

**DID YOU KNOW THAT ENABLING A PREFERRED EMBODIMENT DOES NOT SATISFY THE
ENABLEMENT REQUIREMENT? IT DOESN'T.**

OR

IF YOU WANT A BROAD PATENT CONSTRUCTION, BE CAREFUL WHAT YOU ASK FOR

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ABSTRACT AND INTRODUCTION

In a recent case, a patent owner claimed to have invented side impact airbag sensing. The patent enabled an embodiment; that was stipulated. In opposition to motion for summary judgment of invalidity for lack of enablement, the owner asserted that enablement of a preferred embodiment satisfied the enablement requirement of the patent law. It didn't. In *Automotive Technologies Int'l., Inc. v. BMW of N.Am.*, 378 F.Supp.2d 780 (E.D.Mich. 2005), *aff'd.*, 501 F.3d 1274 (Fed.Cir. 2007), the District Court and the Federal Circuit held the patent invalid for failure to satisfy enablement. Did you know that enabling a preferred embodiment does not satisfy the enablement requirement? It doesn't. The *ATI* case is only one of several consistent cases. You should beware, and consider the matter in both patent prosecution and litigation. If you own a patent, and wish for a broad construction, be careful what you wish for.

I. THE PATENT LAW'S ENABLEMENT REQUIREMENT; THE BASICS

A. A PATENT REQUIRES AN ENABLING DISCLOSURE

The enablement requirement stems from 35 U.S.C. § 112, ¶1:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same

The enablement requirement “insure[s] adequate and full disclosure so that upon the expiration of the [patent term] ‘the knowledge of the invention enures to the people, who are thus enabled without restriction to practice it and profit by its use.’” *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 480-81, 181 USPQ 673 (1974); *see also AK Steel Corp. v. Sollac & Ugine*, 344 F.3d 1234, 1244 (Fed. Cir. 2003). The enablement

requirement applies to all claim limitations, including means-plus-function limitations. See *Automotive Tech. Int'l.*, 501 F.3d 1274; see also *In re Hyatt*, 708 F.2d 712, 714 (Fed. Cir. 1983)(single means claim unpatentable for lack of enablement).

To satisfy the enablement requirement,

the specification of a patent must teach those skilled in the art how to make and use the *full scope* of the claimed invention without “undue experimentation.”

Genentech, Inc. v. Novo Nordisk, A/S, 108 F.3d 1361, 1365 (Fed. Cir. 1997). As *AK Steel* says, “as part of the *quid pro quo* of the patent bargain, the applicant’s specification must enable one of ordinary skill in the art to practice the full scope of the claimed invention.”

Moreover, “the essence of the enablement requirement” is that patent protection “is granted for an enabling disclosure of an invention, not for vague intimations of general ideas that may or may not be workable.” *Genentech, Inc. v. Novo Nordisk, A/S*, 108 F.3d 1361, 1366 (Fed. Cir. 1997). Although “a specification need not disclose what is well known in the art,” “[t]ossing out the mere germ of an idea does not constitute enabling disclosure.” *Id.* Thus, a disclosure fails to satisfy the enablement requirement where it reveals that the inventor only predicted, rather than invented, the subject matter that the patent claims cover. *Harris Corp. v. IXYS Corp.*, 114 F.3d 1149, 1156 (Fed. Cir. 1997). *Id.* A specification that “provides a starting point from which one of skill in the art can perform further research in order to practice the claimed invention” does not fulfill the enablement requirement. *Nat’l Recovery Techs., Inc. v. Magnetic Separation Sys., Inc.*, 166 F.3d 1190, 1198 (Fed. Cir. 1999).

B. THE SPECIFICATION MUST SUPPLY THE NOVEL ASPECTS OF AN INVENTION

The “specification, not the knowledge of one skilled in the art,” must “supply the novel aspects of an invention” to fulfill the enablement requirement. *Genentech*, 108 F.3d at 1366. In *Genentech*, the patent-in-suit claimed a method for producing human growth hormone (“hGH”) using a process of cleavable fusion expression (“CFE”). *Id.* at 1363. The specification, however, did “not describe in any detail whatsoever how to make hGH using [CFE].” *Id.* at 1365. The Federal Circuit rejected the argument “that the knowledge of one skilled in the art was sufficient to provide all of the missing information.” *Id.*

C. ENABLEMENT IS AN ISSUE OF LAW

Whether a patent satisfies the enablement requirement must be shown by clear and convincing evidence and “is a question of law based on underlying facts.” *AK Steel Corp.*, 344 F.3d at 1238. For example, a district court may appropriately grant summary judgment based on the issue of invalidity for lack of enablement. *AK Steel; Nat’l Recovery Techs., Inc. v. Magnetic Separation Sys., Inc.*, 166 F.3d 1190, 1198, 49 USPQ2d 1671 (Fed. Cir. 1999). When reviewing such judgments, the Federal Circuit reapplies the standards applicable at the district court. *See Rodime PLC v. Seagate Tech., Inc.*, 174 F.3d 1294, 1301 (Fed.Cir. 1999).

D. THE CASE LAW HARMONIZES AS TO ENABLEMENT OF SINGLE AND MULTIPLE EMBODIMENTS

i. Enablement is generally a matter of enabling an embodiment

Typically, enablement is about enabling a preferred embodiment. For example, in *Spectra-Physics, Inc. v. Coherent, Inc.*, 827 F.2d 1524 (Fed.Cir. 1987), the enablement requirement was satisfied by enablement of one preferred embodiment. As another

example, in *Invitrogen Corp. v. Clontech Labs., Inc.* 429 F.3d 1052 (Fed. Cir. 2005), enablement of a single preferred embodiment was legally satisfactory.

ii. The Specification Must Enable the Full Scope of the Claims

The specification, though, must enable the entire scope of the claims. *Chiron Corp. v. Genentech, Inc.*, 363 F.3d 1247, 1256 (Fed. Cir. 2004) states that the “enabling disclosure of the specification [must] be commensurate in scope with the claim under consideration.” (Alteration in original.) *AK Steel*, 344 F.3d at 1241 also states that a “patent specification must enable the full scope of a claimed invention.” Indeed, the “enablement requirement ensures that the public knowledge is enriched by the patent specification to a degree at least commensurate with the scope of the claims.” *Nat’l Recovery*, 166 F.3d at 1195-96. Thus, the “scope of the claims must be less than or equal to the scope of enablement.” *Id.* at 1196.

For example, in *Chiron*, the patent claimed monoclonal antibodies. 363 F.3d at 1250. As construed, “the scope of the claim [at issue] include[d] not only murine but also chimeric antibodies.” *Id.* at 1256. The Federal Circuit observed that although the specification “certainly enable[d] murine antibodies,” the specification failed to enable chimeric antibodies. *Id.* Thus, the Court concluded that the “disclosure fell short of providing a specific and useful teaching of all antibodies within the scope of the claim.” *Id.* (citation and internal quotation marks omitted). Even though the specification enabled one aspect of the claimed invention, the Federal Circuit affirmed invalidity for lack of enablement because the specification failed to enable a second aspect of the claimed invention. *Id.*; see also *AK Steel*, 344 F.3d at 1244-45 (holding that claims were invalid

for lack of enablement where the specification failed to “enable a significant portion of the subject matter encompassed by the contested claims”).

iii. The Rule Applies Even If the Inventions Are Not Chemical

Doubters might argue that the holdings of cases such as *Genentech* and *AK Steel* are confined to chemical cases. The rule is not so confined, however. In *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898 (Fed.Cir. 2004), the invention was directed to methods of loading syringes into injectors. While original claims recited a jacket in front of a syringe-receiving opening, references to the jacket were removed. After the district court interpreted the claims as limited to jackets, the Federal Circuit reversed, based on the patent owner’s argument. Then, in *Liebel-Flarsheim Co. v. Medrad, Inc.*, __ F.3d __, 2007 WL 851205 (Fed.Cir. Mar. 22, 2007), the Federal Circuit affirmed summary judgment of invalidity, because the patent specification was not enabling, because a jacket-less embodiment of invention was not enabled. The Federal Circuit said, “the motto, ‘beware of what one asks for,’ might be applicable.”

iv. Seemingly contradictory cases are not to the contrary

Cases are not contradictory that enablement of one embodiment may not satisfy the enablement requirement, even if they seem to assert that enablement of one embodiment of invention is always satisfaction of the enablement requirement. As an example, in *Liebel-Flarsheim*, the Federal Circuit distinguished *Spectra-Physics*, a one embodiment case.

Invitrogen Corp. v. Clontech Labs., Inc. 429 F.3d 1052, 77 USPQ2d 1161 (Fed. Cir. 2005) did recently hold that a patent was not invalid for non-enablement. The claims were to “a genetically engineered RT [reverse transcriptase] without regard for the

method used to mutate the genes,” *id.*, and the patent taught a method, *id.* at 1071. At the time, “those skilled in the art knew several techniques for altering genetic sequences, including” two types of mutation methods at issue. *Id.* at 1070.

While cases such as *Invitrogen* and *Spectra-Physics* could be argued to conflict with cases such as *Liebel-Flarsheim* and *Genentech*, the situations in cases such as *Invitrogen* and *Spectra-Physics* differed from the situations in the other cases. In *Invitrogen*, for example, the claimed invention had only one aspect—“genetically engineered RT”—that could be achieved by “several techniques for altering genetic sequences.” *Id.* Moreover, the “method used to mutate the genes” was not novel. *Invitrogen*, 429 F.3d at 1070. The Court observed that these techniques were well known. *Id.* Further, *Invitrogen* agreed that “the law requires the inventor to enable claims throughout their full scope.” 429 F.3d at 1070.

II. ATI v. BMW

A. ATI v. BMW CONCERNED AN AUTOMOTIVE INDUSTRY SUIT BY THE ALLEGED INVENTOR OF SIDE IMPACT AIRBAG SENSING

Automotive Technologies Int’l., Inc. v. BMW of N.Am. (“*ATI v. BMW*”) concerned a patent infringement case involving essentially the entire worldwide automotive industry and a plaintiff patent-enforcement entity. That plaintiff, ATI, contended that U.S. Patent No. 5,231,253 entitled “Side Impact Sensors” (“the ‘253 patent’”) covered the side-impact airbag technologies now universally employed and credited with saving lives worldwide.

As background, a typical airbag system has three primary elements: (1) the airbag itself; (2) a gas generator that produces gas to inflate the airbag; and (3) a crash sensor system that triggers in a crash. Front impact airbag technology preceded the patent-in-

suit; the patent conceded so. *See* the '253 patent at col. 1, ll. 10-17. The patent did not reflect the invention of a new airbag, generator or sensor. Rather, the patent reflected the allegedly new use of sensors to the side impact situation. *See* the '253 patent at col. 5, ll. 6-18 and col. 8, ll. 61-2. ATI's patent was therefore directed to accommodating the dramatically shorter distances and quicker reaction times involved. *See* the '253 patent at cols. 1 and 2.

B. THE DISTRICT COURT STRUCTURED THE CASE TO MOVE THROUGH CLAIM INTERPRETATION, LIABILITY DISCOVERY AND SUMMARY JUDGMENT MOTIONS

The *ATI* district court began by moving the case through an Order Construing Claims. *ATI v. BMW*, 378 F.Supp.2d at 784. Afterward came discovery on liability. After that came several summary judgment motions on non-infringement, invalidity on several grounds, and inequitable conduct.

C. THE DISTRICT COURT GRANTED SUMMARY JUDGMENT MOTIONS

After proceedings on the motions, the court resolved that a conceptual structure linked to the claims' means-plus-function limitations was not enabling because undue experimentation was required to make and use it. The court stepped through the five parts of an *In re Wands* analysis, 858 F.2d 731 (Fed. Cir. 1988), finding that all factors for assessing whether experimentation was undue weighed toward non-enablement, and also finding conspicuous, critical absences from plaintiff's positions and proofs such that a reasonable jury could not find otherwise. The court then harmonized the Federal Circuit's case law, as above, and concluded as a matter of law that the full scope of the claimed invention was not enabled. Critical to the court's decision was ATI's lead inventor's admission that the conceptual structure linked to means clauses was no

structure at all, as to necessary sensing. Also critical were two contradictory assertions of ATI. When attempting to defend against the nonenablement motion, ATI asserted that the prior art could supply enablement; however, ATI contradicted itself when attempting to defend against an obviousness motion by asserting that the same sensors as claimed, when present in the prior art, could not have been used as claimed because a person of ordinary skill would not have known how to enable them for the claimed side impact application.

D. THE CASE MOVED TO APPEAL

ATI stipulated to dismiss the case for purposes of appeal, and the court entered judgment. Appeal followed.

E. THE APPEAL INCLUDED ATI ARGUING THAT INVITROGEN WAS CONTROLLING, AND DELPHI ARGUING THAT ATI HAD TAKEN IRRECONCILABLE POSITIONS IN THE DISTRICT COURT

ATI argued to the Federal Circuit that its patent was enabled because an embodiment was enabled. It had a defense stipulation to this truth, that an embodiment was enabled. It also argued that competing lines of case law were in conflict, but that *Invitrogen* clarified the law of enablement, and controlled, to the effect that enablement of one embodiment of invention was satisfaction of the enablement requirement. It argued that even if this was not the case, the patent enabled the alternate embodiment, and that issues of fact should have prevented summary judgment. ATI further argued that it was being punished for disclosing more than its best mode, that a rule of law requiring a full scope of enablement was in conflict with the doctrine of equivalents, and that broad claims required only un-detailed disclosure.

In response, Delphi argued that ATI had taken irreconcilable positions. ATI had argued during the litigation and to the Patent Office that no one had previously used a prior art acceleration sensor to successfully detect side impact crashes, or could. *E.g.*, see the Appeal record at A3070-72; A3193; A3195; A3209 (characterizing the use of “an inertial or acceleration sensor on a motor vehicle for sensing side impacts” as “the *essential concept* of the present invention” (emphasis added)); A3213-14, 3221.

Thus, Delphi distinguished *Invitrogen*, in that in *ATI v. BMW*, “[i]t [was] the specification, not the knowledge of one skilled in the art, that must supply [these] novel aspects of [the] invention” to fulfill the enablement requirement. *Genentech*, 108 F.3d at 1366.

The appeal focused on this claim limitation:

means responsive to the motion of said mass upon acceleration of said housing in excess of a predetermined threshold value, for initiating an occupant protection apparatus

See the ‘253 patent at col. 10, ll. 65-68 and col. 12, l. 67 – col. 13, l. 2. Claim 20 recited a similar limitation. A294, col. 12 ll. 7-9.

The district court had construed this phrase as a means-plus-function limitation. The district court had identified the function as “initiating an occupant protection apparatus” and determined that the corresponding structures included both mechanical and electronic aspects. 378 F.Supp.2d at 808-809. The district court had construed the corresponding structure for the electronic aspect of the claimed invention as including:

an electronic switch or assembly as described in Figure 11 at column 10, lines 3-14 of the patent specification and its equivalents. The electronic switch or assembly contains a sensing mass that moves relative to the

housing in response to the acceleration of the housing caused by a side impact crash.

378 F.Supp.2d at 797, 780.

ATI did not dispute these interpretations and indeed advocated them.

Delphi had disputed linking the electronic embodiment of invention to the means clause, in the district court. Since the linking of this embodiment to the means clause was a basis of the district court's invalidity decision, Delphi benefited from the linking. Thus, on appeal, Delphi accepted it.

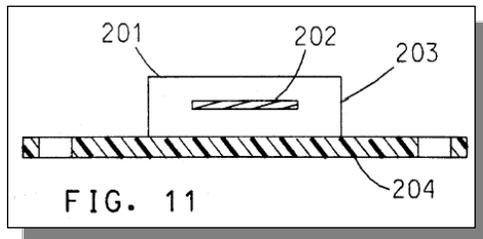
F. THE FEDERAL CIRCUIT RESOLVED AGAINST ENABLEMENT

With issues of written description, enablement, and non-infringement, as well as a cross-appeal of denial of non-infringement, the Federal Circuit resolved to address enablement as dispositive. It affirmed.

The Federal Circuit considered the district court's summary judgment of lack of enablement *de novo*. Slip op. at 13. Citing *AK Steel*, it reminded readers that the Federal Circuit had held that the enablement requirement is satisfied where a person of ordinary skill could practice the claimed invention without undue experimentation. Slip Op. at 14. Addressing the undisputed claim interpretation of the means clause in dispute, it held that the full scope of the claim had to be enabled and the district court was correct that it was not enabled. The reason was the absence of enablement of electronic side impact sensors. *Id.*

It concluded that specification text and a figure on electronics failed to apprise a person of ordinary skill in the art how to make and use an electronic sensor. Slip Op. at 15. The text follows here. Figure 11 is nearby.

FIG. 11 is a conceptual [sic] view of an electronic sensor assembly 201 built according to the teachings of this invention. This sensor contains a sensing mass 202, which moves relative to housing 203 in response to the acceleration of housing 203, which accompanies a side impact crash. The motion of the sensing mass 202 can be sensed by a variety of technologies using, for example, optics, resistance change, capacitance change or magnetic reluctance change. Output from the sensing circuitry can be further processed to achieve a variety of sensor response characteristics as desired by the sensor designer.



Reviewing this description and figure, the Federal Circuit concluded that this one paragraph and figure on an electronic sensor did little more than provide an overview of an electronic sensor

without providing details of operation. Slip op. at 14. It contrasted the much more detailed disclosure of a mechanical sensor in the same patent. It noted that the patent itself stated that Figure 11 was “conceptual,” and an inventor admission was confirming. *Id.*

The Court rejected an argument that the prior art could supply missing information, both legally and factually. Slip Op. at 15-16. Legally, the specification must supply novel aspects of invention. Factually, electronic sensors for side impacts were unknown. Slip Op. at 16. The Court asked the rhetorical question, if an extended disclosure was needed to enable mechanical sensors, how could a similar disclosure for electronic sensors not be needed?

Citing only *Liebel-Flarsheim*, the Court rejected the argument that enablement of one mode of invention is a satisfaction of the enablement requirement. The Court made no effort to address the allegations of competing lines of case law, alleged clarification by *Invitrogen*, punishment, conflict with the doctrine of equivalents, or broad claims

requiring only un-detailed disclosure. Instead, it related the facts and decision of *Liebel-Flarsheim*, and noted the case similarities. Just as it concluded *Liebel-Flarsheim* with a comment about irony, it concluded *ATI* with the comment that it was ironic that *ATI* sought to have its claims include both mechanical and electronic sensors. While *ATI* succeeded, *ATI* was then unable to show its claims to be fully enabled.

III. CONCLUSION: ENABLING A PREFERRED EMBODIMENT IS NOT ENABLEMENT

ATI concluded with the statement that “Claims must be enabled to correspond to their scope.” Slip op. at 20. It affirmed a patent to be invalid. It did so in the presence of a stipulation of enablement of an embodiment. The decision barely paused over the argument that lines of cases were in conflict between holdings that enabling a preferred embodiment satisfies the enablement requirement, and not.

The conclusion of the *ATI* case is now inescapable: Enabling a preferred embodiment does not satisfy the enablement requirement, where claims have a scope that extends beyond the enablement. Indeed, not long after *ATI*, another such case followed: *Sitrick v. Dreamworks, LLC*, No. 2007-1174 (Fed.Cir. Feb. 1, 2008). (Invalidity affirmed; claims construed to include both video games and movies, with no enablement for movies.) Readers should learn the lesson, consider the matter in both patent prosecution and litigation, and ask for only the scope for their patent claims that their patents enable.

ABOUT THE AUTHOR

Charles Shifley practices IP law in the Chicago office of Banner & Witcoff, Ltd. He has represented numerous Fortune 100 and 500 and other companies as their lead lawyer in litigation, arbitration, counseling, opinions and prosecution, with success. He has presented appeals before the Federal Circuit Court of Appeals and other courts, also with success. He has United States patent, trademark, trade secret, copyright and associated corporate legal experience, and has spoken and written extensively. Mr. Shifley earned his legal degree and a degree in engineering at The Ohio State University. He is admitted to practice before a wide-ranging group of courts. He can be reached at cshifley@bannerwitcoff and 312.463.5000. Please see the disclaimers below.

Charles Darwin once observed, "How odd it is that anyone should not see that all observation must be for or against some view if it is to be of any service," as quoted in *Smithsonian Magazine*, April 1992 at 13. The observations here are for a view, to be of service, to the bar. This article does not reflect the views of the authors' law firms or their partners or associates. It may not even accurately express the views of the authors in specific situations, and the views expressed are subject to change as the law and circumstances change.