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Christopher Ainscough

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DEEPSOUTH WILL RISE AGAIN — THE ARGUMENT IN FAVOR OF THE FEDERAL CIRCUIT'S HOLDING IN *PROMEGA CORP. V. LIFE TECHNOLOGIES*

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ABSTRACT

Two recent holdings from the United States Court of Appeals for the Federal Circuit in Promega Corp. v. Life Technologies Corp. *have come under fire from members of the patent community. In* Promega, *the Federal Circuit held that i) 35 U.S.C. § 271(f)(1) does not require a third party to "actively induce the combination" of a patented invention, and ii) that a single component can be a "substantial portion" of the components of patented invention. In this Article, I argue that the Federal Circuit decided these issues correctly in light of the policy considerations that went into Congress's enactment of 35 U.S.C. § 271(f) following the Supreme Court's unpopular* Deepsouth *decision. I further argue that there is no requirement of knowledge of a patent to find inducement under § 271(f)(1), only knowledge of the infringing acts. Overturning these holdings would, in effect, have ushered in a return to the world immediately after the* Deepsouth *decision, before the implementation of 35 U.S.C. § 271(f).*

[*] Christopher Ainscough, University of Denver Sturm College of Law, Class of 2018.

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INTRODUCTION

In 1972, the Supreme Court held Deepsouth Packing Company's building and exporting unassembled parts of a machine to be permissible, in spite of the fact that such actions would infringe upon the patents of Laitram Corporation Corp. had those parts been assembled in the United States.[1] Concerning Deepsouth's activities

[1] Deepsouth Packing Co. v. Laitram Corp., 406 U.S. 518, 529 (1972).

in the U.S., the Court wrote, "[w]e cannot endorse the view that the 'substantial manufacture of the constituent parts of (a) machine' constitutes direct infringement when we have so often held that a combination patent protects only against the operable assembly of the whole and not the manufacture of its parts."[2] Because the Court found no direct infringement, it could not find contributory infringement.[3] Criticism of the *Deepsouth* decision[4] ultimately motivated Congress to amend 35 U.S.C. § 271(f) by adding sections (f)(1) and (f)(2).[5]

In 2014, the Federal Circuit interpreted those sections, sparking criticism from the patent bar.[6] Specifically, *Promega Corporation v. Life Technologies Corporation*[7] held that 35 U.S.C. § 271(f)(1) does not require a third party for one "to actively induce the combination" of a patented device,[8] and that a single component of an invention can be a "substantial portion of the components."[9] Notable among the decision's critics, Professor Jason Rantanen has argued that this holding are "probably erroneous—doctrinal developments",[10] that the majority's first holding is an incorrect textual analysis,[11] and that the second holding makes 35 U.S.C. §

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[2] *Id.* at 528 (paraphrasing Laitram Corp. v. Deepsouth Packing Co., 443 F.2d 936, 939 (5th Cir. 1971)).

[3] *Id.* at 526 ("[I]t is established that there can be no contributory infringement without the fact or intention of a direct infringement.").

[4] *See, e.g.*, Neil M. Zipkin, *Infringement and Assembly Abroad—Patent Protection Takes a Vacation in Deepsouth*, 47 ST. JOHN'S L. REV. 662, 663–64, 691 (1973).

[5] *See* 98 Cong. Rec. H28069 (daily ed. October 1, 1984) (statement of Rep. Kastenmeier intend to amend 35 U.S.C. § 271(f)); Patent Law Amendments Act of 1984, Pub. Law No. 98-622, § 101, 98 Stat. 3383, 3383 (1984) (codified as amended at 35 U.S.C. § 271(f)(1)–(2) (2012).

[6] Jason Rantanen, *Promega v. Life Tech, pt. 2: Inducing Oneself*, PATENTLY-O (Jan. 8, 2015), http://patentlyo.com/patent/2015/01/promega-inducement-ones.html.

[7] Promega Corp. v. Life Technologies Corp., 773 F.3d 1338, 1350–57 (Fed. Cir. 2014).

[8] *Id.* at 1351.

[9] *Id.* at 1356.

[10] Rantanen, *supra* note 7.

[11] *Id.*

271(f)(2) superfluous.[12]

Proceeding in five parts, this Article examines this conflict in detail and supports the Federal Circuit's holding on these issues. Part II of the Article provides a technical background for the patents in suit in *Promega*. Part III of the Article addresses the details of the case: subsections III.A, III.B, and III.C respectively discuss the patents-in-suit, the accused products, and the majority opinion, paying particular attention to the two holdings relating to self-inducement to infringe a patent and the meaning of "a substantial portion of the components." Part IV.A examines the concept of a continuum of acts required for indirect patent infringement from inducement to contributory infringement, with specific attention to the substantiality and scienter requirements for such acts.[13] Part IV.B discusses the controversy over what constitutes a substantial portion of the components with respect to § 271(f)(1), and proposes an interpretation of the statute to resolve the issues raised in *Promega*. Part IV.C investigates the question of whether the *Promega* decision requires a third party who actually commits the infringement in order to find inducement. Part IV.D looks into the legislative history of 35 U.S.C. § 271(f)(1) with regard to knowledge of the patent being infringed, and ultimately argues that the statute requires only knowledge of the act that infringes, not knowledge of the patent, for inducement liability to attach.

I. BACKGROUND

The method of identifying patterns in DNA, called short-tandem repeat ("STR") profiling, has become an important tool in forensic analysis of crime scenes and paternity testing.[14] In order to obtain a large enough DNA sample, a technician must first make multiple copies of the DNA in a process called amplification; this is commonly achieved through a technique called polymerase chain

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[12] Rantanen, *supra* note 7.

[13] *See infra* Part IV.

[14] The Biology Project, *What is a Short Tandem Repeat Polymorphism (STR)?*, UNIVERSITY OF ARIZONA, http://www.biology.arizona.edu/human_bio/activities/blackett2/str_description.html (last visited April 2, 2016) [hereinafter *Polymorphism*].

reaction ("PCR").[15] Polymerase is an enzyme that copies strands of DNA.[16] In order for polymerase to do its work, technicians use a primer or marker molecule to target the start and end, or locus, of the STR of interest.[17] Traditionally, a technician replicates one STR at a time. This process can be time-consuming.[18] The patents and accused infringing products in the case of *Promega Corp. v. Life Technologies Corp.* encompass methods for amplifying multiple STRs simultaneously, greatly increasing the speed of the process.[19]

II. PROMEGA CORP. V. LIFE TECHNOLOGIES (FED. CIR. 2014)

A. Basis of the Controversy

Promega owns four patents claiming methods for multiplex STR loci amplification.[20] Promega is also the exclusive licensee of a fifth patent from the Max-Planck-Gesellschaft zur Forderung der Wissenschaften (The Max Planck Society), known as the Tautz patent.[21]

The Tautz patent claims a kit for analyzing polymorphism in a DNA sample.[22] This kit contains a) a mixture of primers; b) a polymerase; c) the G, C, T, and A nucleotides; d) a buffer solution; and e) template DNA.[23]

Life Technologies Corporation ("LifeTech") makes kits that include all of the limitations claimed by the Tautz patent.[24] The kits

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[15] Promega Corp. v. Life Technologies Corp., 773 F.3d 1338, 1341 (Fed. Cir. 2014).
[16] *Id.*
[17] *Id.* at 1341–42.
[18] *Id.*
[19] *Id.*
[20] U.S. Patent No. 7,008,771 (filed Sep. 6, 2002) [hereinafter *'771 Patent*]; U.S. Patent No. 6,221,598 (filed Jun. 7, 1999) [hereinafter *'589 Patent*]; U.S. Patent No. 6,479,235 (filed Nov. 25, 1998) [hereinafter *'235 Patent*]; U.S. Patent No. 5,843,660 (filed Apr. 15, 1996) [hereinafter *'660 Patent*].
[21] U.S. Patent No. RE37, 984 (filed Jun. 9, 2000) [hereinafter *Tautz* Patent].
[22] *Tautz* Patent, *supra*, col. 16, l. 43–61.
[23] *Id.*
[24] Promega Corp. v. Life Technologies Corp., 773 F.3d 1338, 1344 (Fed. Cir. 2014); *see also id.* at 1350.

are used for multiplexing DNA samples, including but not limited to the STR combinations claimed by Promega's patents.[25] LifeTech manufactures the polymerase component of the kit in the United States, and ships it overseas to a subsidiary facility in the United Kingdom, where workers assemble the polymerase with the remaining items to form the complete kits for worldwide distribution.[26] In 2006, a predecessor company to LifeTech obtained a limited cross-license to the alleged inventions in the four Promega patents and the Tautz patent for "Forensics and Human Identity Applications."[27]

B. Procedural History

Promega filed suit against LifeTech in 2010 for direct and induced infringement, alleging sales of the accused kits in applications beyond those subject to the limited 2006 license.[28] The District Court judge instructed the jury to evaluate induced infringement under 35 U.S.C. § 271(f)(1), including sales of "all kits made, used, offered for sale, sold within the United States or imported into the United States, as well as kits made outside the United States where a *substantial portion of the components [were] supplied from the United States*."[29] LifeTech objected to the inclusion of the § 271(f)(1) instruction, arguing that because its own subsidiary owned the U.K. facility completing the final assembly of the accused kits, inducement was inapplicable: a company cannot induce itself to infringe a patent under § 271(f)(1).[30]

The jury attributed all of LifeTech's worldwide sales to infringing acts in the United States, and awarded $52 million in lost profits to Promega.[31] LifeTech moved for judgment as a matter of law ("JMOL") on damages for infringement.[32] The judge granted

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[25] *Id.* at 1344.
[26] *Id.*
[27] *Id.* at 1356 (quoting the confidential licensing agreement).
[28] *Id.*
[29] *Id.* at 1345 (emphasis added).
[30] *Id.* at 1344.
[31] *Id.* at 1350.
[32] *Id.* at 1341.

LifeTech's motion and denied Promega's motion to reconsider.[33] Both parties appealed to the United States Court of Appeals for the Federal Circuit.[34]

C. Majority Opinion

Writing for the majority, Judge Chen decided that "to actively induce the combination" of an infringing device under 35 U.S.C. § 271(f)(1) does not require a third party,[35] and that "there are circumstances in which a party may be liable under § 271(f)(1) for supplying . . . a single component for combination outside the United States."[36] The "single component" analysis interpreted the plain meaning of the words "substantial" and "portion."[37] The court held that these words connoted importance and essentiality.[38] LifeTech's counsel argued that Congress explicitly chose the use of the plural "components" in (1), and the use of "component" in (f)(2), and that therefore, (f)(1) required "components" *plural* for inducement.[39] The court rejected this argument, noting that they were used in different contexts.[40] The court also highlighted subsection (f)(2)'s focus on inducement regarding any component "especially made for use in [a patented] invention . . . not a staple article or commodity suitable for substantial non-infringing uses."[41] Among the six findings of the Federal Circuit panel, these two have garnered the most attention of commentators in the world of patent law.[42] Members of the patent bar community have argued that these holdings are erroneous and likely to be overturned by the Supreme

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[33] *Id.*
[34] *Id.*
[35] *Id.* at 1351.
[36] *Id.* at 1353.
[37] *Id.*
[38] *Id.*
[39] *Id.* at 1354.
[40] *Id.*
[41] *Id.* (quoting 35 U.S.C. § 271(f)(1)–(2) (2010)).
[42] *Id.* at 1351; *see also* Rantanen, *supra* note 7.

Court.[43]

1. Self-inducement Under 35 U.S.C. § 271(f)(1)

Relying on a strict interpretation of the statutory language, the Federal Circuit found that the object of the inducement is not necessarily a third party. Rather, it is the *combination* of infringing components that the word "inducement" applies.[44] While the court acknowledged that the word 'induce' can mean 'to influence another person,' it took a broad view of the meaning of the word, citing the Oxford English Dictionary, "'[t]o bring about, bring on, produce, cause, give rise to.'"[45] Further, the court noted that, in drafting § 271(f)(1), Congress could have included the word *another* to indicate that inducement required a separate party, but ultimately did not.[46]

Because there is a lack of clear precedent on these matters, the court went on to examine the legislative history of § 271(f), and found that "[i]n order to be liable as an infringer under paragraph (f)(1), one must supply or cause to be supplied 'all or a substantial portion' of the components in a manner that would infringe the patent if such combination occurred within the United States."[47] In particular, the legislative history states Congress's policy goal in enacting section § 271(f)(1) was to "prevent copiers from avoiding United States patents by supplying components of a patented product in this Country so that the assembly of the components may be completed abroad."[48] The court noted, "it is unlikely that Congress intended § 271(f)(1) to hold companies liable for shipping components overseas to third parties, but not for shipping those same components overseas to themselves or their foreign

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[43] Rantanen, *supra* note 7.
[44] Promega Corp. v. Life Technologies Corp., 773 F.3d 1338, 1351 (Fed. Cir. 2014).
[45] *Id.* (citing VII OXFORD ENGLISH DICTIONARY 888 (2d ed. 1989)).
[46] *Id*.
[47] *Id.* (citing Section-by-Section Analysis: Patent Law Amendments of 1984, 130 Cong. Rec. 28,069 (1984) as reprinted in 1984 U.S.C.C.A.N. 5827, 5828) [hereinafter, Legislative History].
[48] Legislative History, *supra* note 50, at 5828.

subsidiaries."[49]

While LifeTech relied upon *Global-Tech Appliances, Inc. v. SEB S.A.* to argue that inducement requires a third party, the court distinguished *SEB* by noting that the case implied the presence of inducement of another party, because under *SEB*'s facts, there actually was another party. Taken together, § 271(a) and (b) naturally presume a direct infringer, and one who induces that party to infringe.[49] However, the court found analogies to § 271(b) to be of limited value because § 271(f)(1) lacks a companion statute regarding strict liability infringement like that of § 271(a).[50] Accordingly, the court held that one need not induce another in order to be liable under § 271(f)(1).[51]

2. "Substantial Portion of the Components"

Congress also took issue with the Federal Circuit's finding that "there are circumstances in which a party may be liable under § 271(f)(1) for supplying or causing to be supplied a *single component* for combination outside the United States."[52] Here, again, the court relied upon dictionaries for the plain meaning of "substantial," finding that it equates to "'essential.'"[53] In defining "portion" as "a part of a whole," the court found no support for the assertion that a portion need include a "certain quantity" of an invention.[54] In other words, one component can be sufficiently "substantial" to satisfy § 271(f)(1).

LifeTech argued that the inclusion "substantial" within the statutory language "substantial portion of the components," suggests that a defendant can be liable under § 271(f)(1) only when they supply more than one component.[55] The court rejected this

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[49] Promega, 773 F.3d at 1353.
[49] *Id*.
[50] *Id*.
[51] *Id*.
[52] *Id*. at 1353 (emphasis added).
[53] *Id*. (citing XVII OXFORD ENGLISH DICTIONARY 67 (2d ed.1989)).
[54] *Id*. (citing AM. HERITAGE COLL. DICTIONARY 1066 (4th ed. 2000)).
[55] *Id*. at 1354.

interpretation, holding that 271(f)(1) applies to "a substantial portion of the components," not merely "the components" of a patented invention.[56] In short, the action of the subject of the statutory language (the inducer), acts on the singular noun "portion," not the plural noun "components."[57]

Next, LifeTech relied on *Microsoft v. AT&T Corp*,[58] highlighting two footnotes where the Supreme Court noted that § 271(f)(1) and (2) differ in the number of components that one must supply to be liable.[59] Yet the *Promega* court noted that LifeTech ignored the next lines where the Supreme Court discussed § 271(f)(1) in the context of a single component.[60] LifeTech then argued that, because the Supreme Court discussed § 271(f)(2) in the context of a single component, the court had implied that § 271(f)(2) applied only to combinations of more than one component.[61] The Federal Circuit found this argument unpersuasive.[62]

Applying this understanding to *Promega*, the Federal Circuit found that the polymerase component of the accused kit was a substantial portion of the components of the invention because the kit was useless without it.[63] The court relied upon LifeTech's own testimony that the polymerase was "one of the 'main' and 'major'

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[56] *Id.*

[57] 35 U.S.C. § 271(f)(1).

[58] Promega Corp. v. Life Technologies Corp., 773 F.3d 1338, 1354 (Fed. Cir. 2014).

[59] *Id.* at 1355. While the two paragraphs differ, among other things, on the quantity of components that must be "supplie[d] ... from the United States" for liability to attach, see infra, at 1760, n. 18, that distinction does not affect our analysis. Paragraph (2), like (1), covers only a "component" amenable to "combination."

Whoever without authority supplies or causes to be supplied in or from the United States all or a substantial 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. 35 U.S.C. § 271(f)(1); *see also* Microsoft v. AT&T, 550 U.S. 437, 454 (2007).

[60] *Id.*

[61] *Id.* at 1356.

[62] *Id.* at 1358.

[63] *Id.*

components of the accused kits."[64] Accordingly, the Federal Circuit found that, without the polymerase component, the testing kit "would be inoperable because no PCR would occur."[65] The Federal Circuit overturned the district court's grant of LifeTech's motion for JMOL, siding with the jury finding that LifeTech was liable for infringement under 35 U.S.C. § 271(f)(1).[66]

This decision left the post-*Promega* world with an inadequate understanding of what constituted a substantial portion of the components of an invention. Short of an accused infringer's admission, the Federal Circuit provided no factors or guidance to determine what constitutes a 'substantial portion,' whether it is merely something required to make the invention work, or something more.[67] For instance, it is likely that the kit would not operate without the buffer solution, which is presumably a commodity. Yet the court did not address whether a commodity component required for the invention to function, or a component with no non-infringing uses could count as a substantial portion under § 271(f)(1).

III. DISCUSSION

A. Statutory Landscape and the Indirect Infringement Continuum

To support the Federal Circuit's finding that a single component can represent a substantial portion of the components of an invention, it is necessary to examine the different types of indirect infringement covered by the various sections of 35 U.S.C. § 271. Four separate subsections of 35 U.S.C. § 271 codify the law of indirect infringement—specifically subsections (b), (c), (f)(1), and (f)(2).[68] These subsections represent a continuum of acts required to

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[64] *Id.*
[65] *Id.* at 1358.
[66] *Id.* at 1357.
[67] *Id.* at 1356.
[68] 35 U.S.C. § 271 (2010). Subsection (c) discusses contributory infringement, which is itself a subset of the concept of inducement.

find indirect infringement with inducement represented by § 271(b) at one end, and contributory infringement represented by § (f)(2) and (c) at the other. Section 271(b) involves the act of inducing someone (arguably even oneself) to infringe a patent, and has three requirements—knowledge of the patent at issue, the intent to infringe, and an underlying act of direct infringement—in order for liability to attach.[69]

By contrast, contributory infringement deals with the act of supplying components that are then combined to infringe a patent.[70] The statute explicitly requires that the supplier must know the components will be combined in an infringing manner to find contributory infringement.[71] The applicability of each subsection depends on what the accused infringers, knew, intended, and actually did to bring about the controversy by both direct and indirect means.

Despite the Supreme Court's decision, Section 271(f)(1) continues to occupy the murky middle ground at issue in *Promega*. However, the differences between (f)(1), (f)(2), and 271(c), coupled with the provision's legislative history, may speak to Congress's intent in considering what counts as a "substantial portion" of the components and whether inducement requires a third party. The legislative history also suggests that the Supreme Court ruling in *SEB* regarding § 271(b)'s knowledge of infringement requirement was never intended to apply to §271(f)(1).

1. The Continuum of Acts Required to Find Indirect Infringement: 35 U.S.C. § 271(b) to § 271(f)(2)

At one end of the continuum lies § 271(b). U.S. patent holders seeking to enforce their patents in foreign countries often rely on the inducement theory in § 271(b) because it has exceptions to extraterritorial limitations and thus may extend the reach of U.S. patent law to foreign countries.[72] The section's scant text contains

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[69] Global-Tech Appliances, Inc. v. SEB S.A., 563 U.S. 754, 763 (2011); 35 U.S.C. § 271(b) (2010).
[70] 35 U.S.C. § 271(c); 35 U.S.C. § 271(f)(2).
[71] 35 U.S.C. § 271.
[72] *See e.g.*, Global-Tech Appliances, 563 U.S. at 754.

no requirement that shipment of components, substantial or otherwise, be involved in order to induce. Providing instructions to a party to use an item in an infringing manner may be sufficient for liability to attach under § 271(b).[73] However, the subsection has one key limitation. Unlike direct infringement, which is a strict liability offense,[74] inducement requires both knowledge—or, more rarely, willful blindness—of a patent and the intent to infringe upon it.[75]

At the opposite end of the continuum are § 271(c) and (f)(2). These subsections deal with contributory or contribution-like infringement, and its elements are decomposed in Table 1 below.

Table 1. Comparison of the elements of 35 U.S.C. §271(c), (f)(1), & (f)(2).

271(c)[76]	**271(f)(1)[77]**	**271(f)(2)[78]**
Whoever offers to sell or sells or imports	Whoever without authority supplies or causes to be supplied	Whoever without authority supplies or causes to be supplied
into the United States	in or from the United States	in or from the United States
a component of a patented machine . . . or a[n] apparatus for use in . . . a patented process	all or a substantial portion of the components of a patented invention	any component of a patented invention
constituting a material part of the invention		***that is especially made or especially adapted for use in the invention***
knowing the same to be especially made or especially adapted for use in an infringement of such patent		knowing that such component is so made or adapted
not a staple article or commodity of commerce suitable for substantial noninfringing use		not a staple article or commodity of commerce suitable for substantial noninfringing use

[73] *Id.* at 759.
[74] 35 U.S.C. § 271(a) (20152012).
[75] Global-Tech Appliances, Inc. v. SEB S.A., 563 U.S. 754, 766 (2011).
[76] 35 U.S.C. § 271(c).
[77] 35 U.S.C. § 271(f)(1).
[78] 35 U.S.C. § 271(f)(2).

	where such components are uncombined in whole or in part	where such component is uncombined in whole or in part
	. . .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	***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 a contributory infringer	shall be liable as an infringer.	shall be liable as an infringer

This decomposition highlights many similarities between subsections (f)(2) and (c), but also a few key differences. In particular, the phrase in subsection (c) discussing the kind of part—*a material part of the invention* in subsection (c)—corresponds to the phrase *especially made* in (f)(2). This language provides some evidence of Congressional intent for purposes of interpreting "substantial portion of the components" under subsection (f)(1), whose statutory language and legislative history are otherwise silent as to what constitutes *substantial*. Further, § 271(c) deals *solely* with acts in the U.S. Congress directed the intent clause of subsection (f)(2) towards intent to combine components overseas, and the supply clause ties that intent to combine back to the shores of the U.S., which puts it within the purview of 271(b).

B. What is a Substantial Portion of the Components?

The majority in *Promega* held that a single component of a patented invention could constitute a "substantial portion of the components" under § 271(f)(1).[79] Professor Rantanen, however, has

[79] Promega Corp. v. Life Technologies Corp., 773 F.3d 1338, 1356 (Fed. Cir.

taken issue with the majority's holding[80] and cautions that this could greatly expand liability under the provision.[81] Specifically, he argues "[the] 'especially made or especially adapted for use in the invention and not a staple article or commodity of commerce suitable for substantial noninfringing use'" provision of subsection (f)(2) serves to narrow the scope of subsection (f)(1).[82] Applying a strict textual interpretation to the facts in *Promega* seems to prove this view correct, provided that we assume that the accused kit requires all five components to function.[83] If LifeTech were shipping just the buffer solution—a common commodity—overseas, finding patent infringement based on the buffer would not seem like a correct result.

These criticisms of the *Promega* decision highlight the ambiguity of the court's interpretation of subsection (f)(1). However, both § 271(c) and subsection (f)(2) as well as the statute's legislative history strongly suggest that—although not stated explicitly—subsection (f)(1) is concerned with the infringement of material components of an invention, or components that are especially adapted to the invention, regardless of their commodity status. Because of this ambiguity in both the statute and case law, the task of threading the needle between these poles of the indirect infringement continuum is extremely difficult.

Members of the patent bar community have proposed various fixes to *Deepsouth's* clarity problem.[84] This Article focuses

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2014).

[80] Rantanen, *supra* note 7.

[81] *Id.*

[82] *Id.*

[83] *Tautz* Patent, *supra* note 2. (The five components were: a) a mixture of primers; b) a polymerase; c) the G, C, T, and A nucleotides; d) a buffer solution; and e) template DNA).

[84] *See, e.g.*, Neil M. Zipkin, *Infringement and Assembly Abroad—Patent Protection Takes a Vacation in* Deepsouth, 47 St. JOHN'S L. REV. 662, 663–64, 691 (1973) (proposing a statute to overcome *Deepsouth*, "Whoever shall substantially manufacture in the United States so much of the unpatented elements of a patented combination that the patentable aspect of that combination is captured, and there exists no significant practical use for such manufactured items, other than assembly into the patented combination, and

on answering the question of what constitutes a "substantial portion of the components" by reading the word "substantial"—which means "quantity" according to its plain definition—to mean "material," which addresses the substance of the invention.[85] Under this theory, the components must be especially adapted for use, but the §271(c) and subsection (f)(2) requirements regarding commodity status of the components would be removed.[86] In effect, I would interpret section (1) as follows:

> Whoever without authority supplies or causes to be supplied in or from the United States all or a ~~substantial~~ material portion of the components especially adapted for use in ~~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.

The word "material" has support in early bills first proposed to fix the *Deepsouth* problem which read, "[w]hoever without authority supplies . . . the ***material*** components of a patented invention."[87] Applying the facts of the *Promega* case to each of

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such assembly, requiring only minor integration, does in fact take place abroad, shall be liable as a direct infringer.");."); Charles M. Kerr, *Operable Versus Substantial Assembly of Patented Combinations: A Critique of* Deepsouth v. Laitram, 26 STAN. L. REV. 893, 917–19 (proposing "Whoever, for export and without authority, knowingly makes and/or sells, within the United States and for use in a foreign country, but for minor final assembly and/or minor parts, any patented combination during the term of the patent therefor, infringes the patent.")..")).."). *See supra* Part I for a discussion of the *Deepsouth* case.

[85] substantial, adj., relating to size, quantity, solidity, etc. OXFORD ENGLISH DICTIONARY ONLINE, http://www.oed.com.du.idm.oclc.org/view/Entry /193050?redirectedFrom=substantial& (accessed March 12, 2016); material, adj., of or relating to matter or substance. OXFORD ENGLISH DICTIONARY ONLINE, http://www.oed.com.du.idm.oclc.org/view/Entry/114923?rskey=v5dKH8&result =1&isAdvanced=false (accessed March 12, 2016).

[86] 35 U.S.C. §§ 271(c), (f)(2) (2015).

[87] *See, e.g.*, *infra* note 113 (emphasis added).

these sections puts this rule to the test. Recall that the accused kits contained five components, only one of which LifeTech manufactured in the U.S. and shipped to the U.K. for assembly and distribution worldwide.[88] If LifeTech had shipped other components overseas, would the result change? The following sections address the components of the accused kits in decreasing order of what would seem to be their special adaptation for use in the kit at issue in *Promega*.

1. The Mixture of Primers

Supposing the primers were made in the U.S. and then shipped overseas, what would result if they were evaluated for § 271(f)(1) compliance at different points along the indirect infringement continuum? Putting aside the question of self–inducement, and assuming there is an underlying act of predicate infringement in the U.S. under § 271(a), § 271(b) could be sufficient to capture the sale of the primers to a party who then infringes the *Tautz* patent provided that Promega could show intent and knowledge of the patent as required by the holding in *SEB*.[89] If those elements are missing or Promega cannot prove them, § 271(b) cannot stop LifeTech. Since the primers are leaving the U.S. and not being imported as a component, we can ignore § 271(c). While § 271(f)(2) would initially seem to protect Promega because the primers are not a commodity and are especially adapted for use,[90] the provision has the same problem as § 271(b) with regard to the requirement of "intent and knowledge".

By contrast, the proposed reading of § 271(f)(1) would require only that we determine whether the primers are material to the invention and were specially adapted for use in the kit. Based on the

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[88] *Tautz* Patent, *supra* note 21 (showing the five components: a) a mixture of primers; b) a polymerase; c) the G, C, T, and A nucleotides; d) a buffer solution; and e) template DNA)).)

[89] Global-Tech Appliances, Inc. v. SEB S.A., 563 U.S. 754, 764 (2011).

[90] Promega Corp. v. Life Technologies Corp., 773 F.3d 1338, 1342 (Fed. Cir. 2014) (commenting on the laborious process for determining the proper set of primers that will multiplex the targeted set of STRs).

labor-intensive trial-and-error process which must be followed to determine which set of primers will multiplex the targeted set of STRs[91], the primers are demonstrably an essential component of the invention.[92] It will not work without them. The mixture of primers gets to the very heart of the claimed invention. Furthermore, the primers were especially adapted for use in the invention and mark the beginning and ends of the STRs, whose successful combination is a laborious trial-and-error effort.[93] Thus, the proposed § 271(f)(1) reading would offer protection to Promega.

2. The Polymerase

Both the § 271(b) and the § 271(f)(2) analyses of the invention's polymerase component proceed in much the same way as for the primer mixture, and both have the same weakness of requiring predicate direct infringement in the U.S. to satisfy both "knowledge" and "intent" to infringe. I will not belabor analyses under these sections further.

The proposed reading of § 271(f)(1) requires that we ask whether polymerase is material to the invention. The polymerase is material because the invention does not work without it; the DNA cannot be amplified without polymerase, a fact admitted by LifeTech's own witness at trial.[94] The analysis becomes more complicated with polymerase, in considering whether it is a commodity item or whether it has been especially made or adapted for the invention. It is possible to take a commodity item and adapt it for a special use in a patent. This analysis has been summarized below.

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[91] *Id.*
[92] *See supra* Part II.
[93] *See id.*
[94] *Promega*, 773 F.3d at 1356.

Table 2. Inducement liability for polymerase under § 271(f)(1) (proposed) and § 271(f)(2).

For a material component:	Especially made/adapted	Not especially made/adapted
Commodity	Liability attaches under 271(f)(1) (proposed)	No liability for inducement under 271(f)(1) (proposed) or 271(f)(2).
Not a Commodity	Liability for inducement attaches under 271(f)(2), if Promega proves knowledge of the patent. If it cannot prove knowledge, liability attaches under 271(f)(1) (proposed)	

If polymerase is a commodity that has not been especially made for the invention, then liability will not attach under either § 271(f)(1) or § 271(f)(2), because the commodity has substantial non-infringing uses and has not been especially adapted. If polymerase is not a commodity, but has been especially made or adapted, then liability under § 271(f)(2) will attach, provided that Promega can prove scienter. If Promega cannot prove scienter, liability could attach under the proposed reading of § 271(f)(1). The key difference between the two is the question of scienter: whether LifeTech knew of the *Tautz* patent and its infringing acts. The test would thus satisfy the interests of the policy underlying patent law. If polymerase is a commodity that is adapted for the kits claimed in the *Tautz* patent, the proposed reading of § 271(f)(1) would protect Promega from LifeTech's activities altogether.

3. The G, C, T, A Nucleotides[95]

Based on the same reasoning as the analyses above, these molecules are material to the invention because the kit would not

[95] Note that these nucleotides alone, being molecules found in nature, are not patent-eligible subject matter under 35 U.S.C. § 101, as affirmed by the Supreme Court in Mayo Collaborative Services v. Prometheus Laboratories, Inc., 132 S. Ct. 1289, 1293 (2012) ("The Court has long held that this provision contains an important implicit exception. . . . ': [L]aws of nature, natural phenomena, and abstract ideas' are not patentable...").

work without them.[96] In order to replicate DNA, it is necessary to have the underlying nucleotide building blocks available[97]. However, this component would fail the *especially adapted* prong of the proposed § 271(f)(1) test because nucleotides are present in every living organism known to science and were not especially adapted for the kit. They also fall under the purview of § 271(f)(2) as having substantial non-infringing uses. This result aligns with common sense: shipping common components overseas for combination in an infringing product should not be seen as inducement to infringe.

4. The Buffer Solution

As with previous components, the buffer solution is likely to be material because the kit cannot work without it; it is one of the claimed components of the invention.[98] If the buffer solution were not especially adapted for the accused kit, the proposed interpretation of § 271(f)(1) would allow manufacture of the buffer in the U.S. for shipment overseas. Further, the solution falls under the commodity or staple exception in § 271(f)(2). In the case of the nucleotides, inducement liability could attach only where the buffer had been especially adapted.

5. The Template DNA

For purposes of the template DNA are certainly material to the kit.[99] Under the proposed interpretation of § 271(f)(1), the question becomes whether the template DNA was especially adapted for the kit. Thus, if Promega "especially adapted" the template DNA for use in the kit, export for foreign combination would expose LifeTech to liability under the proposed reading of § 271(f)(1) even without the knowledge of infringement required under § 271(f)(2). Once again, this approach yields a fair result.

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[96] J.D. Watson & F.H.C. Crick, *Molecular Structure of Nucleic Acids*, 171 NATURE 737, 737 (1953).
[97] *Id.*
[98] *Tautz* Patent col. 16, l. 43–61, *supra* note 23.
[99] *See supra* Part II.

6. Summary

In each of the five analyses above, the proposed interpretation of § 271(f)(1) would not only fall in line with common sense, but would be consistent with the U.S. Constitution's aim "[t]o promote the Progress of Science and useful Arts, by securing for limited Times to . . . Inventors the exclusive Right to their respective . . . Discoveries."[100] This interpretation would also protect a patent holder from having the key pieces of its inventions shipped overseas for infringing purposes— the exact situation Congress was trying to avoid when it enacted 35 U.S.C. § 271(f) to close the *Deepsouth* loophole.[101] Further, it could provide added protection to patent holders who cannot prove scienter on the part of the accused infringer, which is in line with Congress's intent in enacting § 271(f).[102]

Such an interpretation would also avoid the question raised in *Promega* as to whether one component can be a "substantial" part of the invention. The quantity of the components should be irrelevant; rather, the materiality of the components is key. Suppose, for instance, that the preferred embodiment of an invention was comprised of a hundred parts, and an accused infringer exported ninety-nine non-material parts overseas for combination with the last part. Further suppose that the invention would not work without the last part. Under certain readings of § 271(f)(1), this would look like a substantial portion of the components and should allow liability to attach. Moreover, it seems absurd to hold someone liable as an infringer through the extraterritorial imposition of U.S. law if such parts are not required to make the accused device work. However, the proposed interpretation of § 271(f)(1), would not attach liability under such conditions. As such, the patent holder would be left with recourse to § 271(a), should the infringer import

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[100] U.S. CONST. art. I, § 8, cl. 8.

[101] Promega Corp. v. Life Technologies Corp., 773 F.3d 1338, 1352 (Fed. Cir. 2014) ("Congress . . . sought to 'prevent copiers from avoiding United States patents by supplying components of a patented product in this Country so that the assembly of the components may be completed abroad.'" (citing Legislative History, *supra* note 49, at 5828)).

[102] *See infra* Part IV.D.

the accused device into the U.S., sensibly limiting the extraterritoriality of U.S. patent law.

Now suppose that one material part of the previous invention was made in the U.S. for combination with the other ninety-nine overseas. LifeTech's reading of § 271(f)(1) as introduced in *Promega* would not count such an action as infringement. By contrast, the proposed interpretation of § 271(f)(1) would catch this activity as infringement by attaching liability to the action of shipping a material piece of another's patent overseas for assembly to skirt U.S. patent law. Further, because § 271(f)(1) does not require knowledge of the patent, the proposed interpretation puts a useful tool into the hands of U.S. patent holders. As such, this would be an appropriate exercise of the extraterritoriality of U.S. law.

C. Self-Inducement: Is it Infringement?

One of the controversial holdings of the *Promega* case was that a party may be liable under 35 U.S.C. § 271(f)(1) for supplying a component even to onetself for combination outside the U.S.[103] In other words, one could induce oneself to infringe a patent. The patent blogosphere criticized this decision;[104] Rantanen in particular attacked the majority's textual analysis of 35 U.S.C. § 271(f)(1) as "deeply flawed."[105] Both Rantanen and *Promega*'s majority rely on dictionaries to examine the meaning of 'induce' under the provision.[106] However, this view misses the larger points of the policy that Congress wished to effectuate when it enacted § 271(f)—namely, to close the loophole left by the Supreme Court's *Deepsouth* decision. Overturning *Promega* would have brought about a return of *Deepsouth*, where infringers would need only set up "finishing plants" abroad to receive the components of a device that, once assembled, would infringe a U.S. patent.[107]

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[103] Promega, 773 F.3d at 1353.
[104] *See, e.g.*, Rantanen, *supra* note 7.
[105] *Id.*
[106] *Id.*; *see also* Promega, 773 F.3d at 1351.
[107] Houston Patent Law Association, Comments and Recommended Changes Senate Bill 2504: "The Patent Reform and Modernization Act of 1973" 6 (1973) [hereinafter Houston Report]. Not sure about this one, check rule 13.

Rantanen rebuffed the Federal Circuit's argument that Congress could have added the word "another" to the statute if it had intended to restrict inducement to third parties[108] by claiming that "[t]ypically, the principle is invoked in the context of a parallel statute."[109] However, this view misses both the rich legislative history of § 271(f) and the continuum of indirect infringement that Congress has laid down over the years, with contributory infringement at one end—represented by § 271(c) and (f)(2)—inducement at the other end with § 271(b), and § 271(f)(1) in the middle to apply to inducement to combine a substantial portion of the components of an infringing device.[110]

Rantanen further noted the Supreme Court has required inducement of another in patent and copyright cases respectively.[111]However, *Promega* stands firmly within both the law as written and the intent of the Congress that drafted it.[112] The Federal Circuit analyzed the plain meaning of the term "induce," construing it to mean "to bring about, or to cause."[113] No version of the bill, the court noted, suggests that Congress intended to require the presence of a third party by adding the word "another" to the statute.[114] In reviewing the legislative history, the court also found that Congress had focused on closing the loophole left by the Supreme Court's unpopular *Deepsouth* decision, not on a question of whether inducement is a three-party affair.[115]

Any future decision which attempts to overturn the Federal Circuit's *Promega* decision would open a gaping loophole in the

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[108] Rantanen, *supra* note 7.
[109] *Id*.
[110] See *supra* Part IV.B.
[111] *See id.*
[112] *See infra* Part IV D.
[113] Promega Corp. v. Life Technologies Corp., 773 F.3d 1338, 1351 (Fed. Cir. 2014)
[114] *Id.*
[115] *Id.* at 1352 ("Congress . . . sought to 'prevent copiers from avoiding United States patents by supplying components of a patented product in this Country so that the assembly of the components may be completed abroad.'" (citing Legislative History, *supra* note 49, at 5828)).

extraterritorial reach of U.S. patent law. It would allow domestic companies to escape infringement liability under § 271(f)(1) by shipping infringing components to themselves, rather than to a third-party. Because direct infringement does not apply abroad, § 271(f)(1) determines instead that "[w]hoever . . . supplies . . . components . . . in such a 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 a combination occurred within the United States, shall be liable."[116] Would Congress have intended to treat more harshly a domestic company that shipped components abroad to a foreign company than a domestic company that shipped the components to itself overseas? Finding that inducement of the combination of infringing components, rather than focusing on the actor doing the inducement, would prevent such a result.

D. Knowledge of Infringement Versus Knowledge of Acts

1. 35 U.S.C. § 271(f)(1) does not require knowledge of the patent.

When considering infringement under 35 U.S.C. § 271, it is important to address the accused infringer's intententions, level of knowledge, and actions. For example, § 271(b), (c), and (f)(2)[117] all require some knowledge of indirect infringement, either explicitly, or via Supreme Court precedent.[118] Whether an alleged infringer knew they were infringing a patent, or whether they merely had knowledge of the acts that form the basis for the infringement is often critical. Whether the same can be said for section f(1) has yet to be addressed in any court.

The text of 35 U.S.C. § 271(f)(1) suggests that an individual needs only to supply components that, when combined outside the country, would infringe upon a patent in order for infringement liability to attach.[119] However, "[i]ntent and knowledge" of a patent are not explicit requirements under § 271(f)(1), nor has the case law

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[116] 35 U.S.C. § 271(f)(1) (2015).
[117] 35 U.S.C. §§ 271 (b), (c), (f)(1)-(2).
[118] Global-Tech Appliances, Inc. v. SEB S.A., 563 U.S. 754, 766 (2011).
[119] 35 U.S.C. § 271(f)(1) (2015).

read them into the statute as it has for § 271(b).[120] Under § 271(f)(1), it is the act of supplying the components, their combination, or hypothetical combination, to infringe a patent that attaches liability; knowledge of the patent is not required.[121]

As an example, suppose that LifeTech had merely developed an infringing product in parallel to Promega with no knowledge of the *Tautz* patent. If, under this scenario, LifeTech sold this device in the U.S., its sales would be direct infringement under § 271(a).[122] Under the same scenario, however, if LifeTech shipped the components to outside the U.S. for assembly, liability would attach under § 271(f)(1), even without evidence of knowledge of the patent. On the other hand, if LifeTech knew of the *Tautz* patent and subsequently shipped its components abroad for combination, liability would attach under § 271(f)(2), provided Promega could prove LifeTech's knowledge of the patent.

Requiring knowledge of the act which created infringement, but not of the fact of infringement itself, addresses concerns raised by critics. In his amicus brief in *Global-Tech Appliances, Inc. v. SEB S.A.*, Ted Sichelman—Director of the Center for Intellectual Property Law & Markets, and Professor of Law at the University of San Diego—argued that presumably one would only need bury one's head in the sand and avoid looking for patents, and remain blissfully ignorant to the possible infringement landscape around him in order to avoid liability under § 271(f)(1).[123] Ignorance of the law would become the ultimate defense as would-be infringers strategically avoided looking at patents as part of their clearance-to-practice activities. Provided the maker of an infringing widget knew he was making the widget,, whether he was aware of any patents infringed upon should be irrelevant.

2. Congress Did Not Intend§ 271(f)(1) to Require Knowledge of

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[120] *See* Global-Tech Appliances, 563 U.S. at 764.
[121] 35 U.S.C. § 271(f)(1).
[122] 35 U.S.C. § 271(a).
[123] Brief for Sichelman, et. al., as Amici Curiae Supporting Respondent, Global-Tech Appliances, Inc. v. SEB S.A., 563 U.S. 754 (2011) (No. 2010-06)),) at 33 [hereinafter Sichelman Brief].

the Patent or Intent.

Reading intent into § 271(f)(1) does not comport with the legislative history of the statute. In fact, the history shows that Congress considered, and removed, the intent and knowledge requirements from early versions of § 271(f), splitting the proposed sections into § 271(f)(1)—which has no knowledge and intent requirements—and § 271(f)(2), which had both.[124] Without a requirement for knowledge of the infringing act, the bright-line difference between subsections (f)(1) and (f)(2) becomes intent.

Is it logical to question that Congress intended § 271(f)(1) to require only knowledge of acts, not knowledge of infringement, for liability to attach? While such an interpretation would seem to fly in the face of the Supreme Court's decision in *SEB* regarding 35 U.S.C. § 271(b),[125] the statute's legislative history supports the theory that knowledge of acts should be sufficient for liability. An early version of § 271(f) appears in a 1983 Senate bill; this version included an intent element and elided the "actively induce" element, but otherwise paralleled the current language of § 271(f)(1).[126] The presence of intent in S. 1535, absent from the version of § 271(f)(1) that became law, indicates Congress considered intent in subsection (f)(1) before removing it. Moreover, bills seeking to fix the *Deepsouth* ruling appeared in various forms in the 98th Congress, all containing both elements of knowledge and intent.[127]

In June 1984, the American Intellectual Property Law Association ("AIPLA") advised Congress to remove the knowledge

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[124] *See also supra* Part IV.B.

[125] Global-Tech Appliances, Inc. v. SEB S.A., 563 U.S. 754, 766 (2011) (holding that induced infringement requires knowledge of the patent in suit).

[126] S. 1535, 98th Cong. § 1 (1983) ("Whoever without authority supplies or causes to be supplied in the United States the material components of a patented invention, where such components are uncombined in whole or in part, *intending* that such components will be combined outside of the United States, and *knowing* that if such components were combined within the United States the combination would be an infringement of the patent, shall be liable as an infringer.") (emphasis added); *see, e.g.*, H.R. 4526, 98th Cong. (1983); H.R. 4814, 98th Cong. (1984).

[127] S. 1535, 98th Cong. § 1 (1983).

requirement from the pending House bill.[128] The AIPLA's argument centered on a potential plaintiff's difficulty in proving both infringement and a "knowing" state of mind on the part of the defendant.[129] The AIPLA thought that requiring knowledge would allow an accused infringer an "easy escape" from liability and would essentially gut the provision.[130] This recommendation was eventually codified as 35 U.S.C. § 271(f)(1), without elements for knowledge or intent.[131]

The AIPLA was rightly concerned that a knowledge of infringement requirement would lead to an "easy escape" for infringers.[132] Its report to Congress noted that "[t]he holding in the *Deepsouth* Case enables domestic copiers to circumvent the protection afforded by the patent laws by taking simple evasive

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[128] AMERICAN INTELLECTUAL PROPERTY LAW ASSOCIATION, REPORT TO THE SUBCOMMITTEE ON COURTS, CIVIL LIBERTIES, AND THE ADMINISTRATION OF JUSTICE, COMMITTEE ON THE JUDICIARY (Jun. 13, 1984).("We recommend that the word "knowing" be deleted from line 5 on page 2 [of H.R. 4526, 98th Cong. (1983)]. Section § 271(f) like existing Section 271(a) defines activities which constitute direct infringement of a patent. If a patentee brings suit pursuant to Section 271(a), he must prove that the alleged infringer committed the infringing acts. A judge or jury decides whether or not the patent was infringed. Section § 271(f) as drafted would require that the patentee not only prove that the alleged infringer committed the infringing acts and intended the combining of the material components outside of the U.S. but also that he did so 'knowing" that components when combined would "be an infringement of the patent." The existence of this state of mind in the alleged infringer would be extremely difficult to prove. Proof of infringement involves both facts and law and cannot be known until after a court determination. Therefore, for the patentee to prove that the alleged infringer "knew" would be an easy escape for the unscrupulous infringer and would effectively nullify the section. But more importantly, the reason § 271(f) should be added to the law is that patent rights should be protected whether an infringer finally assembles the infringing product in the U. S. or arranges to have it done in a foreign country. We see no reason to require a higher burden of proof in one set of circumstances and not the other.") [hereinafter AIPLA Report].

[129] *Id.*

[130] *Id.*

[131] *Id.*

[132] AIPLA Report, *supra* note 134.

production and marketing tactics."[133] Similarly, the Houston Patent Law Association warned of just such an effect of the *Deepsouth* case in 1973, writing, "[u]nder the *Deepsouth* holding, American industry is encouraged to construct 'finishing plants' overseas, . . . [t]his situation would allow an infringer to set up shop next door to a patent-protected inventor whose product enjoys a substantial foreign market and deprive him of valuable business."[134] Is the construction of such a finishing plant anything but self-inducement? The Houston Report also made the argument that it is contrary to notions of efficiency and cost to force a patent holder to defend itself against an infringer in numerous foreign jurisdictions, rather than just the single infringing company in the U.S. inducing itself.[135]

Further, Senator Strom Thurmond noted that the purpose of the early bills addressing *Deepsouth* was "[t]o declare it to be patent infringement to supply components of an invention patented in the United States for final assembly abroad if the purpose of the shipment abroad is to circumvent a U.S. patent."[136] Nothing in the statute's legislative history suggests that the purpose of the proposed legislation was only to apply to inducement of others.[137] The plain language "to circumvent a U.S. patent" applies to the situation of direct infringement.[138] Congressional records make it clear that Congress wrote § 271(f) to overcome *Deepsouth*[139]—specifically the Supreme Court's determination that "[w]e cannot endorse the view that the 'substantial manufacture of the constituent parts of (a) machine' constitutes direct infringement."[140] If § 271(f) was designed to overcome *Deepsouth*, it follows that it was Congress's intention that the new statute *would* construe the manufacture of the constituent parts as direct infringement. In its report on 98 S. 1535—a predecessor to the bill that would become 35 U.S.C. § 271(f)—the reviewing Senate committee stated that "[t]he bill simply amends

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[133] *Id.*; H.R. 6286, 98th Cong. (1984).
[134] Houston Report, *supra* note 107.
[135] *Id.*
[136] S. Rep. No. 98-663, at 1 (1984).
[137] *Id.*
[138] *Id.; see also* 35 U.S.C. § 271(a) (2012).
[139] 98 Cong. Rec. H28069 (daily ed. October 1, 1984) (statement of Rep. Kastenmeier); *see also* S. Rep. No. 98-663, at 2–3 (1984).
[140] Deepsouth Packing Co. v. Laitram Corp., 406 U.S. 518, 528 (1972).

the patent law so that when components are supplied for assembly abroad to circumvent a patent, the situation will be treated the same as when the invention is "made" or "sold" in the United States."[141]Making, selling, or using a patented invention in the U.S. is direct infringement under 35 U.S.C. 271(a).[142] This strongly suggests that Congress never wanted to exclude self-inducement under § 271(f)(1).

Upholding the *Promega* decision would largely eliminate the practice of opinion counsel, which has historically been self-serving. If a finding of infringement requires knowledge, alleged infringers could skirt the law simply by procuring an attorney's letter to show that they had a reasonable belief that their devices did not infringe.[143] While the Supreme Court has eliminated the use of opinion counsel with regard to invalidity of patents, it has not addressed opinion counsel with respect to patent infringement.[144] Once the requirement for knowledge of infringement is removed, however, the loophole from infringement liability closes.

Most practically, overturning the Federal Circuit in *Promega* would effectively invite such evasive production tactics as discussed in the AIPLA Report.[145] Any company could simply set up an assembly subsidiary in another country in order to infringe to its heart's content, much to the detriment of American ingenuity and the patent provision of the U.S. Constitution.[146] By gutting the law that was meant to overturn such tactics, *Deepsouth* would rise again.

CONCLUSION

The Federal Circuit correctly concluded in *Promega* that one can induce oneself to infringe a patent, and that a single component can constitute a "substantial portion of the components" under 35 U.S.C. § 271(f)(1). Presuming a continuum of indirect infringement

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[141] Sichelman Brief, *supra* note 128, at 34.
[142] *Id.*
[143] *Id.*
[144] Commil USA, LLC v. Cisco Sys., Inc., 135 S. Ct. 1920, 1929 (2015).
[145] AIPLA Report, *supra* note 134.
[146] U.S. CONST. art. I, § 8, cl. 8.

ranging from 35 U.S.C. § 271(b) to 271(c) and (f)(2), this Article has proposed a new interpretation of § 271(f)(1) to find indirect infringement when a material portion of components of a patented device are shipped overseas for combination. This would focus attention on the importance of the components to the function of a device, rather than the quantity. The proposed interpretation also would require that the components be especially adapted for use in the patented device. Lastly, this Article argued that § 271(f)(1) requires only knowledge of the acts ultimately constituting infringement, rather than knowledge of the patent those acts infringe. Should the Supreme Court affirm the Federal Circuit's holding, it will keep *Deepsouth* from rising again.

PRACTICE POINTERS

- Where possible, showing that an accused infringer knew of or intended to infringe a patent, should be the preferred course of action. This could allow a plaintiff to recover enhanced damages.[152]
- Direct patent infringement in the U.S. is essentially a strict liability offense under 35 U.S.C. § 271(a). An accused infringer operating in a complete vacuum, unaware of a patent, can still infringe it.
- Under the current law, it is inducement to infringe a patent to ship a substantial portion of the components of a patented device overseas for combination, if that combination would constitute infringement in the U.S.

[152] 35 U.S.C. § 284 (2012); *see also* Halo Elecs., Inc. v. Pulse Eleccs., Inc., 136 S. Ct. 1923 (2016).