

CARDIAC PACEMAKERS V. ST. JUDE MEDICAL: THE FEDERAL CIRCUIT HAS RE-OPENED THE DEEPSOUTH LOOPHOLE FOR METHOD CLAIMS

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In *Cardiac Pacemakers, Inc. v. St. Jude Medical, Inc.*,¹ the Federal Circuit ruled en banc that 35 U.S.C. § 271(f)² categorically does not apply to method claims.³ The court rejected the contention that the “components” of a patented method can refer to the physical structures used in carrying out the method and instead defined the components of a method claim as “the steps that comprise the method.”⁴ Because infringement under § 271(f) requires that the invention components be “supplied” from the United States in order

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1. *Cardiac Pacemakers, Inc. v. St. Jude Med., Inc. (Cardiac Paces. en banc)*, 576 F.3d 1348 (Fed. Cir. 2009) (en banc). This en banc ruling reversed the previous panel and district court rulings. See *Cardiac Pacemakers, Inc. v. St. Jude Med., Inc. (Cardiac Paces. Panel)*, 303 F. App'x 884 (Fed. Cir. 2008) (holding that § 271(f) applies to method claims); *Cardiac Pacemakers, Inc. v. St. Jude Med., Inc. (Cardiac Paces. Damages Decision)*, 418 F. Supp. 2d 1021 (S.D. Ind. 2006) (same).

2. 35 U.S.C. § 271(f) (2006) (emphasis added to indicate key terms that will be analyzed throughout this Note)

(1) Whoever without authority *supplies* or causes to be supplied in or from the United States all or a portion of the *components* of a *patented invention*, where such components are uncombined in whole or in part, in such manner as to actively induce the combination of such components outside of the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer.

(2) Whoever without authority supplies or causes to be supplied in or from the United States any component of a patented invention that is especially made or especially adapted for use in the invention and not a staple article or commodity of commerce suitable for substantial noninfringing use, where such component is uncombined in whole or in part, knowing that such component is so made or adapted and intending that such component will be combined outside of the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer.

3. *Cardiac Paces. en banc*, 576 F.3d at 1365 (explaining that the legislative history of § 271(f) and its context within the rest of the statute indicate that this section does not apply to method patents).

4. *Id.* at 1363.

for infringement to occur, the Federal Circuit concluded that this section cannot apply to method claims because “[s]upplying an intangible step is . . . a physical impossibility.”⁵ Although *Cardiac Pacemakers* comports with the presumption against extraterritorial application of U.S. law and eliminates uncertainty in regard to the infringement of patented processes abroad, it is flawed because it re-opens a loophole previously closed by Congress.⁶

Part I of this Note provides a brief historical background on the enactment of § 271(f) as well as a summary of the myriad judicial interpretations of this statutory text. Part II documents the relevant portions of the case history of *Cardiac Pacemakers*, details the Federal Circuit’s en banc holding, and explores Judge Newman’s dissent. Finally, Part III analyzes § 271(f) using three different theories of statutory interpretation, discusses conflicting policy implications, and offers an improved and clarified version of the statute. This Note concludes that the Federal Circuit has misinterpreted the statutory language of § 271(f), and has therefore erred in categorically excluding method claims from being covered by this provision.

I. BACKGROUND AND HISTORICAL DEVELOPMENT OF 35 U.S.C. § 271(F)

A. THE ENACTMENT OF 35 U.S.C. § 271(F) WAS INTENDED TO PLUG AN INFRINGEMENT LOOPHOLE

In the 1972 case *Deepsouth Packing Co. v. Laitram Corp.*, the accused infringer sold and shipped a patented shrimp deveining machine abroad in parts. Assembling the machine from these parts took less than one hour to complete.⁷ The Supreme Court held that such an act did not constitute infringement,⁸ because there is no infringement “where the final assembly

5. *Id.* at 1364.

6. *See* *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518, 528 (1972) (holding that foreign assembly of the components of a mechanical invention does not constitute patent infringement); *see also infra* Section I.A. The holding in this case re-introduces a loophole for method claims.

7. *Id.* at 524. The accused infringer acknowledged that this conduct was motivated by a desire to avoid patent infringement, rendering it necessary that “two parts . . . must not be assembled in the United States, but assembled after the machine arrives in [a foreign location].” *Id.* at 523 n.5 (quoting a letter written to a customer of Deepsouth by the company’s president).

8. *Id.* at 528 (relying on *Mercoid v. Mid-Continent Inv. Co.*, 320 U.S. 661, 676 (1944)).

and sale [of a patented invention] is abroad.”⁹ The Court noted that ruling otherwise would “require a clear and certain signal from Congress.”¹⁰

Congress promptly responded to this explicit invitation to protect patent holders from those looking to avoid patent liability.¹¹ On October 1, 1973, within a few months of the *Deepsouth* ruling, Congress proposed legislation that would find whoever makes and sells “components of a patented machine, manufacture, or composition of matter” with the intention to combine them abroad liable as an infringer.¹² Subsequent bills and the eventual codified statute replaced this list of categories of inventions with the broader term “patented invention.”¹³

B. THE EVOLUTION OF 35 U.S.C. § 271(F)

Section 271(f) has been implicated in a variety of cases and has given rise to a multitude of interpretations. Some courts have tried to limit § 271(f)’s applicability only to cases involving physical components assembled outside the United States. In *Standard Havens Products, Inc. v. Gencor Industries, Inc.*, the Federal Circuit declined to “find the provisions of 35 U.S.C. § 271(f) implicated” by the sale of a machine that did not require foreign assembly, but performed a patented asphalt-making process outside the United States.¹⁴ Several years later, in *Enpat, Inc. v. Microsoft Corp.*, a district court concluded that a software-related method patent was outside the reach of § 271(f) because such claims do not have “components,” as a software patent describes steps to complete a task rather than the patented combination of components that comprise a finished product.¹⁵ A district court in New Jersey held in *Synaptic Pharmaceutical Corp. v. MDS Panlabs, Inc.* that § 271(f) did not apply to method patents involving the use of biological testing assays.¹⁶

On the other hand, at least one court has held a more expansive view of § 271(f). In *W.R. Grace & Co.-Conn. v. Intercat, Inc.*, a Delaware district court extended § 271(f) to chemical composition claims because “[n]owhere in the

9. S. REP. NO. 98-663, at 2–3 (1984), as reprinted in 1984 U.S.C.C.A.N. 5827 [hereinafter *Report on the Patent Law Amendments of 1984*].

10. *Deepsouth*, 406 U.S. at 531.

11. S. REP. NO. 94-642, at 39 (1976) [hereinafter *1976 Report on Patent Law Revision*].

12. *Id.* This language closely follows that of 35 U.S.C. § 271(c) (imposing liability for the copying or selling of “a component of a patented machine, manufacture, combination or composition, or a material or apparatus”); see also *infra* Sections III.A and III.C.

13. S. REP. NO. 98-663, at 30 (codified at 35 U.S.C. § 271(f)); see *supra* text accompanying note 2.

14. 953 F.2d 1360, 1374 (Fed. Cir. 1991).

15. 6 F. Supp. 2d 537, 539 (E.D. Va. 1998).

16. 265 F. Supp. 2d 452, 464 (D.N.J. 2002) (relying on *Enpat*, 6 F. Supp. 2d at 539; *Standard Havens*, 953 F.2d at 1374).

statute or its legislative history is there a limitation to components of machines and other structural combinations.”¹⁷ Although *W.R. Grace* did not directly address the applicability of § 271(f) to method claims, it demonstrated that the statute can encompass inventions beyond the type of mechanical invention that spurred its enactment.¹⁸

Directing its attention to another ambiguity within the statutory language, the Federal Circuit later addressed the meaning of § 271(f)’s use of “supply” in *Pellegrini v. Analog Devices, Inc.*¹⁹ The court examined whether § 271(f) applies when components are designed within the United States, but the manufacturing instructions are subsequently transmitted to a foreign location in order for the manufacture to occur outside the United States.²⁰ In *Pellegrini*, the defendant designed integrated circuit chips domestically, but had the chips manufactured outside the United States based on these designs.²¹ The court held that “supplying” under § 271(f) must involve the “physical supply of components, not simply . . . the supply of instructions or corporate oversight.”²² Extraterritorial manufacture is not covered by U.S. patent law when mere instructions are “supplied” from the United States. The court held that the inventor in *Pellegrini* must rely on foreign patent protection.²³

This holding, however, did not explicitly address the question of whether such “components” must be tangible. Whether *Pellegrini* implicitly imposed such a tangibility requirement is a difficult question. In 2005, in *Eolas Techs. Inc. v. Microsoft Corp.*, the Federal Circuit held that there was no such requirement. The court, relying on the lack of such limitations in the statutory language, concluded that “every form of invention eligible for patenting [and] . . . every component of every form of invention deserves the protection of section 271(f).”²⁴ *Eolas* involved the question of whether software code on a “golden master disk” is a “component” of a computer software invention.²⁵ Because such an invention would not work without the software code, and would therefore fail the utility requirement of 35 U.S.C.

17. 60 F. Supp. 2d 316, 320–21 (D. Del. 1999).

18. 1976 Report on Patent Law Revision, *supra* note 11, at 39.

19. 375 F.3d 1113, (Fed. Cir. 2004).

20. *Id.* at 1115.

21. *Id.* at 1115 & n.1.

22. *Id.* at 1118.

23. *See id.* at 1117–19 (explaining that *Pellegrini* decided not to seek foreign patent protection and was bound by the consequences of that decision).

24. 399 F.3d 1325, 1339 (Fed. Cir. 2005).

25. *Id.* A “golden master disk” is a disk containing software code from which additional copies of software products are made abroad for sale abroad. *Id.* at 1331. *Eolas* involved the popular web browser Internet Explorer. *Id.* at 1328. Because the software is in a tangible form on a disk, the claims at issue in *Eolas* were product claims. *Id.* at 1330–31.

§ 101, the court determined that the code was “not only a component, [but] it is probably the key part of this patented invention.”²⁶ The court also noted the difficulty of distinguishing between process and product claims for computer technologies, and more broadly stated that it could not “construct a principled reason for treating process inventions different[ly] than structural products.”²⁷ Therefore, the *Eolas* court held that *Pellegrini* did not impose a tangibility requirement on the components of a patented invention.²⁸

On nearly identical facts as *Eolas*, in *AT&T Corp. v. Microsoft Corp.* (*AT&T I*), the Federal Circuit affirmed that software on a golden master disk is a component of an invention, holding that exportation of a single copy of a golden master disk and subsequent copying abroad amounted to infringement of the relevant product claims under § 271(f) because, considering the nature of the technology, “the act of copying is subsumed in the act of ‘supplying.’”²⁹

But the Supreme Court overruled this Federal Circuit holding.³⁰ In *Microsoft Corp. v. AT&T Corp.* (*AT&T II*), the Court found it critical that the exported copies were not the actual copies installed for use in a computer abroad, but rather copies made from the masters.³¹ Even though this extra copying step is easy and common practice when dealing with software, this step was key to rendering the invention usable and “supplied”—before being copied onto the medium from which it will be installed, the software code is “intangible, uncombinable information,”³² like a blueprint or instructions.³³ In addition, the Court emphasized that its position was supported by the

26. *Id.* at 1339.

27. *Id.*

28. *Id.* at 1340–41.

29. *AT&T Corp. v. Microsoft Corp.* (*AT&T I*), 414 F.3d 1366, 1370–71 (Fed. Cir. 2005). *AT&T I* involved AT&T’s patented speech software included in the Windows operating system.

30. *Microsoft Corp. v. AT&T Corp.* (*AT&T II*), 550 U.S. 437 (2005).

31. *Id.* at 449–52 (explaining that a golden master disk is like a set of instructions or blueprint for the program, and thus that “a copy of Windows, not Windows in the abstract, qualifies as a ‘component’ under § 271(f)”; see also *AT&T I*, 414 F.3d at 1372 (Rader, J., dissenting) (“This court should accord proper respect to the clear language of the statute and to foreign patent regimes by limiting the application of § 271(f) to components literally ‘shipped from the United States.’” (quoting *Pellegrini*, 375 F.3d at 1117))).

32. *AT&T II*, 550 U.S. at 451 & n.12.

33. See *Pellegrini*, 375 F.3d at 1118 (finding that liability for providing instructions detailing how to build chipsets that would otherwise infringe upon a U.S. patent cannot be imposed if the manufacturing occurs in a foreign country).

presumption against the extraterritorial application of U.S. law.³⁴ Therefore, “[a]ny doubt that Microsoft’s conduct falls outside § 271(f)’s compass would be resolved by the presumption against extraterritoriality”³⁵ However, the *AT&T II* Court, in dicta, declined to “address whether [anything] . . . intangible can *ever* be a component under § 271(f). If an intangible method or process . . . qualifies as a ‘patented invention’ under § 271(f) . . . , the combinable components of [such a process] invention might be intangible as well.”³⁶ Although dicta, this statement illustrates the Supreme Court’s sentiments about § 271(f)’s applicability to method patents.

In *NTP, Inc. v. Research in Motion, Ltd.*, the Federal Circuit dealt with Research in Motion’s (RIM) method claims for an e-mail architecture in which the user’s e-mail system is incorporated into a wireless system (such as that used by BlackBerry) for seamless, automatic receipt of messages on both the user’s computer and handheld device.³⁷ In the accused activity, when new mail was detected, it was routed through the BlackBerry “Relay,” a part of RIM’s wireless network located in Canada.³⁸ The Federal Circuit rejected NTP’s argument that RIM infringed its patented method under § 271(f) by inducing the formation of the patented system through the supply of handhelds within the United States.³⁹ Relying on *Standard Havens*, the court explained that, contrary to NTP’s argument, by supplying products used in performing a patented process to U.S. customers, RIM did not supply any steps of a patented invention for combination outside the United States, and therefore did not infringe NTP’s method claims under § 271(f) as a matter of law.⁴⁰ Also notable, the *NTP* court commented that “it is difficult to conceive of how one might supply or cause to be supplied all or a substantial portion of the steps of a patented method in the sense contemplated by the phrase ‘components of a patented invention’ in section 271(f).”⁴¹

34. *AT&T II*, 550 U.S. at 454–55. The presumption against the extraterritorial application of law is based on the premise that U.S. law only applies within the United States, and the corresponding foreign law should be applied outside the borders of the United States. *Id.*

35. *Id.* at 454.

36. *Id.* at 452 n.13.

37. *NTP, Inc. v. Research in Motion, Ltd.*, 418 F.3d 1282, 1289–90 (Fed. Cir. 2005).

38. *Id.* at 1290.

39. *Id.* at 1321.

40. *Id.* at 1322–23.

41. *Id.* at 1322.

C. THE FEDERAL CIRCUIT HELD IN *UNION CARBIDE* THAT § 271(F) CAN BE APPLIED TO METHOD CLAIMS, DESPITE THE DICTA IN *NTP*

A month after *NTP*, the Federal Circuit explicitly imposed liability under § 271(f) on an infringer of a method claim in *Union Carbide Chems. & Plastics Tech. Corp. v. Shell Oil Co.*⁴² The court held that the export to foreign affiliates of a catalyst necessary in performing a patented method (in this case, a chemical reaction) could constitute infringement under § 271(f), as the catalyst itself may be a “component” of the invention.⁴³ The fact that the statute contains the broad and inclusive phrase “patented invention,” instead of more specific terms contained in earlier versions,⁴⁴ indicated that “the statute makes no distinction between patentable method/process inventions and other forms of patentable inventions.”⁴⁵

The Federal Circuit distinguished the facts at bar from those in *NTP* because the case involved the supply of a catalyst used to perform the steps of the patented method to foreign customers, but *NTP* involved a method claim for which there was the mere supply of the handheld devices within the United States.⁴⁶ Another distinguishing factor between *NTP* and *Union Carbide* (as well as *Cardiac Pacemakers*) is that RIM’s service did not involve the foreign supply of any physical materials, and the method itself was initiated from within the United States. Nevertheless, the *Union Carbide* court failed to directly address the dicta in *NTP* indicating that supplying the steps of a method patent may be difficult.⁴⁷

The *Union Carbide* court stated that shipment of such a catalyst presented an even more compelling reason to apply § 271(f) than the software code at

42. *See* *Union Carbide Chems. & Plastics Tech. Corp. v. Shell Oil Co.*, 425 F.3d 1366, 1380 (Fed. Cir. 2005) (holding that “because § 271(f) governs method/process inventions, Shell’s exportation of catalysts may result in liability under § 271(f)”).

43. *See id.* at 1380–81 (remanding upon a finding that the district court abused its discretion in the calculation of damages because it did not apply § 271(f) to the method claim). *But see* *Union Carbide Chems. & Plastics Tech. Corp. v. Shell Oil Co.*, 434 F.3d 1357, 1358 (Fed. Cir. 2006) (Lourie, J., dissenting from the denial for rehearing en banc) (“A component of a process is a step in the process; it is not the physical material to be used in the process.”).

44. *See infra* Section III.B (discussing the relevance of a change in proposed statutory language in regard to intentionalist statutory interpretation).

45. *Union Carbide*, 425 F.3d at 1379 (relying on *Eolas Techs. v. Microsoft Corp.*, 399 F.3d 1325, 1338–39 (Fed. Cir. 2005)). *Compare* 1976 Report on Patent Law Revision, *supra* note 11, at 39 (explicitly listing the statutory categories of invention), *with* Report on the Patent Law Amendments of 1984, *supra* note 9, at 30 (1984) (employing the broad, codified language of “patent invention”).

46. *Union Carbide*, 425 F.3d at 1380.

47. *See* *NTP, Inc. v. Research in Motion, Ltd.*, 418 F.3d 1282, 1322 (Fed. Cir. 2005).

issue in *Eolas* and *AT&T I*—the catalyst was a physical material employed in a patented process that was supplied directly to and used by foreign associates, as opposed to the exported software code that was copied abroad before it could be used.⁴⁸ But this comparison in support of the holding in *Union Carbide* is arguably no longer supported by precedent because in *AT&T II*, the Supreme Court reversed *AT&T I* partially on the basis of the presumption against the extraterritorial application of U.S. patent law.⁴⁹ Regardless, *NTP* may have come out differently if the handhelds themselves had been supplied to customers in Canada or another foreign location.

D. APPLICATION OF § 271(F) SUBSEQUENT TO *UNION CARBIDE*
DIFFERED BEFORE AND AFTER THE SUPREME COURT RULING ON
THE GOLDEN MASTER DISKS

AT&T II, the Supreme Court decision that the export and copying abroad of master disks did not constitute infringement under § 271(f), represented a turning point in the interpretation of § 271(f). But even after this Supreme Court ruling, lower courts remained unclear in how to apply this provision consistently.

1. *Before AT&T II, § 271(f)'s Application Was Not Always
Straightforward*

During the interim between the holding in *Union Carbide*⁵⁰ and the holding in *Cardiac Pacemakers*,⁵¹ several district courts interpreted and applied this statute. In *Innogenetics, N.V. v. Abbott Laboratories*, the court applied *Union Carbide* in a straightforward manner. The court explained that *Union Carbide* “emphasized that § 271(f) makes no distinction between method claims and other forms of patentable inventions,” and held that the defendant was prohibited from selling components of Hepatitis C diagnostics to customers outside of the United States for use in practicing a patented method.⁵² On the other hand, in *Spreadsheet Automation Corp. v. Microsoft Corp.*,⁵³ when the defendant argued that § 271(f) did not provide damages for the infringement

48. *Union Carbide*, 425 F.3d at 1379 (“This case, however, presents an even stronger basis [than *AT&T* and *NTP*] for applying § 271(f) because Shell supplies all of its catalysts from the United States directly to foreign affiliates.”).

49. *AT&T II*, 550 U.S. 437, 442 (2005) (noting that Congress has discretion to determine whether the interpretation of § 271(f) should be altered).

50. *See infra* Section I.C.

51. *See infra* Section II.C.

52. No. 05-C-0575-C, 2007 U.S. Dist. LEXIS 3148, at *7–8 (E.D. Wis. Jan. 12, 2007) (relying on *Union Carbide*, 425 F.3d at 1379–80), *vacated*, 512 F.3d 1363 (Fed. Cir. 2008) (on grounds other than 35 U.S.C. § 271(f)).

53. 587 F. Supp. 2d 794 (E.D. Tex. 2007).

of method claims, even upon consideration of the seemingly clear holding in *Union Carbide*, the Eastern District of Texas avoided the issue at that stage of the litigation and instead decided to leave it for post-trial motions.⁵⁴

2. *After AT&T II, Courts Attempted to Reconcile the Supreme Court Holding with Union Carbide*

In *Informatica Corp. v. Business Objects Data Integration, Inc.*, the defendant supplied a master disk from San Jose to a third party contractor in Ireland for duplication and sale abroad.⁵⁵ Informatica argued that *AT&T II* did not affect the holding in *Union Carbide*, and the court explained that

[a]lthough *Union Carbide* stands for the general principle that section 271(f) can apply to method claims as well as apparatus claims when the components are supplied to foreign users in a particular manner, it is distinguishable from [*AT&T II*], as well as the present case, where the infringer supplied software on a master disk to a foreign, third-party contractor who then duplicated the disk to distribute copies.⁵⁶

Regardless of this distinction, the other similarities of the fact pattern to the Microsoft golden master situation led the *Informatica* court to the same overall result as the Supreme Court in *AT&T II*: copying abroad from a master disk supplied from within the United States did not constitute infringement of the computer implemented method claims at issue under § 271(f).

In a case decided in the interim between *Cardiac Pacemakers Panel*⁵⁷ and the en banc rehearing, another district court tried to reconcile the holdings in *AT&T II* and *Union Carbide*. In *Ormco Corp. v. Align Technology, Inc.*, the Central District of California explicitly “decline[d] to read [*AT&T II*] dicta as

54. See 587 F. Supp. 2d at 803.

55. 489 F. Supp. 2d 1075, 1079 (N.D. Cal. 2007). *Business Objects Data Integration* also supplied its software in other manners, but these were not relevant to the section 271(f) analysis.

56. *Id.* at 1082 (relying on *Union Carbide*, 425 F.3d at 1380).

57. *Cardiac Pacemakers, Inc. v. St. Jude Med., Inc. (Cardiac Paces. Panel)*, 303 F. App'x 884, 893 (Fed. Cir. 2008) (holding that § 271(f) applies to method claims). But after *Ormco Corp. v. Align Tech. Inc.*, 609 F. Supp. 2d 1057 (C.D. Cal. 2009), the Federal Circuit overruled this panel decision. See *Cardiac Pacemakers, Inc. v. St. Jude Med., Inc. (Cardiac Paces. en banc)*, 576 F.3d 1348, 1364 (Fed. Cir. 2009) (en banc) (holding that method claims are categorically excluded from § 271's coverage).

overruling *Union Carbide's* clear holding” that § 271(f) can apply to both method and product claims.⁵⁸

II. CASE HISTORY

After summarizing the history of § 271(f) and the difficulties the court faced when interpreting it, we have arrived at *Cardiac Pacemakers*. Section II.A will first briefly examine the procedural history of the case before the *Cardiac Pacemakers* Federal Circuit panel decision. Then, Section II.B will discuss this panel decision, which held that § 271(f) is applicable to method claims. Finally, Section II.C will address the reversal of the panel decision by the en banc Federal Circuit and also examine the dissent’s view on the applicability of this statutory section to process claims.

A. CASE HISTORY PRIOR TO THE *CARDIAC PACEMAKERS* PANEL DECISION⁵⁹

The patent at issue in *Cardiac Pacemakers* concerned implantable cardioverter defibrillators (ICDs)—small medical devices that can detect and correct potentially fatal abnormalities in heart rhythms.⁶⁰ The only disputed claim was a method claim directed to a “method of heart stimulation” employing an ICD and “comprising: (a) determining a heart condition, . . . (b) selecting at least one mode of operation, . . . [and] (c) executing said at least one mode of operation . . . to treat said determined heart condition.”⁶¹

In November 1996, Cardiac brought an infringement action against St. Jude alleging the infringement of several of its patents. After trial, the jury found the patents not infringed.⁶² The Federal Circuit reversed the jury’s noninfringement finding, but only on claim construction grounds, and not on § 271(f) grounds.⁶³ On remand, the district court held that Cardiac’s potential damages included those under § 271(f) for the sale of allegedly

58. *Ormco*, 609 F. Supp. 2d at 1069. The court cited to the unpublished *Cardiac Pacemakers Panel* decision, which “stands for the proposition that § 271(f) *can* be applied to method claims, a proposition not foreclosed by *NTP*.” *Id.* at 1070.

59. This case comes accompanied by a long and complex procedural history, which includes matters such as invalidity and inequitable conduct; therefore, only portions of the history relevant to the § 271(f) issue will be recounted in detail in this Note.

60. U.S. Patent No. 4,407,288 (filed Mar. 16, 1981) (the ’288 patent).

61. *Cardiac Pacemakers en banc*, 576 F.3d at 1352 (quoting the ’288 patent).

62. *Id.* (citing *Cardiac Pacemakers, Inc. v. St. Jude Med., Inc. (Cardiac Pacemakers Damages Decision)*, No. IP-96-1718-C, 2002 U.S. Dist. LEXIS 14767, at *7 (S.D. Ind. July 5, 2002)).

63. *Id.* at 1353 (citing *Cardiac Pacemakers, Inc. v. St. Jude Med., Inc. (Cardiac Pacemakers 2004 Opinion)*, 381 F.3d 1371, 1378–80 (Fed. Cir. 2004)).

infringing devices supplied from within the United States to foreign locations.⁶⁴ The Federal Circuit denied a subsequent writ of mandamus filed by Cardiac regarding whether to allow St. Jude to assert several affirmative defenses, and again remanded the case to the district court.⁶⁵

On this remand, the district court granted Cardiac's motion for summary judgment on the basis of infringement but ruled in favor of St. Jude on its motion for summary judgment with regard to anticipation.⁶⁶ Cardiac timely appealed, and St. Jude filed a cross-appeal, arguing that the district court erred in ruling that Cardiac could recover for infringement under § 271(f) on the basis of foreign sales of the patented item.⁶⁷

B. THE FEDERAL CIRCUIT PANEL RULED THAT § 271(F) IS APPLICABLE TO METHOD CLAIMS.

On appeal, the Federal Circuit panel affirmed the district court's holding that § 271(f) encompasses method claims. Relying on *Union Carbide*, the panel held that § 271(f) applied to method claims and that St. Jude could be liable for infringement under this provision based on the shipment of ICDs to foreign locations.⁶⁸ Agreeing with the district court,⁶⁹ the panel concluded that *AT&T II* left open the question of whether § 271(f) could be applied to method claims and declined to overrule *Union Carbide*.⁷⁰ The Federal Circuit granted St. Jude's subsequently filed motion for rehearing en banc.⁷¹

C. THE FEDERAL CIRCUIT, EN BANC, HELD THAT METHOD CLAIMS CANNOT BE INFRINGED UNDER § 271(F).

In reversing the panel decision, the en banc Federal Circuit employed canons of statutory construction in conjunction with an analysis of the history surrounding the enactment of § 271(f) to explain that the manner in which a method claim is infringed renders infringement under § 271(f) impossible for method claims.⁷² Based on the ordinary meaning of the term

64. *Id.* at 1354 (citing *Cardiac Pacemakers Damages Decision*, 418 F. Supp. 2d at 1042–44).

65. *Id.* at 1355 (citing *In re Cardiac Pacemakers, Inc. (Cardiac Pacemakers 2006 Writ Order)*, 183 F. App'x 967, 967 (Fed. Cir. 2006)).

66. *Id.* at 1355 (citing *Cardiac Pacemakers, Inc. v. St. Jude Med., Inc. (Invalidity Decision)*, 483 F. Supp. 2d 734, 745 (S.D. Ind. 2007)).

67. *Id.* at 1358.

68. *Id.* at 1359 (citing *Cardiac Pacemakers, Inc. v. St. Jude Med., Inc. (Cardiac Paces. Panel)*, 303 F. App'x 884, 884 (Fed. Cir. 2008)).

69. *Cardiac Pacemakers Damages Decision*, 418 F. Supp. 2d at 1021, 1044.

70. *Cardiac Pacemakers Panel*, 303 F. App'x at 893.

71. *Cardiac Pacemakers en banc*, 576 F.3d at 1359; *see also Cardiac Pacemakers, Inc. v. St. Jude Med., Inc.*, No. 07-1296, 2009 U.S. LEXIS 4379 (Mar. 6, 2009).

72. *See Cardiac Pacemakers en banc*, 576 F.3d at 1362–67.

“component,” the court recognized that there is a “distinction between a claim to a product, device, or apparatus, all of which are *tangible* items, and a claim to a process, which consists of a series of acts or steps.”⁷³ Therefore, the court defined a “component” of a claim to a tangible object as a tangible part of that object. But a “component” of a claim to a method is a step in that method.⁷⁴

Cardiac tried to rely on the Supreme Court’s holding in *Quanta Computer, Inc. v. LG Electronics, Inc.*⁷⁵ to show that there is no logical distinction between method and apparatus claims.⁷⁶ The *Quanta* Court held that “[a]pparatus and method claims ‘may approach each other so nearly that it will be difficult to distinguish the process from the function of the apparatus.’”⁷⁷ Cardiac reasoned that distinguishing between product and process claims under § 271(f)—especially a categorical exclusion of method claims—is contrary to this precedent. However, the en banc Federal Circuit majority asserted that other precedents, such as *NTP*, draw a clear distinction between method and apparatus claims in the context of patent infringement, and emphasized that *Quanta Computer* instead involved patent exhaustion.⁷⁸ The *Cardiac* court emphasized this distinction when it held that “the steps that comprise the method” were the “components” of the claim.⁷⁹

Furthermore, the court clarified that the steps of a method are self-defining, and cannot be “the physical components used in the performance of [the steps of] the method.”⁸⁰ The court looked to other parts of § 271 to find a definition of “component” and stated that such a definition with regard to a method claim was necessary for the term to be properly viewed in its “place in the overall statutory scheme,” as the contributory infringement statute clearly distinguishes a component of a patented machine from a

73. *Id.* at 1362 (quoting *In re Kollar*, 286 F.3d 1326, 1332 (Fed. Cir. 2002) (emphasis added)).

74. *Cardiac Pacemakers en banc*, 576 F.3d at 1362.

75. 553 U.S. 617 (2008).

76. *Cardiac Pacemakers en banc*, 576 F.3d at 1363–64.

77. *Quanta Computer*, 553 U.S. at 629 (2008). *Quanta* focused on the distinction between claims types in the specific context of patent exhaustion.

78. *Cardiac Pacemakers en banc*, 576 F.3d at 1362. *See also* *NTP, Inc. v. Research in Motion, Ltd.*, 418 F.3d 1282, 1318 (Fed. Cir. 2005) (explaining that “a patent for a method or process is not infringed unless all steps or stages of the claimed process are utilized” (quoting *Roberts Dairy Co. v. United States*, 530 F.2d 1342, 1354 (1976) (internal quotations omitted))).

79. *Cardiac Pacemakers en banc*, 576 F.3d at 1363.

80. *See id.*

machine used in practicing a patented process.⁸¹ The court concluded that method patents have components that meet the definitional requirement of § 271(f): the steps of the method itself.

In order for § 271(f) to be invoked, the court noted that these components must be “supplied,” in this case to a foreign location.⁸² The court reasoned that under the ordinary meaning of supply, supplying must constitute the “transfer of a physical object,” thereby rendering it “physical[ly] impossib[le]” to supply the intangible steps of a method claim.⁸³ The court concluded: “[s]ection 271(f) does not forbid the supplying of products that are *the result of* steps of the patented method; rather it forbids the supply of the components themselves.”⁸⁴ Based on these interpretations of § 271(f), the en banc Federal Circuit overruled *Union Carbide* and held that § 271(f) cannot be applied to method claims.

Judge Newman dissented and argued that *Union Carbide* should have remained good law because § 271(f) does indeed apply to method patents. Judge Newman criticized the majority holding as being “contrary to the text of the statute, ignor[ing] the legislative history, . . . without support in precedent, and defeat[ing] the statutory purpose.”⁸⁵ The dissent noted that other subsections of 271 are directed towards all patented inventions and thus to all statutory subject matter, including § 271(c), on which the majority relies for the opposite proposition.⁸⁶ Because § 271(c) explicitly includes both method and apparatus claims as types of claims for which contributory infringement is possible, the dissent argued for a broad reading of “patented invention” in the interpretation of § 271(f) that includes both types of claims—an interpretation consistent with both the text of the statute and the legislative intent.⁸⁷

The majority indicated that Congress enacted § 271(f) to close a loophole regarding the foreign activities encountered in the *Deepsouth* case, and any

81. *Id.* at 1363–64 (quoting *Davis v. Mich. Dept. of Treasury*, 489 U.S. 803, 809 (1989)). See 35 U.S.C. § 271(c) (2006), *infra* note 2, and accompanying text. On the other hand, this Note argues that this interpretation is flawed because it goes against both the plain language of the statute and the associated legislative intent. See *infra* Part III. Under the proper interpretation, “components” should be interpreted more broadly.

82. *Cardiac Pacemakers en banc*, 576 F.3d at 1364.

83. *Id.*

84. *Id.*

85. *Id.* at 1366 (Newman, J., dissenting).

86. See *infra* Section III.B.2.

87. See *Cardiac Pacemakers en banc*, 576 F.3d at 1367 (Newman, J., dissenting) (explaining that “[w]hen a specific statutory class is intended it is explicitly stated . . . , [but] [t]he text of § 271(f) states no such limitation, and presents no ambiguity in its use of ‘patented invention’”).

repair of the apparently inherent loophole with regard to method claims in § 271(f) should also be left to Congress.⁸⁸ The dissent, on the other hand, disagreed that a loophole for method claims exists in § 271(f), and argued that, through its interpretation that § 271(f) does not apply to method claims, the majority had itself created a loophole that enables infringing activities outside the United States.⁸⁹

III. ANALYSIS

This Part employs three different approaches to statutory interpretation—textualism, intentionalism, and purposivism—to arrive at a construction that is consistent with the array of evidence available and that would effectively close the loophole created by *Cardiac Pacemakers*. In addition, this Part considers policy concerns and proposes new statutory language to address this method claim loophole. All three methods of statutory interpretation as well as policy point to the conclusion that § 271(f) should be interpreted as a category-neutral provision.

A. TEXTUALIST APPROACHES TO INTERPRETING § 271(F)

A textualist approach always begins with the statutory language itself.⁹⁰ During the past few decades, the judicial system has embraced textualism, with Justice Scalia being a known and vocal proponent.⁹¹ Proponents of textualism posit that because “legislators and judges are part of a common social and linguistic community, with shared conventions for communication,”⁹² the ordinary meaning of terms, which is the “objectified intent” expressed by the statutory language, is the key to uncovering the proper interpretation of the statute.⁹³ This “objectified intent” is what a reasonable person would understand from the text of the law itself. Modern textualists acknowledge that the plain meaning of the statute should not be

88. *Id.* at 1364.

89. *See id.* at 1369 (Newman, J., dissenting) (arguing that “the court today . . . holds that despite its consistent usage throughout the Patent Act, ‘patented invention’ in § 271(f) was intended to have a unique meaning, applicable only to this subsection, to exclude all processes from ‘patented invention’”).

90. WILLIAM N. ESKRIDGE ET AL., *LEGISLATION AND STATUTORY INTERPRETATION* 235–36 (2d ed. 2006) (explaining that “the new textualism holds that the only object of statutory interpretation is to determine the meaning of the text and that the only legitimate sources for this inquiry are text-based or -linked sources”); *see also* John F. Manning, *Textualism and the Equity of the Statute*, 101 COLUM. L. REV. 1, 3–4 (2001) (explaining that “‘textualists’ . . . give precedence to semantic context”).

91. *See, e.g.*, Manning, *supra* note 90, at 20–21.

92. *Id.* at 16.

93. *Id.*

followed blindly when there would be an absurd result, and they would consult extrinsic sources in order to clarify such ambiguities. But textualists will refuse to evaluate the legislative intent or overall purpose of the statute to improve upon the interpretation of unambiguous text.⁹⁴

1. *Dictionaries Can Aid in Determining the Ordinary Meaning of Statutory Language*

Courts often use dictionaries from the period in which the statute was enacted to interpret the statutory language. The *Cardiac Pacemakers* majority referred to an ordinary language dictionary⁹⁵ published three years before enactment of § 271 to define “component” as “‘a constituent part,’ ‘element,’ or ‘ingredient,’” and “supply” as “‘provid[ing] that which is required,’ or ‘to furnish with . . . supplies, provisions, or equipment.’”⁹⁶ The Supreme Court in *AT&T II* employed the same definition of “component.”⁹⁷

Dictionary shopping to find a desirable definition can present a problem of reliability.⁹⁸ Because the meaning of a term in common usage can be different in a legal or more specifically patent law context, deciding which dictionary to rely on can be problematic. For example, the term “element” in the process patent context refers to the steps of a process or method, but this is clearly not the ordinary, lay meaning of “element.” Thus, applying any dictionary definition of “component” in this context may be inherently flawed because such application fails to take into account the special meaning afforded to such terms of art. Furthermore, based on the principle of statutory construction relating to the consistent interpretation of similar terminology within a statute,⁹⁹ the court’s definitions of “component” and “supply” gave § 271(f) a meaning inconsistent with other § 271 provisions by excluding process claims from its interpretation of the phrase “patented inventions.”¹⁰⁰

94. *Id.* at 17; see also Arthur W. Murphy, *Old Maxims Never Die: The “Plain-Meaning Rule” and Statutory Interpretation in the “Modern” Federal Courts*, 75 COLUM. L. REV. 1299 (1975).

95. *Cardiac Pacemakers en banc*, 576 F.3d at 1363–64.

96. *Id.* (quoting WEBSTER’S THIRD NEW INTERNATIONAL DICTIONARY OF THE ENGLISH LANGUAGE 466, 2297 (1981)).

97. *AT&T II*, 550 U.S. 437, 449 n.11 (2005).

98. See ESKRIDGE, *supra* note 90, at 240–41 (noting that Scalia’s textualist approach may “leave[] the court with more discretion,” and evidences this by giving examples of the variance in dictionary definitions within the same source and the ability for courts to choose among such definitions).

99. See *infra* Section III.A.2.

100. *Cardiac Pacemakers en banc*, 576 F.3d at 1372–73 (Newman, J., dissenting).

2. *Incorporation of Statutory Language from Other Sections of a Statute Implies That This Language Should Be Given Consistent Meaning*

Where Congress adopts a new law incorporating sections of a prior statutory provision, Congress normally can be presumed to have known the interpretation given to the language in its prior usage, at least insofar as it affects the new statute.¹⁰¹ Consistent interpretation of similar and borrowed language aids in properly serving the notice function of the statute.

a) Comparing § 271(a) and (b) Indicates That § 271(f)(1) Should Apply to All Statutory Categories of Patentable Subject Matter

In § 271(f), Congress incorporated statutory language from the same section of the U.S. Code, namely from 35 U.S.C. §§ 271(a)–(c).¹⁰² “[A]ctively induc[ing] infringement of a patent” is prohibited by § 271(b),¹⁰³ and § 271(f)(1) similarly prohibits the supply of “all or a substantial portion of the components of a patented invention” in a “manner as to *actively induce* the combination of such components outside of the United States.”¹⁰⁴ In addition to language borrowed from § 271(b), § 271(f) also contains the phrase “patented invention” that parallels the language of § 271(a). Section 271(a) defines an infringer as “whoever without authority makes, uses, offers to sell, or sells any *patented invention*, within the United States”¹⁰⁵ As both §§ 271(a) and (b) broadly apply to all statutory categories of patentable subject matter, the exclusion of method claims from the grasp of § 271(f)(1) is illogical and does not have a tie to the statutory language. While § 271(f)(1) is arguably narrower than § 271(b), as § 271(f)(1) refers to “actively induc[ing] the combination of . . . components”¹⁰⁶ and § 271(b) broadly implicates all “active[] induc[ement],”¹⁰⁷ expanding this limitation is unwarranted because it is otherwise unsupported.

The majority did not discuss the relation of § 271(b) to § 271(f)(1), but instead relied on a comparison of the language of § 271(c) to § 271(f) as a

101. See ESKRIDGE, *supra* note 90, at 271–72 (noting that under the “Whole Act Rule” approach to statutory interpretation, “it is presumed that Congress uses terms consistently, intends that each provision add something to the statutory scheme, and does not want one provision to be applied in ways that undercut other provisions”).

102. See 35 U.S.C. § 271. See also Ken Hobday, *The Incredibly Ever-Shrinking Theory of Joint Infringement: Multi-Actor Method Claims*, 38 CAP. U. L. REV. 137, 152–53 (2009) (written after *Cardiac Paces. en banc* and discussing the similarity in language between the statutory subsections).

103. 35 U.S.C. § 271(b) (emphasis added).

104. 35 U.S.C. § 271(f)(1) (emphasis added).

105. 35 U.S.C. § 271(a).

106. 35 U.S.C. § 271(f)(1).

107. 35 U.S.C. § 271(b).

whole. However, § 271(c) is directed to contributory infringement, which is more analogous to § 271(f)(2); on the other hand, § 271(f)(1), like § 271(b), “is directed to inducement of infringement of ‘a patent.’”¹⁰⁸ Therefore, a comparison of § 271(c) to § 271(f)(1) is misplaced because these two statutory subsections have different applicability and distinct purposes. Regardless, the Federal Circuit majority’s interpretation is flawed, even if considered in relation to § 271(f)(2).¹⁰⁹ “Component” should be broadly defined based on the statutory language from which it derives; there is no basis for a categorical exclusion.

b) Borrowing Language from § 271(c) Indicates that § 271(f)(2) Should Also Be Applied to All Categories of Invention

A similar analysis performed with § 271(f)(2) also shows that the Federal Circuit’s interpretation is too restrictive and narrow. Section 271(c) renders the following actions contributorily infringing:

“offer[ing] to sell or sell[ing] within the United States or import[ing] into the United States a component of a patented machine, manufacture, combination or composition, or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be *especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use . . .*”¹¹⁰

Section 271(f)(2) forbids the supply of “any component of a patented invention that is especially made or especially adapted for use in the invention and not a staple article or commodity suitable for substantial noninfringing use,” if the supplier knows that this component is especially made for the invention and intends for the patented combination to be made abroad.¹¹¹ Although § 271(f)(2) incorporates the language from § 271(c) regarding material, non-staple parts of the invention, there is also a stark contrast between the two provisions: § 271(f)(2) uses the general “patented invention” terminology, which has been applied to all patentable subject matter under other provisions of the same statute such as § 271(a), but § 271(c) specifically indicates the categories of invention covered (excluding processes), but also then includes “material[s] or apparatus[es] for use

108. *Cardiac Pacemakers, Inc. v. St. Jude Med., Inc. (Cardiac Paces. en banc)*, 576 F.3d 1348, 1368 (Fed. Cir. 2009) (en banc) (Newman, J., dissenting).

109. *See infra* Section III.A.2 (discussing the flaws in the majority’s analysis).

110. 35 U.S.C. § 271(c) (emphasis added).

111. 35 U.S.C. § 271(f)(2).

in . . . patented process[es].” Section 271(c)’s clear language shows that a “material or apparatus” can “constitut[e] a material part of a [process] invention.”¹¹² Therefore, a material part of an invention used to practice a process should qualify as a component under both § 271(c) and § 271(f)(2). Despite this possible interpretation, the Federal Circuit in *Cardiac Pacemakers* interpreted § 271(c) as indicating that Congress, by distinguishing between the components of a non-process invention and things necessary to perform a patented process, believed that a component is “separate and distinct from a ‘material or apparatus for use in practicing a patented process.’”¹¹³ Therefore, the court held that components of methods claims are not the articles needed to perform the method, but rather the actual steps of the method itself.¹¹⁴ The *Cardiac Pacemakers* court overruled the holding regarding the definition of component asserted in *Union Carbide*: a catalyst used to perform a patented process would no longer be regarded as a component of the invention.

Conversely, Judge Newman took a different stance regarding the relationship between the language in § 271(c) and § 271(f), arguing that the majority gave a unique meaning to “patented invention” in § 271(f), despite its consistent usage throughout the rest of the Patent Act as being applicable to all statutory categories of patentable subject matter.¹¹⁵ Because the majority judicially narrowed the statutory language of § 271(f), it therefore ignored the maxim of statutory construction that “identical words used in different parts of the same act are intended to have the same meaning.”¹¹⁶

c) Inconsistent Interpretation of the Same Terminology May Lead to the Notice Function of Enacted Law Being Poorly Served by All Sections of a Statute

The ruling in *Cardiac Pacemakers* renders § 271(f) inconsistent with other sections of 35 U.S.C. § 271, thus creating uncertainty in the application of the patent infringement statute as a whole.¹¹⁷ For example, in *Amgen v. International Trade Commission*, § 271(e)’s safe harbor was applied to process

112. 35 U.S.C. § 271(c) (emphasis added).

113. *Cardiac Pacemakers en banc*, 576 F.3d at 1363–64 (quoting 35 U.S.C. § 271(c)).

114. *Id.* at 1363.

115. *See id.* at 1368–69 (Newman, J., dissenting).

116. *Id.* at 1369 (Newman, J., dissenting) (quoting *Sullivan v. Stroop*, 496 U.S. 478, 484 (1990)) (internal quotations omitted).

117. *See* Maria Raia Hamilton, *Process Patents and the Limits of the International Trade Commission’s Jurisdiction: Finding the Line in the Sand*, 50 IDEA 161, 187 (2010) (explaining that “until Congress specifies whether its statutes are intended to specifically include process patents in each regard, the treatment of process patents under the law will continue to be subject to uncertainty”).

patents, even though § 271(e) contains the same enabling language as § 271(f), namely “patented invention.”¹¹⁸ Such differences in interpretation cause tension in applying the various subsections of the patent infringement statute overall, making the notice function of the statute unreliable.¹¹⁹ The interpretation of § 271(e) in *Amgen* further buttresses the assertion that the phrase “patented invention” should encompass all forms of statutory subject matter, especially when viewed in conjunction with prior interpretations of §§ 271(a)–(c).

d) Explicit Inclusion of Process Inventions in § 271(g) Does Not Necessarily Imply Exclusion of Such Inventions from § 271(f)

How a statutory provision is interpreted may facially differ if different subsections address different acts. For example, under § 271(g), infringement occurs when someone “imports into the United States or offers to sell, sells, or uses within the United States a product which is made by a process patented in the United States.”¹²⁰ Judge Newman echoed the sentiments of the *amici curiae* who supported Cardiac on appeal: “since § 271(g) specifically mentions practice of a patented process, then ‘patented invention’ in § 271(f) must exclude processes.”¹²¹ But the acts in these two scenarios are very different—importation of a product produced by a patented process as compared to the export of components of patented inventions. Therefore, infringement under these two situations must inherently be defined in different ways.

B. INTENTIONALIST APPROACHES TO INTERPRETING § 271(F)

Like textualists, intentionalists consider the statutory text to be an instrumental part of statutory interpretation, but they also believe that the specific legislative intent in enacting the statute is “[a] key reason why statutes ought to be obeyed: . . . [T]hey are directives from the legislature that We the People have elected and that our Constitution has [been] charged with

118. *Amgen v. Int’l Trade Comm’n*, 565 F.3d 846 (Fed. Cir. 2009); see 35 U.S.C. § 271(e)(1).

119. See generally Benjamin J. Byers, *Undampened Oscillations in the Circuit: Combining the Components of 271(f) Doctrine Supplied by the Federal Circuit*, 7 PGH. J. TECH. L. & POL’Y 4 (2007) (comparing application of § 271(g) with that of § 271(f) on the basis of the different type of acts the two provisions address, and providing an overall summary of the arguably convoluted way in which the § 271(f) doctrine has developed); Eric W. Gutttag, *When Offshore Activities Become Infringing: Applying § 271 to Technologies that “Straddle” Territorial Borders*, 14 RICH. J.L. & TECH 1 (2007) (discussing the application of various sections of § 271).

120. 35 U.S.C. § 271(g).

121. *Cardiac Pacemakers en banc*, 576 F.3d at 1368 (Newman, J., dissenting).

issuing such directives.”¹²² Therefore, intentionalists utilize the legislative history not only in cases where the statutory language is ambiguous, but also to improve on any construction discerned from the plain meaning of the statute. Nevertheless, the reliability of the different sources of legislative history varies. Several factors should be considered in assessing a source’s reliability, such as whether it is (1) readily available to attorneys, (2) relevant to the statutory question at hand, (3) representative evidence of the consensus reached by legislators, and (4) obtainable with low transaction costs.¹²³ This Note examines both congressional reports and excerpts from congressional hearings to evaluate the legislative intent in enacting § 271(f). Reports by congressional committees are considered the most reliable form of legislative history, as these documents tend to reflect the consensus reached by legislators as to both the general intent (policy underlying the statute) and the specific intent (analysis of each enacted provision).¹²⁴ The reliability of statements from hearings, many of which in this case are by supporters, is significantly lower than statements in congressional reports because supporters generally have not taken on a leadership role in having the statute enacted.¹²⁵ They may also face few repercussions for making statements that are not entirely accurate.¹²⁶

1. *The Overall Purpose in the Enactment of § 271(f) Was to Close the Loophole Created in DeepSouth*

In a committee report, the Senate expressed that

[t]he purpose of [§ 271(f)] is to overrule *Deep South* [sic] . . . and provide for relief to the patentee in situations where a party has made substantially all of the components of a patented machine, manufacture, combination or composition, but has not fully assembled, combined or completed the patented invention, intending, however, that the invention be completed outside the United States.¹²⁷

122. ESKRIDGE, *supra* note 90, at 221–22.

123. *Id.* at 304.

124. *See id.* at 311–12; *see also* Landgraf v. USI Film Prods., 511 U.S. 244, 287 (1994) (refusing to rely solely on opinions of supporters in the Congressional Record regarding the Civil Rights Act of 1991).

125. ESKRIDGE, *supra* note 90, at 313.

126. *Id.*

127. *1976 Report on Patent Law Revision*, *supra* note 11, at 39. The language that appears to exclude processes from the scope of this proposed legislation was later amended in the statutory text itself. *See infra* note 2 for the language of the statute.

This new subsection was “applicable only in those situations where a party intends that the components of a patented subject matter will be combined outside the United States.”¹²⁸

2. *Evolution of the Proposed Statutory Language*

The way in which a statute evolves over the course of legislation indicates the meaning that Congress intended the codified statutory language to possess. The Senate held hearings as early as 1973, during which the following statutory language was proposed:

Whoever sells a component of a patented machine, manufacture, combination or composition, or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use, shall be liable as an infringer.¹²⁹

Although sales of materials or apparatuses used in the practice of process claims were covered at this point in the legislation, process claims were not included in the first phrase that lists statutory classes of patentable subject matter other than processes. A textualist tool of statutory interpretation that affords meaning to a negative implication is useful in evaluating the intent of the legislature when it drafted this proposed language. “[I]nclusio expressio unius est exclusio alterius,” which means that “the inclusion (expression) of one thing suggests the exclusion of all others,”¹³⁰ suggests the conclusion that exclusion of a statutory class of patentable subject matter—processes—was not omitted from this first phrase through careless error. Rather, it was not explicitly mentioned in that phrase to demonstrate that process claims should be treated differently than other types of claims—namely that “component” should be defined for this type of claim as “material[s] or apparatus[es] for use in practicing [the] patented process.”¹³¹ Such a broadening of the language to “patented invention,” combined with the negative implication applied to the previously proposed language, indicates that the legislature

128. *Id.* at 39.

129. *Patent Law Revision: Hearings on S. 1321 Before the Subcomm. on Patents, Trademarks, and Copyrights of the S. Comm. on the Judiciary*, 93d Cong. 66 (1973) (American Patent Law Association, proposed amendments) (proposed statutory language, emphasis added to the portion that underwent significant alteration before codification). This language was borrowed directly from 35 U.S.C. § 271(c).

130. ESKRIDGE, *supra* note 90, at 263–64 (brackets in original omitted).

131. *See supra* Section III.A.2.

intended for all statutory categories of invention to be under the guise of § 271(f).

Although there is no smoking gun suggesting that the legislature intended to broaden the later version of the statute, there is ample support both in the text itself as well as in the legislative history to support a category-neutral application of § 271(f).¹³² In addition, the previously proposed wording provides insight on how “component” should be defined for process claims—as the materials or apparatuses used in practicing the process, not as the steps of the process itself. Therefore, under this interpretation, supplying a component of a process claim is not a “physical impossibility.”

3. *The Legislature Differentiated Between the Two Subsections of § 271(f)*

Section 271(f) as a whole prohibits the supply of components of a patented invention that are to be combined outside the United States, but there are differences between the two subsections of this statutory provision. Many of the conclusions reached by examining the legislative history are synonymous with those reached through a relatively strict textualist interpretation relying on the doctrine of giving consistent meaning to similar language in different statutory provisions within the same statute.¹³³ Under § 271(f)(1), one must supply or cause to be supplied “all or a substantial portion” of the components and must “actively induce” the combining of the components “in a manner that would infringe the patent if such a combination occurred within the United States.”¹³⁴ The legislature acknowledged that the “actively induce” language is drawn from § 271(b), which provides that whoever actively induces patent infringement is liable as an infringer.¹³⁵ Under § 271(f)(1), the components may be staple articles or commodities of commerce that are also suitable for substantial non-infringing use.¹³⁶ On the other hand, § 271(f)(2) requires that the components at issue be “especially made or especially adapted for use in the invention,”

132. See Keith Bradley, *The Ghost Is the Machine: Protection of Process Patents Under 35 U.S.C. § 271(f)*, 15 TEX. INTEL. PROP. L.J. 123, 132–45 (2006) (discussing frameworks involving combinations of technology-neutral and category-neutral applications of § 271(f)). *But see* Katherine E. White, *The Recent Expansion of Extraterritoriality in Patent Infringement Cases*, 2007 UCLA J.L. & TECH. 1 (2007) (explaining why a technology-specific and category-specific application is preferable).

133. See *supra* Section III.A.2.

134. 35 U.S.C. § 271(f)(1).

135. *Patent Law Improvements Act: Hearing on S. 1535 and S. 1841 Before the Subcomm. on Patents, Trademarks, and Copyrights of the S. Comm. on the Judiciary*, 98th Cong. 23 (1984) [hereinafter *1984 Hearing*].

136. See 35 U.S.C. § 271(f)(1) (omitting language related to commodities that is present in § 271(f)(2)).

and therefore the legislature indicated that such a component could “not [be] a staple article or commodity of commerce” under this subsection.¹³⁷ The Senate also acknowledged that the “especially made” language is lifted from § 271(c), which governs contributory infringement.¹³⁸ Section 271(f)(2) contains the further requirement that infringers have an intent that the components “will be combined outside of the United States in a manner that would infringe the patent if such combination occurred within the United States”; such a requirement is also present in § 271(c).¹³⁹ Because both §§ 271(b) and (c) apply to all statutory patentable subject matter, this examination of the distinct purposes and origins of the two subsections of § 271(f), as well as the legislature’s clear acknowledgment that language was being drawn from these sections, gives further support to a category-neutral interpretation of both subsections of the statute.¹⁴⁰

4. *The Presumption Against the Extraterritorial Application of U.S. Law Cuts Against Applying § 271(f) to Process Claims, but Is Not Conclusive*

Although there is a principle of statutory construction that creates a presumption against the extraterritorial application of American law, this presumption only applies where Congress fails to indicate its intent that such a presumption should not apply.¹⁴¹ In this situation, there are strong implicit indications in the choices and sources of statutory language that Congress

137. 35 U.S.C. § 271(f)(2).

138. 35 U.S.C. § 271(f)(2) (including the element that the alleged infringer was “knowing that such component is so made”); *Report on the Patent Law Amendments of 1984*, *supra* note 11, at 7.

139. 35 U.S.C. § 271(f)(2); *Report on the Patent Law Amendments of 1984*, *supra* note 13, at 7.

140. A variety of members of the intellectual property bar provided testimony as to the purposes and intended affects of § 271(f), but these statements are not analyzed in detail, as they are not as reliable as reports made by the congressional body itself. *See 1984 Hearing*, *supra* note 135, at 18–19, 22–24, 26–27 (statement of Hon. Gerald J. Mossinghoff, Assistant Secretary and Commissioner of Patents and Trademarks, Patent and Trademark Office); *id.* at 40–42, 46, 94 (statement of Donald W. Banner, President, Intellectual Property Owners, Inc.); *id.* at 55–58, 60–62 (statement of Bernarr R. Pravel, President, American Intellectual Property Law Association); *id.* at 133 (American Bar Association endorsement of S. 1535); *id.* at 144, 146–48, 151–52 (statement of John Maurer, general consulting attorney, Monsanto Co.); *id.* at 169, 171–73, 175–77 (statement of Richard C. Witte, chief patent counsel, Procter & Gamble).

141. *See* Catherine Schulte Feldman, Case Comment, *Patent Law—No Infringement for Extraterritorial Completion of Method Patents—Cardiac Pacemakers, Inc. v. St. Jude Medical, Inc.*, 33 SUFFOLK TRANSNAT’L L. REV. 391 (2010) (discussing how *Cardiac Pacemakers* could be decided employing the presumption against extraterritoriality instead of invoking a categorical exclusion of method patents from the scope of § 271(f)); *see also* EEOC v. Arabian Am. Oil Co., 499 U.S. 244, 248 (1991) (highlighting the desire of Congress to make it clear when a statute is intended to have extraterritorial application).

intended for a restricted yet extraterritorial application of § 271(f).¹⁴² The arbitrary line-drawing employed by the *Cardiac Pacemakers* court, through the categorical exclusion of method claims from the realm of § 271(f) liability, is not in line with the “objective intent” expressed by the words of the statute, the legislative intent, or the purpose of the statute as a whole.¹⁴³ Such a holding only serves to reopen a *DeepSouth*-like loophole for those wishing to infringe process claims. But Congress closed that loophole twenty-five years ago for all categories of invention.

C. PURPOSIVIST APPROACHES TO INTERPRETING § 271(F)

Purposivism, a descriptive theory of statutory interpretation, takes a big picture view of statutory interpretation. The relevant question to a purposivist is not what the specific intent of the legislature was in enacting the provision, but rather what the overall goal of the statute is.¹⁴⁴ Because the overall purpose is central to this inquiry, purposivism is uniquely poised to more nimbly address new or unforeseen circumstances such as technological developments.¹⁴⁵

The purpose of enacting § 271(f) was to prevent clever potential infringers from escaping patent infringement liability through mere technicalities.¹⁴⁶ In *Cardiac Pacemakers*, the plaintiff could only rely on process claims which, based on the Federal Circuit’s holding, did not provide a basis for § 271(f) liability. But if there had been valid product claims, the defendant would have been liable under § 271(f). Although the technology is markedly different than the industrial machinery in *DeepSouth*, this is precisely the type of technical loophole that § 271(f)’s drafters wanted to avoid. Therefore, purposivist considerations also suggest a broad, category-neutral reading of the statute, especially given its remedial nature.

142. See *supra* Sections III.A.2 and III.B.2.

143. See *infra* Section III.C.

144. ESKRIDGE, *supra* note 90, at 222. To illustrate his point, Eskridge gives the well-known example of the interpretation of a law prohibiting “vehicles in the park.” One looking to the purpose or goal of the text would recognize that the rule governs vehicles that might be hazardous in a park, rather than a tricycle, even though a tricycle is a type of vehicle. *Id.*

145. *Id.* at 222 (“The most legitimate basis for statutory interpretation under an intentionalist theory would be actual specific intent, but that is typically hard to discover, and it is completely unknowable when interpreters face new problems unanticipated by drafters.”).

146. See 1976 Report on Patent Law Revision, *supra* note 11, at 39.

D. POLICY IMPLICATIONS OF *CARDIAC PACEMAKERS*

Although the *Deepsouth* decision spurred the enactment of § 271(f), which rendered the exportation of “components of a patented invention” patent infringement and which was intended to close the loophole for all “patented invention[s],” *Cardiac Pacemakers* selectively reopens this loophole for process inventions. Judge Newman’s dissent in *Cardiac Pacemakers* addressed this new loophole, which runs counter to the language and purpose of the statute, as well as the legislative intent in enacting the provision.¹⁴⁷

On the other hand, although this Note criticizes the Federal Circuit’s categorical exclusion of method claims from the reach of § 271(f), there are policy considerations that cut in the opposite direction. For example, if § 271(f) covered process claims, some corporations could be tempted to move research and manufacturing offshore, hurting the American economy. Because § 271(f) only prohibits the supply of components from within the United States, if an American corporation outsources component production to a foreign location, supply of components from that foreign location to another would not constitute infringement. There has been a good deal of discussion in the legal literature regarding this issue in relation to *AT&T II*, as software development is a type of research that is relatively easy to outsource, as opposed to technologies requiring significantly more complex equipment than a computer terminal.¹⁴⁸

147. *Cardiac Pacemakers en banc*, 576 F.3d at 1374 (Newman, J., dissenting). See *infra* Section III.B.1.

148. There are parallels between *AT&T II*, *Cardiac Pacemakers*, and anticipated biotechnology cases. Some authors believe that *AT&T II* was correctly decided on the basis of limited extraterritorial application of U.S. law (or advised prior to the Supreme Court ruling that *AT&T I* should be reversed). See generally, e.g., Jennifer Giordano-Coltart, *Walking the Line: Why the Presumption Against Extraterritorial Application of U.S. Patent Law Should Limit the Reach of 35 U.S.C. § 271(f)*, 2007 DUKE L. & TECH. REV. 4, 28 (2007) (suggesting that the Supreme Court should reverse *AT&T I* because the presumption is important to the structure of the international relations of the United States with other countries); Sean Fernandes, Note, *Microsoft Corp. v. AT&T: A Welcome Return to Patent Law’s Tradition of Territoriality*, 23 BERKELEY TECH. L.J. 75, 99–104 (2008) (examining the political and social concerns underlying the Supreme Court’s ruling in *AT&T II*, and agreeing with the imposition of the presumption). Others disagree with the way in which the statute was applied in *AT&T II*, as it creates a new loophole for cunning potential infringers. See, e.g., G. Matthew Brockway, Note, *Microsoft Corp. v. AT&T Corp.: Amputating the Long Arm of Patent Law with Regard to Software Patents*, 13 J. TECH. L. & POL’Y 149, 174 (2008) (arguing that *AT&T II* reopened the *Deepsouth* loophole, the result of which “effectively kills protection for Internet software patents”); Christopher Rogers, Note, *AT&T v. Microsoft: Is this a Case of Deepsouth Déjà vu?*, 59 ME. L. REV. 191, 192 (2007) (suggesting that “[t]he Supreme Court [had] a chance to prevent a new loophole from opening when it decide[d] [*AT&T III*]”). The potential impacts on the biotechnology industry, as a result of the similar replicable nature of

In addition, the presumption against the extraterritorial application of U.S. law and the effect such application could have on foreign relations also seem to oppose the construction of § 271(f) proposed in this Note. However, this presumption is rebuttable, and should not be applied contrary to the indicated legislative intent.¹⁴⁹ Furthermore, the activities that would impose liability originate from within the United States, and a compulsory licensing scheme, or a similar plan of action, applied to actors in the United States would constitute a reasonable employment of U.S. patent law.

E. A PROPOSED CLARIFICATION OF § 271(F)

Because courts at all levels have struggled with interpreting and applying this statutory provision, Congress should clarify the definitions of key statutory terms via amendment. “Patented invention” and “components” should be defined either in new subdivisions or in phrases set off by commas within the existing statutory provisions. The former would likely provide for greater clarity, and therefore the following additional subsections of § 271(f) are suggested:

(3) As used in this subsection, “patented invention” includes all statutory categories of patentable subject matter as defined in 35 U.S.C. § 101.

(4) As used in this subsection, “component” includes the physical constituents of machines, manufactures, combinations, or compositions of matter. The components of a process are not defined as the steps of the process, but rather are defined as any materials or apparatuses used in the practice of the patented process.

Such a change would provide courts with clear definitions that are in line with both the current statutory text and legislative history, permitting consistent application of the law. These minor amendments would also give proper notice of the reach of § 271(f) to parties of patent infringement suits as well as potential infringers.

such inventions to software inventions, have also been considered. *See, e.g.,* Jennifer L. Schuster, Note, *Combining the Components of Life: The Application of Patent Extraterritoriality Doctrine to Biotechnology*, 83 IND. L.J. 363, 366 (2008) (suggesting that some confusion resulting from application of the extraterritoriality doctrine to the complicated biotech context could be alleviated with a “biotech specific amendment”).

149. *See supra* Section III.B.4.

IV. CONCLUSION

The *Cardiac Pacemakers* decision categorically excludes method claims from the coverage of § 271(f) and reopens a loophole for a class of inventions that the statute was intended to close. In addition, such an interpretation may negatively affect American commerce and U.S. patent holders, especially in situations in which only process claims protect a patentee's invention (as in *Cardiac Pacemakers*). Industries with replicable technology—such as software and biotechnology—may particularly be affected because the export of a master copy from which useable copies can easily be made does not constitute infringement under the Federal Circuit's standing interpretation of the law. Because the application of § 271(f) has proved difficult for courts at all levels, Congress should respond by clarifying what categories of invention are covered by § 271(f) as well as how “component” should be interpreted under this statute.

