prior art, and consequently held the claim to be invalid.³⁶¹

2. *Apple Computer v. Articulate Systems* (Fed. Cir. 2000)

Apple Computer, Inc. v. Articulate Systems, Inc. concerned U.S. Pat. No. 5,469,540, which claimed a method for displaying windows on a computer screen.³⁶² The disputed claim term was “window.”³⁶³ The accused infringer argued that the prior art, Adobe Photoshop software, which disclosed a menu, was prior art against the claim.³⁶⁴ The accused infringer characterized this menu as *a window lacking any data*.³⁶⁵ The goal of the accused infringer was to convince the court that the computer program known as Adobe Photoshop disclosed each and every element found in the claim.³⁶⁶

The patentee argued as follows: For a window to be a window, it must contain *data*.³⁶⁷ The patentee presented the following argument to distinguish the claim from the prior art. The patentee argued that, where a window contained only a *command*, the command did not constitute “data,” and that this window was not really a window within the meaning set forth in its patent.³⁶⁸

³⁵⁵ 367 F.3d 1359 (Fed. Cir. 2004).

³⁵⁶ 367 F.3d 1359, 1361 (Fed. Cir. 2004).

³⁵⁷ *Id.* at 1369, 1370.

³⁵⁸ *Id.* at 1369–70.

³⁵⁹ *Id.* at 1370 (emphasis added).

³⁶⁰ *Id.* at 1369–70.

³⁶¹ *Id.* at 1370.

³⁶² *Id.* at 17.

³⁶³ *Id.* at 21.

³⁶⁴ *Id.* at 18.

³⁶⁵ *See id.* at 22.

³⁶⁶ *Id.* at 19.

³⁶⁷ *Id.* at 21–22.

³⁶⁸ *Id.*

The Federal Circuit referred to an example labeled as a *preferred embodiment*, and observed that this example *did not contain any data*.³⁶⁹ It only contained a command key labeled, “HUH?”³⁷⁰ The court applied the rule of *Vitronics*, and held that the nature of this preferred embodiment “suggests the incorrectness of Apple’s proposed interpretation that the ‘data’ displayed in the windows of its invention does not include icons or command keys.”³⁷¹

The court rendered the claim invalid under the Adobe Photoshop prior art.³⁷² To conclude, this case demonstrates that labeling an example as “preferred” introduces some level of uncertainty into the claims, resulting ultimately (and unfortunately) in the application of *Vitronics*, and a holding of claim invalidity.³⁷³ Similar unfortunate holdings can be found in *Seachange International, Inc. v. C-COR, Inc.*³⁷⁴ and *The Toro Co. v. Deere and Co.*³⁷⁵ These cases demonstrate that labeling an example as a “preferred embodiment” can introduce an element of uncertainty in a patent, resulting ultimately (and unfortunately for the patentee) in invalidation of the claims.³⁷⁶

D. Application of Laitram to the Prior Art Can Increase the Scope of the Invalidating Effects of the Prior Art

1. Ultradent Products, Inc. v. Life-Like Cosmetics, Inc. (Fed. Cir. 1997)

Ultradent Products, Inc. v. Life-Like Cosmetics, Inc. concerned U.S. Pat. No. 5,098,303, which claimed the use of a polymer for bleaching teeth.³⁷⁷ The issue was whether the prior art (Rosenthal patent) rendered Ultradent’s claims invalid.³⁷⁸

The Federal Circuit pointed out that the Rosenthal prior art contained an example that was labeled as “preferred,” and specifically characterized this disclosure by writing, “the Rosenthal patent discloses the use of a carboxypolymethylene polymer, and *preferably* . . . the use of the glycerol-soluble neutralized salts of such a polymer.”³⁷⁹

The lower court had earlier construed the scope of the Rosenthal prior art to encompass only the glycerol-soluble neutralized salts of the preferred embodiment.³⁸⁰ The Federal Circuit found the lower court’s claim construction to be in error, writing

³⁶⁹ *Id.* at 22.

³⁷⁰ *Id.*

³⁷¹ *Id.* at 22.

³⁷² *Id.* at 19, 24.

³⁷³ *E.g., id.* at 22, 24.

³⁷⁴ 413 F.3d 1361, 1377, 1379 (Fed. Cir. 2005).

³⁷⁵ 355 F.3d 1313, 1319–21 (Fed. Cir. 2004).

³⁷⁶ *See id.*; *Seachange*, 413 F.3d at 1377, 1379.

³⁷⁷ 127 F.3d 1065, 1066–67 (Fed. Cir. 1997); Method for Bleaching Teeth, U.S. Patent 5,098,303 col. 15 ll. 1–24 (filed July 13, 1990) (issued Mar. 24, 1992).

³⁷⁸ *Ultradent*. 127 F.3d at 1067–68.

³⁷⁹ *Id.* at 1068 (quoting Antiseptic Composition Containing Peroxide, Glycerol, and Carboxypolymethylene Polymer, U.S. Patent No. 3,657,413 col. 2 ll. 30–33 (filed Aug. 28, 1969) (issued Apr. 18, 1972) (emphasis added)).

³⁸⁰ *Id.* at 1067.

that, “[t]he district court thus erred by construing the scope of the Rosenthal disclosure as limited to the preferred embodiment.”³⁸¹

In re Inland Steel Company provides a similar fact-pattern, where the recitation of “preferred embodiment,” as it applied to one example of a prior art patent, served as the basis for increasing the invalidating power of the prior art patent.³⁸²

Ultradent and *Inland Steel* demonstrate that applying the *Laitram* holding can work to the disadvantage of the patentee.³⁸³ What is unusual about *Ultradent* is that *Laitram* was applied to a prior art patent, not to the disputed patent.³⁸⁴ The above cases provide a useful tool for litigators interested in invalidating a disputed patent.

The European Patent Office (EPO) has also addressed the concept that labeling an example as “preferred” can increase the claim-invalidating effects of the prior art.³⁸⁵ However, in the one available case, the EPO rejected the concept.³⁸⁶

XIV. FORM AND LOCATION OF THE TERM PREFERRED

The format or methods used for designating an example as “preferred” can influence whether or not the court applies *Laitram* or *Vitronics* to that example. The author suggests that the best way to label an example as preferred is to include the term “preferred” only once in the manner of a blanket statement, where it resides in a title reading, “DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT.”

Where a patent fails to designate a specific example as “preferred” the court may decline to apply *Laitram* to that particular example.³⁸⁷

Honeywell International, Inc. v. ITT Industrial, Inc. concerned U.S. Pat. No. 5,164,879, which claimed part of a fuel system.³⁸⁸ The term “preferred” or “preferable” occurred at three points in the specification, but they applied only to very specific components of the fuel system.³⁸⁹ The term “preferred” was not specifically associated with the embodiment that became the subject of the dispute.³⁹⁰ The court refrained from applying *Laitram*, and held for a narrow meaning of the disputed claim term, to the disadvantage of the patentee.³⁹¹ Similarly, in *TIVO, Inc. v. Echostar Communications Corp.*, the patentee argued that the limitations from a

³⁸¹ *Id.*

³⁸² 265 F.3d 1354, 1364, 1366 (Fed. Cir. 2001).

³⁸³ *See id.*; *Ultradent*, 127 F.3d at 1068.

³⁸⁴ *See Ultradent*, 127 F.3d at 1068.

³⁸⁵ *See Delphi Techs., Inc.* (2006) T 1113/04 at 3, 5.

³⁸⁶ *Id.* The concept that the scope of a prior art reference can be increased where the reference recites that an example is “preferred” was addressed in *Delphi Technologies, Inc.* (2006) T 1113/04. *Id.* The court contemplated the possibility that the term “preferred” could increase the scope of the disclosure for prior art purposes, but then rejected it, writing that the reference “made no mention of the non-preferred embodiment. It was not acceptable to guess as to what was the non-preferred embodiment . . . [t]his cannot be regarded as a direct and unambiguous disclosure . . .” *Id.*

³⁸⁷ *E.g.*, *Honeywell Int’l, Inc. v. ITT Indus., Inc.*, 452 F.3d 1312, 1318, 1320 (Fed. Cir. 2006).

³⁸⁸ *Id.* at 1313.

³⁸⁹ Electrostatically Dissipative Fuel System Component, U.S. Patent No. 5,164,879 col. 1 l. 14, col. 3 ll. 60–61, col. 4 ll. 32–34 (filed July 1, 1991) (issued Nov. 17, 1992).

³⁹⁰ *Honeywell*, 452 F.3d at 1318.

³⁹¹ *Id.* at 1320.

figure (Figure 3) should not be imported into the claims on the basis that this figure was a preferred embodiment.³⁹² The Federal Circuit refused this argument, in part, because of the fact that other figures were specifically labeled as “preferred” while Figure 3 was not specifically labeled as such.³⁹³

A. *Where Each and Every One of the Examples Disclosed in a Patent is Labeled as “Preferred” the Court May Refuse to Apply Vitronics*

Sinorgchem Co., Shandong v. International Trade Commission concerned U.S. Pat. No. 5,117,063, which claimed a chemical reaction method.³⁹⁴ The patentee argued for a broader interpretation of the claim, referring the rule of *Vitronics*.³⁹⁵ However, the opinion wrote as follows:

[t]his rule has particular force where the claims as construed do not encompass any disclosed embodiments. *See Johns Hopkins Univ. v. CellPro, Inc.*, 152 F.3d 1342, 1355 (Fed. Cir.1998) (“A patent claim should be construed to encompass *at least one* disclosed embodiment in the written description portion of the patent specification.”) (emphasis added). This is not the case here. Example 10 was merely one of twenty-one distinct examples set out in the two specifications, all of which are described as “preferred embodiment[s].”³⁹⁶

The court refused to apply *Vitronics*, to the disadvantage of the patentee.³⁹⁷

If the patent fails to disclose any variations of the preferred embodiment, the court may refuse to apply *Laitram*, and may limit the claims to that non-varied embodiment.³⁹⁸

General American Transportation Corp. v. Cryo-Trans, Inc., concerned U.S. Pat. No 4,704,876.³⁹⁹ The term “preferred” occurred at many places in the specification, but it was always applied to one particular structure that was always the same one, disclosed over and over without variation.⁴⁰⁰ The court limited the claim to a structure found in this preferred embodiment, and rationalized its narrow claim construction on the basis that, “[t]his is not just the preferred embodiment of the invention; it is the *only* one described.”⁴⁰¹ To view the big picture, claim construction militated by a context of implication (a repeated and consistent statement) trumped over the claim construction argued under *Laitram*.⁴⁰²

³⁹² 516 F.3d 1290, 1301 (Fed. Cir. 2008), *cert. denied*, 129 S. Ct. 306 (2008).

³⁹³ *Id.*

³⁹⁴ 511 F.3d 1132, 1133–34 (Fed. Cir. 2007).

³⁹⁵ *See id.* at 1138.

³⁹⁶ *Id.* (citation omitted) (alteration in original).

³⁹⁷ *Id.*

³⁹⁸ *E.g.*, *Gen. Am. Transp. Corp. v. Cryo-Trans, Inc.*, 93 F.3d 766, 770 (Fed. Cir. 1996).

³⁹⁹ *Id.* at 786–69.

⁴⁰⁰ Cryogenic Refrigeration System, U.S. Patent No. 4,704,876 col. 2 ll. 64, 66, col. 3 ll. 34–35, 44–45, 50–51, 59–60, col. 4 ll. 9–10, 20–24, 26–28, 63–65, col. 6 ll. 4–5 (filed Aug. 12, 1986) (issued Nov. 10, 1987).

⁴⁰¹ *Gen. Am.*, 93 F.3d at 770.

⁴⁰² *See id.*

The *Cryo-Trans* fact-pattern also occurs in *Wang Laboratories, Inc. v. America Online, Inc.* where the court observed that one particular preferred structure was disclosed over and over, without variation.⁴⁰³ The *Wang* opinion held that, “[t]he usage ‘preferred’ does not of itself broaden the claims beyond their support in the specification.”⁴⁰⁴

B. Claim Scope Can be Maintained Even Where No Part of the Specification is Designated as “Preferred”

1. *Phillips v. AWH Corp.* (Fed. Cir. 2005)

Phillips v. AWH Corp. provides a holding similar to that of *Laitram*, except that *Phillips v. AWH* does not require that any example or embodiment be preferred.⁴⁰⁵ If a patent fails to label any example as preferred, the *en banc* case, *Phillips v. AWH Corp.*, can be invoked to prevent claim scope from being narrowed to features of any particular example or embodiment.⁴⁰⁶ *Phillips v. AWH* provides a rule broader than *Laitram*, and encompasses the rule of *Laitram*.⁴⁰⁷ This rule is as follows: “[A]lthough the specification often describes very specific embodiments of the invention, we have repeatedly warned against confining the claims to those embodiments . . .”⁴⁰⁸ This rule has been set forth by a number of cases earlier than *Phillips v. AWH*.⁴⁰⁹

2. *Praxair, Inc. v. ATMI, Inc.* (Fed. Cir. 2008)

*Praxair, Inc. v. ATMI, Inc.*⁴¹⁰ demonstrates yet another technique for preventing the importation of material from the specification to the claims. This technique is the labeling of an example in the specification by a phrase such as, “non-limiting example” or “without limitation.”⁴¹¹ In the fact-pattern of *Praxair*, the adverse party argued that an element from the specification should be imported to the claims, on the basis that the writing in question took the form of a global comment.⁴¹² To

⁴⁰³ 197 F.3d 1377, 1383 (Fed. Cir. 1999); see *Gen. Am.*, 93 F.3d at 770 (“This [configuration] is not just the preferred embodiment of the invention; it is the *only* one described.”).

⁴⁰⁴ *Wang*, 197 F.3d at 1383 (citing *Gen. Am.*, 93 F.3d at 770, 772).

⁴⁰⁵ 415 F.3d 1303, 1326–27 (Fed. Cir. 2005) (*en banc*); see *id.* at 1328 (Lourie, J., concurring in part and dissenting in part) (“I also agree with the court that claims need not necessarily be limited to *specific* embodiments or *preferred* embodiments.”) (emphasis added).

⁴⁰⁶ See *id.* at 1326–27.

⁴⁰⁷ *Id.* at 1323.

⁴⁰⁸ *Id.*

⁴⁰⁹ *Gemstar-TV Guide Int’l, Inc. v. Int’l Trade Comm’n*, 383 F.3d 1352, 1366 (Fed. Cir. 2004); *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed. Cir. 2004); *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988).

⁴¹⁰ 543 F.3d 1306 (Fed. Cir. 2008).

⁴¹¹ See *Praxair*, 543 F.3d at 1323 (concluding that phrases such as “in a broad embodiment” and “in a limited apparatus embodiment” prevailed over the global comment “typically” in deciding not to import the “severely limit” restriction).

⁴¹² *Id.*

provide background, the Federal Circuit periodically views certain types of writings in the specification as a “global comment,” where the global comment has the effect of requiring a given limitation, e.g., a structure or characteristic, in each and every one of the claims.⁴¹³ Global comments can be detected by the phrase, “The present invention . . .,” by residence of a statement in the Abstract of the patent, or by residence of the statement in a title or heading in the specification of the patent.⁴¹⁴

The *Praxair* opinion demonstrates that comments such as, “as a limited example,” “without limitation,” or “one particular embodiment,” can counteract the effects of a global comment, thereby preventing the court from importing limitations from the specification to the claims.⁴¹⁵

XV. THE FEDERAL CIRCUIT ROUTINELY IGNORES STATEMENTS OF NON-LIMITATION

Patents often contain a statement requesting that the claims not be limited to examples disclosed in the specification.⁴¹⁶ This statement occurs as a stand-alone statement, typically at the very end of the patent’s specification, and not associated with any example.⁴¹⁷ This type of statement has existed in patents from the earliest numbered U.S. patents (Table 5).⁴¹⁸ Most of the patents reviewed in this article contain this conventional statement (Table 6).⁴¹⁹

Unfortunately, the case law conclusively demonstrates that the Federal Circuit rarely pays attention to these statements. Table 1 lists cases where *Laitram* was applied to maintain or broaden claim scope.⁴²⁰ Nearly all of the relevant patents contain the conventional statement requesting that claims not be limited to specific examples.⁴²¹ But of all of the opinions cited in this article, only one opinion took note of the conventional statement.⁴²² This opinion was *Rexnord Corp. v. Laitram Corp.*,⁴²³ where the relevant patent was U.S. Pat. No. 5,634,550.⁴²⁴ The conventional statement took the form, “it is to be understood that the invention is not limited in its

⁴¹³ Brody, *Contexts of Implication*, *supra* note 10, ¶ 5.

⁴¹⁴ *Id.*

⁴¹⁵ See *Praxair*, 543 F.3d at 1323.

⁴¹⁶ See, e.g., *infra* tbl.5.

⁴¹⁷ E.g., Liquid Medium Capacitive Displacement Sensor, U.S. Patent No. 4,624,140 col. 6 ll. 15–21 (filed July 30, 1984) (issued Nov. 25, 1986).

⁴¹⁸ See *infra* tbl.5 (providing examples of patents containing non-limitation statements issued between 1836 and 1841).

⁴¹⁹ See *infra* tbl.6 (providing recent examples of patents containing statements of non-limitation).

⁴²⁰ See *supra* tbl.1.

⁴²¹ E.g., Humeral Nail for Fixation of Proximal Humeral Fractures, U.S. Patent No. 5,472,444 col. 5 ll. 40–41 (filed May 13, 1994) (issued Dec. 5, 1995) (“Although this description refers to a particular embodiment, the following claims are not intended to be so limited.”); Personal Mobility Vehicle, U.S. Patent No. 4,570,739 col. 3 ll. 29–34 (filed Sept. 29, 1983) (issued Feb. 18, 1986) (“[S]pecific structural and functional details disclosed herein are not to be interpreted as limiting, but merely as a basis for the claims and as a representative basis for teaching one skilled in the art to variously employ the present invention in virtually any appropriately detailed structure.”).

⁴²² See *Rexnord Corp. v. Laitram Corp.*, 274 F.3d 1336, 1345 (Fed. Cir. 2001).

⁴²³ *Id.*

⁴²⁴ *Id.* at 1340.

application to the details of construction and the arrangements of components set forth in the following description or illustrated in the drawings.”⁴²⁵

In addition to merely pointing out or observing the conventional statement, the opinion took another step by holding that the conventional statement was a reason for maintaining claim breadth.⁴²⁶

In view of the Federal Circuit’s near-universal practice of ignoring the statement requesting non-limitation,⁴²⁷ the author recommends including in the specification the following title or heading in order to ensure that *Laitram* can be invoked to maintain or broaden claim scope. The title is: “Detailed Description of the Preferred Embodiment.”

Table 5. Many of the Earliest U.S. Patents Include Statements Of Interpretation Requesting Non-Limitation of Claims to the Disclosed Embodiments.		
U.S. Patent No.	Issue date	Statement in the Specification
10 ⁴²⁸	1836	“It consists in the combination of a wheel having plane irons . . . it is for this combination, however it may be varied, that this applicant claims a patent upon this specification.”
34 ⁴²⁹	1836	“We have not given any particular dimensions or scale of proportions, as these may be changed without altering the principle of construction and may be safely left to the judgment of those conversant with such structures.”
84 ⁴³⁰	1836	“I do not limit myself to the precise construction above described, but desire the privilege of altering the same in any manner while I attain the same end by means substantially the same.”
96 ⁴³¹	1836	“I do further declare that I do not intend by the foregoing description and claims, to limit myself to any particular measurement or precise form of the respective parts of this instrument but to vary these as I may think proper while the principle of action remains unchanged.”

⁴²⁵ Direction Changing Mechanism for Transferring Articles Between Transverse Conveyors, U.S. Patent No. 5,634,550 col. 3 ll. 54–57 (filed Jan. 19, 1995) (issued Jun. 3, 1997).

⁴²⁶ *Rexnord*, 274 F.3d at 1345.

⁴²⁷ See *supra* notes 420–426 and accompanying text.

⁴²⁸ Dye-Wood and Dyestuff Cutting and Shaving Machine, U.S. Patent No. 10 p. 1 ll. 108–110, p. 2 ll. 1–4 (issued Aug. 10, 1836).

⁴²⁹ Improvement in Vertical Cylindrical Steam-Boilers, U.S. Patent No. 34 p. 1 (issued Sept. 29, 1836).

⁴³⁰ Safety Steam-Engine, U.S. Patent No. 84 p. 3 ll. 77–81 (issued Nov. 23, 1836).

⁴³¹ Temple for Weaving Cloth, U.S. Patent No. 96 p. 1 ll. 96–103 (issued Jan. 5, 1833) (reissued Dec. 2, 1836).

111 ⁴³²	1837	"I do hereby declare that I claim as my invention . . . without intending to confine myself to any particular pattern, or shape, in constructing them, but to vary them in any way I may think proper, while their construction and mode of operation remain substantially unchanged."
2000 ⁴³³	1841	"Having thus described the nature of my invention, I would have it understood that although I have been particular in describing the processes and quantities of matter as practiced by me . . . I do not confine myself thereto . . ."
10,019 ⁴³⁴	1853	"Having now described and particularly ascertained the nature of my invention . . . I do not confine or restrict myself to the precise details or arrangements which I have had occasion to describe or refer to, as many variations may be made therefrom without deviating from the principles or main features of my invention . . ."

Table 6. Examples of Recent Patents with Statements Requesting Non-Limitation of the Claims to Embodiments Disclosed in the Specification.	
U.S. Patent No.	Statement in the Specification
5,602,987 ⁴³⁵ assigned to SanDisk Corp.	"While the embodiments of the various aspects of the present invention that have been described are the preferred implementation, those skilled in the art will understand that variations thereof may also be possible. Therefore, the invention is entitled to protection within the full scope of the appended claims."
5,884,096 ⁴³⁶ assigned to Apex PC Solutions, Inc.	"While the preferred embodiment of the invention has been illustrated and described, it will be appreciated that various changes can be made therein without departing from the spirit and scope of the invention. . . . Therefore, the scope of the invention is to be determined solely from the following claims."

⁴³² Fastenings for Harness, U.S. Patent No. 111 p. 1 ll. 65–66, 70–75 (issued Jan. 21, 1837).

⁴³³ Improvement in the Manufacture of Starch, U.S. Patent 2,000 p. 3 (issued Mar. 12, 1841).

⁴³⁴ Improvement in the Manufacture of Plain and Figured Fabrics, U.S. Patent 10,019 p. 3 (issued Sept. 13, 1853).

⁴³⁵ Flash Eeprom System, U.S. Patent No. 5,602,987, at [73], col. 16 ll. 17–22 (filed Dec. 29, 1993) (issued Feb. 11, 1997).

⁴³⁶ Interconnectino System for Viewing and Controlling Remotely Connected Computers with On-Screen Video Overlay for Controlling of the Interconnection Switch, U.S. Patent No. 5,884,096, at [73], col. 13 ll. 34–37, 49–51 (filed Nov. 12, 1997) (issued Mar. 16, 1999).

4,624,140 ⁴³⁷ assigned to Optima Systems, Inc.	“The foregoing description and illustration of the preferred embodiments, however, is provided only to illustrate various specific configurations and applications of the invention. Many modifications and variations on the illustrated embodiments may be made without departing from the spirit and scope of the invention as indicated by the appended claims.”
5,838,906 ⁴³⁸ assigned to Regents of the University of California	“In the foregoing specification, the invention has been described with reference to a specific exemplary embodiment thereof. It will, however, be evident that various modifications and changes may be made thereunto without departing from the broader spirit and scope of the invention as set forth in the appended claims. . . . The specification and drawings are, accordingly, to be regarded in an illustrative rather than a restrictive sense, the invention being limited only by the provided claims.”
5,928,197 ⁴³⁹ assigned to Liebel- Flarsheim Co.	“The invention has been described with reference to a specific embodiment. . . . Therefore, this specific embodiment is to be interpreted as exemplary and not limiting, with the scope of protection being determined solely from the following claims.”
4,624,140 ⁴⁴⁰ assigned to Optima Systems, Inc.	“The foregoing description and illustration of the preferred embodiments, however, is provided only to illustrate various specific configurations and applications of the invention. Many modifications and variations on the illustrated embodiments may be made without departing from the spirit and scope of the invention as indicated by the appended claims.”
5,015,247 ⁴⁴¹ assigned to Karlin Technology, Inc.	“While the invention has been described with regards to the preferred embodiment, it is recognized that alternative embodiment may be devised which would not depart from the present invention.”

⁴³⁷ Liquid Medium Capacitive Displacement Sensor, U.S. Patent No. 4,624,140, at [73], col. 6 ll. 15–21 (filed July 30, 1984) (issued Nov. 25, 1986).

⁴³⁸ Distributed Hypermedia Method for Automatically Invoking External Application Providing Interaction and Display of Embedded Objects Within a Hypermedia Document, U.S. Patent No. 5,838,906, at [73], col. 16 ll. 46–51, 57–60 (filed Oct. 17, 1994) (issued Nov. 17, 1988).

⁴³⁹ Controlling Plunger Drives for Fluid Injections in Animals, U.S. Patent No. 5,928,197, at [73], col. 17 ll. 18–19, 30–33 (filed Aug. 28, 1997) (issued Jul. 27, 1999).

⁴⁴⁰ Liquid Medium Capacitive Displacement Sensor, U.S. Patent No. 4,624,140, at [73], col. 6 ll. 15–21 (filed July 30, 1984) (issued Nov. 25, 1986).

⁴⁴¹ Threaded Spinal Implant, U.S. Patent No. 5,015,247 col. 10 ll. 57–60 (filed June 13, 1998) (issued May 14, 1991).

5,634,550 ⁴⁴² assigned to Rexnord Corp.	“Before one embodiment of the invention is explained in detail, it is to be understood that the invention is not limited in its application to the details of construction and the arrangements of components set forth in the following description or illustrated in the drawings. The invention is capable of other embodiments and of being practiced or being carried out in various ways.”
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XVI. EQUATING BEST MODE WITH THE PREFERRED EMBODIMENT

An adverse party interested in invalidating a patent can direct the court’s attention to an example labeled as “preferred,” argue that this example represents the best mode, and then try to convince the court that this particular example is non-enabling.⁴⁴³

A. Background

The best mode and enablement requirements have a statutory basis in 35 U.S.C. § 112.⁴⁴⁴ According to an early opinion from the U.S. Supreme Court,⁴⁴⁵ the best mode requirement has an origin in *Wood v. Zimmer*⁴⁴⁶ while enablement has an origin in *Rex v. Arkwright*.⁴⁴⁷ To satisfy the enablement requirement, the specification must enable the skilled artisan to make and use at least one embodiment of the invention, using the combination of information provided by the specification and the knowledge of the skilled artisan.⁴⁴⁸ As set forth by the case law, the best mode requirement further imposes the requirement to disclose specific materials and materials that were recognized by the inventors as necessary for making or using the best mode, providing that these materials and methods are beyond that which is understood by the skilled artisan.⁴⁴⁹ Where a patent fails to satisfy the requirements for best mode and enablement, the claims may be rendered invalid.⁴⁵⁰

The Federal Circuit typically equates preferred embodiments with the best mode.⁴⁵¹ *Bayer AG v. Schein Pharms, Inc.*, wrote that, “we have long held that compliance with the best mode requirement requires disclosing the inventor’s

⁴⁴² Direction Changing Mechanism for Transferring Articles Between Transverse Conveyors, U.S. Patent No. 5,634,550, at [73], col. 3 ll. 53–59 (filed Jan. 19, 1995) (issued June 3, 1997).

⁴⁴³ E.g., *Spectra Physics v. Coherent, Inc.*, 827 F.2d 1524, 1536–37 (Fed. Cir. 1987) (invalidating the patent because the best mode, which was designated “preferred” in the specification, was not enabled).

⁴⁴⁴ 35 U.S.C. § 112 (2006).

⁴⁴⁵ *Evans v. Eaton*, 16 U.S. (3 Wheat.) 454 app. (1818).

⁴⁴⁶ *Id.* app.; *Wood v. Zimmer*, (1815) 171 Eng. Rep. 161, 161 (K.B.) (appeal taken from Ch.).

⁴⁴⁷ *Evans*, 16 U.S. at app.; *Rex v. Arkwright*, (1785) 1 Carp.P.C. 53 (K.B.).

⁴⁴⁸ *In re Wright*, 999 F.2d 1557, 1561 (Fed. Cir. 1993).

⁴⁴⁹ *Young Dental Mfg., Inc. v. Q3 Special Prods., Inc.*, 112 F.3d 1137, 1144 (Fed. Cir. 1997); *Christianson v. Colt Indus. Operating Corp.*, 822 F.2d 1544, 1563 (Fed. Cir. 1987).

⁴⁵⁰ See *Young Dental*, 112 F.3d at 1144; *Wright*, 999 F.2d at 1563.

⁴⁵¹ See *Bayer AG v. Schein Pharms, Inc.*, 301 F.3d 1306, 1316 (Fed. Cir. 2002).

preferred embodiment”⁴⁵² *High Concrete Structures, Inc. v. New Enterprise Stone and Lime Co., Inc.* wrote that, “the best mode requirement precludes inventors ‘from applying for patents while at the same time concealing from the public preferred embodiments of their inventions”⁴⁵³ *Teleflex, Inc. v. Ficosa North America Corp.* also sets forth this equivalence, “[t]he best mode requirement creates a statutory bargained-for exchange . . . and the public receives knowledge of the preferred embodiments”⁴⁵⁴ A number of other cases have also identified the best mode with the preferred embodiment, as cited.⁴⁵⁵ While the court has never explicitly held that examples labeled as “preferred” are, in fact, the best mode, labeling an example as “preferred” can be used to persuade the court that the example is, in fact, the best mode, as demonstrated below.⁴⁵⁶

Typically, the specification discloses, at varying levels of detail, one or more examples of the invention that had been constructed or synthesized before the filing date of the patent application.⁴⁵⁷ Typically, the examples are working examples, but they can also include examples that are totally prophetic, or even examples that the applicant found were inoperative as of the filing date.⁴⁵⁸

There is no requirement in patent law that all of the examples be operative. According to *Atlas Powder Co. v. E.I. du Pont De Nemours & Co.*, “[e]ven if some of the claimed combinations were inoperative, the claims are not necessarily invalid. ‘It is not a function of the claims to specifically exclude . . . possible inoperative substances’ Of course, if the number of inoperative combinations becomes significant . . . the claims might indeed be invalid.”⁴⁵⁹ Similarly, *In re Angstadt*⁴⁶⁰ and *CFMT, Inc. v. Yieldup International Corp.*,⁴⁶¹ held that it is not necessary for every permutation within a genus of generally operable devices be operable, in order for an inventor to obtain a claim that encompasses a genus of devices.⁴⁶² In fact, *Yieldup* held that a party asserting inoperability of a claim must show that *all* of the disclosed embodiments are inoperative and non-enabled.⁴⁶³

⁴⁵² *Id.*

⁴⁵³ 377 F.3d 1379, 1383 (Fed. Cir. 2004) (quoting *In re Gay*, 309 F.2d 769, 772 (C.C.P.A. 1962).

⁴⁵⁴ 299 F.3d 1313, 1330 (Fed. Cir. 2002).

⁴⁵⁵ *Pfizer, Inc. v. Teva Pharms. USA, Inc.*, 518 F.3d 1353, 1364 (Fed. Cir. 2008); *Allvoice Computing PLC v. Nuance Commc’ns, Inc.*, 504 F.3d 1236, 1246 (Fed. Cir. 2007); *Cardiac Pacemakers, Inc. v. St. Jude Med., Inc.*, 381 F.3d 1371, 1378 (Fed. Cir. 2004); *Gargoyles, Inc. v. United States*, 113 F.3d 1572, 1582 (Fed. Cir. 1997); *U.S. Gypsum Co. v. Nat’l Gypsum Co* 74 F.3d 1209, 1214 (Fed. Cir. 1996); *Glaxo, Inc. v. Novopharm, Ltd.* 52 F.3d 1043, 1050 (Fed. Cir. 1995); *Chemcast Corp. v. Arco Indus. Corp.*, 913 F.2d 923, 926 (Fed. Cir. 1990); *Dana Corp. v. IPC Ltd. P’ship*, 860 F.2d 415, 418 (Fed. Cir. 1988); *Randomex, Inc. v. Scopus Corp.*, 849 F.2d 585, 589 (Fed. Cir. 1988); *DeGeorge v. Bernier*, 768 F.2d 1318, 1324 (Fed. Cir. 1985), *superceded in part by statute*, Patent Law Amendments Act of 1984, Pub. L. No. 98-622, § 201-07, 98 Stat. 3383, 3386-89 (combining the Board of Appeals and the Board of Interferences).

⁴⁵⁶ *See Pfizer*, 518 F.3d at 1364 (“Typically, the best mode issue concerns the applicant’s failure to disclose a preferred embodiment, but not always.”).

⁴⁵⁷ *See Atlas Powder Co. v. E.I. du Pont De Nemours & Co.*, 750 F.2d 1569, 1577 (Fed. Cir. 1984) (discussing embodiments based on approximately 300 actual experiments).

⁴⁵⁸ *Id.* at 1576-77.

⁴⁵⁹ *Id.* (citations omitted).

⁴⁶⁰ 537 F.2d 498 (C.C.P.A. 1976).

⁴⁶¹ 349 F.3d 1333 (Fed. Cir. 2003).

⁴⁶² *Id.* at 1339; *Angstadt*, 537 F.2d at 502-03.

⁴⁶³ *Yieldup*, 349 F.3d at 1339 (emphasis added).

The ability for claims to encompass embodiments that are incapable of working is vividly revealed by the fact that claims can encompass technologies that did not exist as of the filing date.⁴⁶⁴

B. The Burden for Enablement Increases for the Best Mode

Where an example in the specification is found to be the best mode, the consequence is a more specific or particular burden for satisfying the enablement requirement.⁴⁶⁵ This increased particularity was set forth in *Dana Corp. v. IPC Limited Partnership* as, “[e]nablement looks to placing the subject matter of the claims generally in possession of the public. If, however, the applicant develops specific instrumentalities or techniques which are recognized . . . as the best way . . . the best mode requirement imposes an obligation to disclose that information to the public as well.”⁴⁶⁶ As set forth in *Spectra-Physics, Inc. v. Coherent, Inc.*, the best mode requirement requires an identification of the best mode, e.g., by a name.⁴⁶⁷ But if a mere identification is not enough to allow the skilled artisan to practice the best mode, what is additionally required is details, e.g., procedures and materials, for carrying out the best mode.⁴⁶⁸ In *White Consolidated Industries, Inc. v. Vega Servo-Control, Inc.*, the best mode was identified.⁴⁶⁹ But because the patent failed to disclose details on carrying out the best mode, the patent was rendered invalid.⁴⁷⁰

1. Spectra-Physics, Inc. v. Coherent, Inc. (Fed. Cir. 1987)

In *Spectra-Physics*, the court rendered a patent invalid for failure to disclose the best mode, where the best mode was identified in the patent’s specification by the term “preferred.”⁴⁷¹ *Spectra-Physics* concerned U.S. Pat. No. 4,378,600, which claimed a laser.⁴⁷² The specification disclosed that the laser can be made by brazing and that TiCuSil is the preferred brazing material.⁴⁷³ But the specification failed to provide details on the TiCuSil brazing method.⁴⁷⁴ In general, this type of failure can often be remedied by invoking the knowledge of the person having ordinary skill in the art.⁴⁷⁵ However, the problem facing the patentee was that TiCuSil brazing

⁴⁶⁴ Mark A. Lemley, *The Changing Meaning of Patent Claim Terms*, 104 MICH. L. REV. 101, 108–09 (2005).

⁴⁶⁵ *Dana Corp. v. IPC Ltd. P’ship*, 860 F.2d 415, 419 (Fed. Cir. 1989).

⁴⁶⁶ *Id.* (quoting *Spectra-Physics, Inc. v. Coherent, Inc.*, 827 F.2d 1524, 1532 (Fed. Cir. 1987)).

⁴⁶⁷ 827 F.2d 1524, 1536 (Fed. Cir. 1987).

⁴⁶⁸ *See id.* at 1536–37.

⁴⁶⁹ 713 F.2d 788, 789 (Fed. Cir. 1983).

⁴⁷⁰ *See id.* at 790 n.1, 792 (implying that the best mode was not enabled).

⁴⁷¹ *Spectra-Physics*, 827 F.2d at 1537.

⁴⁷² *Id.* at 1526; Gas Laser, U.S. Patent No. 4,378,600 col. 9 l. 1, (filed May 4, 1981) (issued Mar. 29, 1983).

⁴⁷³ ‘600 Patent col. 6 ll. 22–27; *see Spectra-Physics*, 827 F.2d at 1536.

⁴⁷⁴ *Spectra-Physics*, 827 F.2d at 1537.

⁴⁷⁵ *See* Joseph E. Root, *Ducking the Asteroid: Practical Steps Toward Best Mode Compliance*, 36 AIPLA Q.L. 455, 505–06 (2008).

methods had failed to work in the hands of the inventors.⁴⁷⁶ The court identified this difficulty as, “[t]he known difficulty recognized by [the inventors] . . . in working with TiCuSil as a braze material”⁴⁷⁷

An embodiment labeled as “preferred” was found by the court to implicate this embodiment as the best mode for carrying out the claimed invention.⁴⁷⁸ The opinion observed that “[t]he patent specifications make clear . . . that the best mode . . . was more than just brazing in general—it was TiCuSil active metal brazing.”⁴⁷⁹ The opinion continued by writing that the patentee “acknowledges as much by its references to TiCuSil as the “preferred” brazing material”⁴⁸⁰

After implicating the preferred embodiment as the best mode, the court focused on the failure to enable this particular embodiment.⁴⁸¹ The court wrote, “[t]he appropriate question then is not whether the inventors disclosed TiCuSil brazing *at all*—they did—but whether TiCuSil brazing was *adequately* disclosed. Even though there may be a general reference to the best mode, the quality of the disclosure may be so poor as to effectively result in concealment.”⁴⁸² The opinion wrote that the patentee “did not disclose *any* details about its brazing process. It is this complete lack of detail which effectively resulted in its concealment.”⁴⁸³ The court rendered the patent invalid for failing to disclose the best mode.⁴⁸⁴

To conclude, labeling an embodiment as a “preferred embodiment” can work to the disadvantage of the patentee. An adverse party can argue that the term “preferred” implicates the embodiment as representing the best mode, and attempt to convince the court that the disclosure of the best mode was so poor as to constitute non-enablement of the best mode, or concealment of the best mode.⁴⁸⁵ *Spectra-Physics, Inc. v. Coherent* provides a useful approach (useful to the accused infringer) for litigators interested in invalidating a patent.⁴⁸⁶

Note also that arguments are available for convincing the court that a preferred mode is not the best mode.⁴⁸⁷

⁴⁷⁶ *Spectra-Physics*, 827 F.2d at 1530–31.

⁴⁷⁷ *Id.* at 1536 n.4.

⁴⁷⁸ *Id.* at 1536.

⁴⁷⁹ *Id.*

⁴⁸⁰ *Id.*

⁴⁸¹ *Id.* at 1536–37.

⁴⁸² *Id.* at 1536 (citation omitted).

⁴⁸³ *Id.* at 1537.

⁴⁸⁴ *Id.* at 1538.

⁴⁸⁵ *See id.* at 1536–38.

⁴⁸⁶ *See id.*

⁴⁸⁷ *See e.g.*, *Wahl Instruments, Inc. v. Acvious, Inc.*, 950 F.2d 1575 (Fed. Cir. 1991).

Any process of manufacture requires the selection of specific steps and materials over others. The best mode does not necessarily cover each of these selections. To so hold would turn a patent specification into a detailed production schedule, which is not its function. . . . [T]he best mode inquiry is not so mechanical. A step or material or source or technique considered “best” in a manufacturing circumstance may have been selected for a non-“best mode” reason, such as the manufacturing equipment was on hand, certain materials were available, prior relationship with supplier was satisfactory, or other reasons having nothing to do with development of the invention.

Id. at 1581; *see also, e.g.*, *Bayer AG v. Schein Pharms., Inc.*, 301 F.3d 1306, 1321–22 (Fed. Cir. 2002) (holding that disclosure of the class of compounds, rather than the specific

CONCLUSION

An overwhelming majority of opinions from the Federal Circuit reveals that labeling an example as “preferred” works to the advantage of the patentee, where labeling an example as such resulted in an increase or maintenance in claim scope. To view the statistics disclosed in this article, applying *Laitram* or *Vitronics* worked to the patentee’s advantage in about sixty cases.⁴⁸⁸ In contrast, labeling an example as “preferred” backfired and worked against the patentee in only about five cases,⁴⁸⁹ for example, *In re American Academy of Science Tech Center*⁴⁹⁰ and *Apple Computer v. Articulate Systems*.⁴⁹¹

In view of these straightforward statistics, it is recommended that all attorneys and agents include, in the patent’s specification, the phrase, “Description of the Preferred Embodiment.”

Typically, the very end of the written description part of patents includes a conventional statement requesting that the claims not be limited to the preferred embodiment.⁴⁹² However, in preparing this article, the author discovered that the Federal Circuit almost always disregards this statement. This fact reinforces the author’s recommendation that inventors should ensure the availability of the *Laitram* holding by including the phrase, “Description of the Preferred Embodiment.”

On the other hand, labeling an example as a “preferred embodiment” introduces an element of uncertainty into the patent.⁴⁹³ The preferred embodiment can be turned against the patentee.⁴⁹⁴ This article demonstrates a number of arguments for taking advantage of the fact that an example is labeled as “preferred,” and using this “preferred” label as a basis for invalidating the claims.

A familiarity with this article, as well as with the author’s earlier article on claim construction, enables one to predict how the Federal Circuit will construe the claims in any patent being litigated, and provides strategies useful (for both sides) during litigation.

“preferred” compound, used to make an intermediate of the claimed chemical does not violate the best mode requirement because the choice of compound does not materially affect the properties of the claimed chemical); *Eli Lilly & Co. v. Barr Labs., Inc.*, 251 F.3d 955, 964 (Fed. Cir. 2001) (“[T]he best mode requirement does not compel disclosure of [the inventor’s] unclaimed method for synthesizing [a chemical used in the patented method.]”).

⁴⁸⁸ See *supra* tbls.1, 3,

⁴⁸⁹ See *supra* notes 355–386 and accompanying text.

⁴⁹⁰ 367 F.3d 1359, 1370 (Fed. Cir. 2004).

⁴⁹¹ 234 F.3d 14, 22 (Fed. Cir. 2000).

⁴⁹² See *supra* tbls.5, 6 (providing early and recent examples of patents with statements of non-limitation).

⁴⁹³ See *supra* notes 355–376, 465–487 and accompanying text.

⁴⁹⁴ See *supra* notes 355–376, 465–487 and accompanying text.

APPENDIX ONE

"Preferred" is Frequently Recited in the Specifications of the Earliest U.S. Patents.		
U.S. Pat. No.	Issue Date	Quotation from the patent specification
26 ⁴⁹⁵	1836	"[B]ut the short roller with but one cutter upon it will be preferable"
57 ⁴⁹⁶	1836	"For flax the fibers of which are of ordinary length, I prefer that they should be about one-eighth of an inch in diameter."
160 ⁴⁹⁷	1837	"If it be preferred the lead may be cast in sheets, and then rolled up, or it may be shotted of various sizes, but I prefer feathering, as exposing more surface with the least trouble."
177 ⁴⁹⁸	1837	"In machines of great power the circular or elliptic will be preferable to the spiral, which is represented in the drawing referred to."
10,008 ⁴⁹⁹	1853	"In order to make the bottom of the boot or shoe perfectly waterproof, it is preferable that the sole should be attached to the 'upper' by waterproof cement; but it may be sewed or pegged . . ."
20,097 ⁵⁰⁰	1858	"Another (and perhaps preferable) form of bed bottom is exhibited in Fig. 2."
30,027 ⁵⁰¹	1860	"I prefer the latter arrangement as it creates less friction than a continuous bearing . . ."
30,057 ⁵⁰²	1860	"I prefer to place it upon the periphery of the middle propeller, as seen in the drawings, for the reasons that the shaft B has a firm support at this point . . ."
40,013 ⁵⁰³	1863	"I prefer, however, when it is desired to close a tube, to substitute a cap for the thimble, such cap screwing into the plate in the same manner as the thimble."
40,050 ⁵⁰⁴	1863	"I prefer that there shall be one of these flutings opposite each of the perforations to <i>b</i> ."
65,003 ⁵⁰⁵	1867	"The cylinder K is preferably cast as a shell, having suitable openings . . ."

⁴⁹⁵ Machine for Manufacturing Silver Spoons, U.S. Patent No. 26 p. 2 ll. 20–21 (issued Sept. 20, 1836).

⁴⁹⁶ Hemp and Flax Reving Machine, U.S. Patent No. 57 p. 1 ll. 59–62 (issued Oct. 19, 1836).

⁴⁹⁷ Process of Manufacturing White Lead, U.S. Patent No. 160 p. 1 ll. 19–23 (issued Apr. 17, 1837).

⁴⁹⁸ Rotary Stem-Engine, U.S. Patent No. 177 p. 1 ll. 36–38 (issued Apr. 25, 1837).

⁴⁹⁹ India-Rubber Soles for Boots and Shoes, U.S. Patent No. 10,008 p. 1 ll. 99–102 (issued Sept. 13, 1853).

⁵⁰⁰ Bedstead, U.S. Patent No. 20,097 p. 1 ll. 62–63 (issued Apr. 27 1858).

⁵⁰¹ Miter-Box, U.S. Patent No. 30,027 p. 1 ll. 80–82 (issued Sept. 11, 1860).

⁵⁰² Marine Propulsion, U.S. Patent No. 30,057 p. 1 ll. 74–77 (issued Sept. 18, 1860).

⁵⁰³ Improvement in Joints for Tubes of Surface-Condensers, U.S. Patent No. 40,013 p. 1 (issued Sept. 22, 1863).

⁵⁰⁴ Improvement in Lamp-Burners, U.S. Patent No. 40,050 p. 2 (issued Sept. 22, 1863).

⁵⁰⁵ Improvement in Steam Engines, U.S. Patent No. 65,003 p. 1 (issued May 21, 1867).

65,006 <small>506</small>	1867	“It will also be obvious that the position of the parts may be somewhat varied, as, for instance, the knife might be made adjustable . . . but I prefer the arrangement shown, as it combines cheapness and simplicity”
70,013 <small>507</small>	1867	“This I accomplish by enclosing the axle at a point just outside the hub, and preferably just beneath the springs, when used, or at a corresponding point in other wagons.”
75,019 <small>508</small>	1868	“I prefer the braided or knit tubes, however, as it is not necessary, when they are used, to have a seam on the side.”
100,003 <small>509</small>	1870	“In some cases, however, cast-iron may be employed for the outer shell of the furnace . . . but when using cast-iron to form the shell of the furnace I prefer to employ strong tie bolts and hoops of wrought iron or steel, for the purpose of retaining the several parts of the shell together in case of a fracture”

⁵⁰⁶ Machine for Cutting Tobacco, U.S. Patent No. 65,006 p. 1 (issued May 21, 1867).

⁵⁰⁷ Improvement in Wagon-Axles and Gearing, U.S. Patent No. 70,013 p. 1 (issued Oct. 22, 1867).

⁵⁰⁸ Improvement in Shot-Cartridges, U.S. Patent No. 75,019 p. 1 (issued Mar. 3, 1868).

⁵⁰⁹ Improvement in Processes and Apparatus for the Manufacture of Iron and Steel, U.S. Patent No. 100,003 p. 2 (issued Feb. 22, 1870).