


2016

Resolving the Divided Patent Infringement Dilemma

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Recommended Citation

Nathanial Grow, *Resolving the Divided Patent Infringement Dilemma*, 50 U. MICH. J. L. REFORM 1 (2016).

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RESOLVING THE DIVIDED PATENT INFRINGEMENT DILEMMA

Nathaniel Grow*

ABSTRACT

This Article considers cases of divided patent infringement: those in which two or more parties collectively perform all the steps of a patented claim, but where no single party acting alone has completed the entire patented invention. Despite the increasing frequency with which such cases appear to be arising, courts have struggled to equitably resolve these lawsuits under the constraints of the existing statutory framework because of the competing policy concerns they present. On the one hand, any standard that holds two or more parties strictly liable whenever their combined actions infringe a patent risks imposing liability on countless seemingly innocent actors who are unaware that their activities are being combined with those of another party to infringe a patent. On the other hand, any attempts to establish more restrictive conditions for the imposition of divided infringement liability have inevitably created loopholes through which parties can easily structure their activities to avoid incurring infringement liability.

While scholars have previously recognized the difficulties presented by divided infringement lawsuits, this Article offers a novel explanation for why these cases have proven to be particularly challenging for courts to resolve. Specifically, although courts were historically well equipped to handle cases of divided infringement at common law through the imposition of contributory tort liability, Congress's shortsighted codification of the law of patent infringement in the Patent Act of 1952—and its narrow formulation of the doctrine of contributory patent infringement in particular—currently prevents the judiciary from relying on this common law doctrine to its full historic extent.

This Article asserts that Congress should correct this mistake by enacting a new statutory provision to govern cases of divided patent infringement. By allowing courts to impose liability on any party who knowingly collaborates with another to infringe a patent, Congress can prevent would-be infringers from intentionally circumventing patent protection, while at the same time ensuring that innocent actors who may unwittingly contribute to an infringement are not unfairly exposed to liability.

* Associate Professor of Legal Studies, Terry College of Business, University of Georgia. This research was supported by a Terry-Sanford research grant from the Terry College of Business. The author would like to thank Devin Desai and two anonymous reviewers from the Academy of Legal Studies in Business for supplying helpful comments on an earlier version of this Article.

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INTRODUCTION

A potential case of divided patent infringement arises whenever two or more parties collectively perform all of the steps of a patented claim, but no single party acting alone has itself completed the entire patented invention.¹ Take, for example, a patent claiming a process for transferring multimedia files more quickly and

1. See, e.g., Alice Juwon Ahn, Note, *Finding Vicarious Liability in U.S. Patent Law: The "Control or Direction" Standard for Joint Infringement*, 24 BERKELEY TECH. L.J. 149, 149 (2009) (noting that cases "where infringement can only be found by combining the conduct of more than one actor" are "commonly called 'joint' or 'divided' infringement").

Courts and commentators have applied differing terminology when referring to divided infringement cases, with some instead referring to infringement through the combined actions of multiple parties as "joint" or "multiactor" infringement. See Lynda J. Oswald, *Simplifying Multiactor Patent Infringement Cases Through Proper Application of Common Law Doctrine*, 51 AM. BUS. L.J. 1, 3 (2014) (stating that "[w]hile the term 'multiactor' is not completely

efficiently over the Internet.² If one of the patent owner's competitors were to duplicate this entire process itself, then the patent-holder could sue the violator directly for infringement. But if the performance of the infringing acts were instead split between the competing company and one of its customers—with neither party itself performing the entire patented method—then the patentee's only recourse would be to sue under a theory of divided infringement.

These sorts of divided infringement claims arise most often in cases involving so-called “method” or “process” patent claims—those protecting a series of steps used to perform a particular function or achieve a specific result (such as the automobile assembly line process). Unlike apparatus or system claims—which are infringed by anyone who sells or uses an infringing machine, or controls an infringing network, respectively, regardless of how many parties contributed to its construction—method patents can only be infringed by someone who performs each and every step of a patented claim.³

Historically, the unauthorized performance of a patented method by multiple actors occurred relatively rarely, as any physical separation between the would-be infringers typically made it impractical to divide the performance of a process between parties. The digital age has made this form of infringement much easier to coordinate, however. Parties can now often work together easily via networked computers to divide the infringement of a patented

new to the patent infringement lexicon, courts more typically use the terms ‘joint infringement’ or ‘divided infringement.’”). This Article will employ the more widely accepted “divided infringement” phrasing to describe this form of activity.

2. This example is drawn from U.S. Patent No. 6,108,703, the underlying patent at issue in the *Akamai Technologies, Inc. v. Limelight Networks, Inc.* case discussed at length in Parts III.B and III.C, *infra*.

3. See *Centillion Data Sys. v. Qwest Commc'ns Int'l, Inc.*, 631 F.3d 1279, 1284 (Fed. Cir. 2011) (holding that system claims are infringed by whoever “control[s] the system as a whole and obtain[s] benefit from it.”); Mark A. Lemley et al., *Divided Infringement Claims*, 33 AIPLA Q.J. 255, 275 (2005) (explaining that “[d]irect and/or indirect infringement remedies may . . . be more readily available” in cases of apparatus patents because “some act of making, using, selling, or importing will eventually correspond to the claimed apparatus, even if based originally on contributions from multiple parties.”); see also Kerry J. Begley, *Multinational Patent Enforcement: What the “Parochial” United States Can Learn from Past and Present European Initiatives*, 40 CORNELL INT'L L.J. 521, 534 n.122 (2007) (describing an apparatus claim as “a patent claim on a mechanical device or structure”); Melissa Feeney Wasserman, Note: *Divided Infringement: Expanding the Extraterritorial Scope of Patent Law*, 82 N.Y.U. L. REV. 281, 285 (2007) (observing that “[a] system claim may comprise multiple distinct components.”).

method, regardless of their physical proximity.⁴ Consequently, divided infringement cases have arisen with growing frequency in recent years,⁵ impacting a variety of increasingly important sectors of the economy, including wireless communications, personalized medicine, biotechnology, and financial services.⁶ This trend is likely to accelerate in the future, as the so-called “Internet of Things” connects countless new devices—including everything from wristwatches to washing machines—to the Internet, increasing the frequency with which multiple parties interact through new technology,⁷ and thus heightening the risk that separate actors may divide the performance of a patented method amongst themselves.⁸

Unfortunately, courts have struggled to equitably resolve divided infringement lawsuits under the existing statutory framework.⁹ Because the Patent Act of 1952 (the Patent Act) imposes strict liability on anyone who directly infringes a patent—i.e., anyone who performs all of the steps of a patented claim, regardless of their knowledge of the patent¹⁰—courts have generally been hesitant to broadly apply this principle to the combined actions of two or more

4. See Patrick E. King, et al., *Navigating the Shoals of Joint Infringement, Indirect Infringement, and Territoriality Doctrines: A Comparative Analysis of Chinese and American Patent Laws*, 25 COLUM. J. ASIAN L. 275, 278–79 (2012) (noting that “[i]ncreasingly, software and hardware-based systems and methods practiced in ‘the cloud’ implicate the conduct of several actors performing claim steps in different jurisdictions.”).

5. See Oswald, *supra* note 1, at 4 (stating that “[a]lthough it is difficult to quantify, the incidence of multiactor patent infringement appears to be growing.”).

6. See W. Keith Robinson, *Economic Theory, Divided Infringement and Enforcing Interactive Patents*, 67 FLA. L. REV. 1961, 1967–68 (2015), [hereinafter Robinson, *Economic Theory*] (finding that “divided infringement raises particular problems” not only for “Internet Age” inventions like “wireless technology, Internet retail, and financial services,” but also “personalized medicine, biotechnology and other technology areas where process patents are sought to protect innovation”).

7. See Adam D. Thierer, *The Internet of Things and Wearable Technology: Addressing Privacy and Security Concerns Without Derailing Innovation*, 21 RICH. J.L. & TECH. 6, 6 (2015) (explaining that the Internet of Things “comprises networked ‘smart devices’ equipped with microchips, sensors, and wireless communications capabilities”); see also Ryan Calo, *Digital Market Manipulation*, 82 GEO. WASH. L. REV. 995, 1005 (2014) (recognizing the trend that “thermometers, appliances, glasses, watches, and other artifacts” will increasingly “become networked into an ‘Internet of Things.’”); Scott R. Peppet, *Regulating the Internet of Things: First Steps Toward Managing Discrimination, Privacy, Security, and Consent*, 93 TEX. L. REV. 85, 87–88 (2014) (identifying a variety of devices comprising the Internet of Things).

8. See *infra* notes 194–196 and accompanying text.

9. See *infra* Part III (recounting the various standards courts have formulated in divided infringement cases); see also W. Keith Robinson, *No “Direction” Home: An Alternative Approach to Joint Infringement*, 62 AM. U. L. REV. 59, 65 (2012) [hereinafter Robinson, *No “Direction”*] (reporting that “[i]n the wake of this technological paradigm shift, it is the unenviable job of the Federal Circuit to apply laws crafted in consideration of 1950s technology to the cutting edge innovations of today.”).

10. See, e.g., Nathaniel Grow, *Joint Patent Infringement Following Akamai*, 51 AM. BUS. L.J. 71, 80 (2014) (explaining that “Direct infringement under [35 U.S.C. §] 271(a) is thus a strict liability offense; a defendant can be liable for infringement even if she is unaware of the

parties working together.¹¹ Indeed, imposing strict liability in divided infringement cases would risk holding parties liable even though they may have had no idea that their otherwise innocent activities were being combined with those of another party to violate a patent.¹² At the same time, however, any judicial attempts to formulate narrower standards for divided infringement have inevitably created potential loopholes through which would-be infringers can circumvent patent infringement liability with relative ease by intentionally dividing the performance of a patented method among two or more parties working together at arms-length.¹³

These preceding competing policy concerns presented by divided infringement have created a significant dilemma for the U.S. Court of Appeals for the Federal Circuit—the nation’s primary appellate patent court—that has proven to be particularly difficult to resolve. As a result, the Federal Circuit has formulated six different standards in divided patent infringement cases in just the last decade alone.¹⁴ Unfortunately, such judicial inconsistency has cast doubt on the practical enforceability of countless patents, threatening to disincentivize socially beneficial research and development activities across wide swaths of the new economy.¹⁵

While scholars have previously acknowledged the dilemma posed by divided infringement,¹⁶ the existing literature on the topic fails to correctly identify the root cause of the problem. Specifically,

patent’s existence.”); Lynda J. Oswald, *The Intent Element of “Inducement to Infringe” Under Patent Law: Reflections on Grokster*, 13 MICH. TELECOMM. & TECH. L. REV. 225, 229 (2006) (“Thus, liability for direct infringement of a patent is, in effect, a strict liability provision.”).

11. See *Akamai Tech., Inc. v. Limelight Networks, Inc.*, 692 F.3d 1301, 1307 (Fed. Cir. 2012) (en banc), *rev’d on other grounds*, 134 S. Ct. 2111 (2014) (“Because direct infringement is a strict liability tort, it has been thought that extending liability in that manner would ensnare actors who did not themselves commit all the acts necessary to constitute infringement and who had no way of knowing that others were acting in a way that rendered their collective conduct infringing.”).

12. See Robinson, *No “Direction,” supra* note 9, at 66 (recognizing concern that a broad application of Section 271(a)’s strict liability regime to divided infringement cases could ensnare “innocent actors”).

13. See Oswald, *supra* note 1, at 12 (finding that “courts have recognized . . . that allowing parties to evade infringement liability merely by divvying up their actions among multiple actors can be grossly unfair to patent rights holders”).

14. See *infra* Part III (reviewing the Federal Circuit’s various divided infringement precedents).

15. See *supra* note 6 and accompanying text (noting the diverse array of industries affected by divided patent infringement).

16. See, e.g., Ahn, *supra* note 1, at 170 (declaring that the limitations placed on divided infringement cases allows parties to “escape liability”); Joshua P. Larsen, *Liability for Divided Performance of Process Claims After BMC Resources, Inc. v. Paymentech, L.P.*, 19 DEPAUL J. ART, TECH. & INTELL. PROP. L. 41, 72 (2008) (describing the then-existing law as creating a “loophole” in divided infringement cases); Ben Morgan, *Joint Infringement and the Impact of BMC*

much of the difficulty presented by divided infringement has resulted from the shortsighted manner in which Congress drafted the Patent Act—its most recent comprehensive overhaul of U.S. patent policy—in 1952. The Patent Act created a new statutory provision, Section 271, to govern the infringement of a patent.¹⁷ Unfortunately, although courts had historically been well-equipped to resolve cases of divided infringement through the application of the traditional common law tort principle of contributory liability—imposing liability whenever two or more parties knowingly worked together to injure a plaintiff¹⁸—the Patent Act prevents courts from relying on this doctrine in present-day divided infringement cases. Indeed, because the Patent Act specifically limits the imposition of contributory infringement liability to a narrow set of lawsuits involving only the most pressing form of contributory infringement occurring at the time the Act was adopted, contributory liability cannot arise today in cases where no single actor alone infringes the patent.¹⁹

This Article asserts that Congress should modify the Patent Act to remedy the unintended consequences of the shortsighted codification of the law of contributory patent infringement.²⁰ In particular, it proposes adding a new subsection to the Patent Act that authorizes courts to apply the principles underlying the traditional common law tort doctrine of contributory liability in cases of divided patent infringement.²¹ By creating a new statutory provision imposing liability whenever two or more parties knowingly and collectively infringe a patent, Congress can prevent parties from working together to circumvent patent protection without triggering the policy concerns that would arise under the existing statutory

Resources, Inc. v. Paymentech, L.P., 12 SMU SCI. & TECH. L. REV. 173, 176 (2009) (identifying ways in which parties could circumvent divided infringement liability); Dolly Wu, *Joint Infringement and Internet Software Patents: An Uncertain Future?*, 91 J. PAT. & TRADEMARK OFF. SOC'Y 439, 441 (2009) (contending that the vicarious liability requirement for divided infringement is “unlikely” to be met in many Internet-related cases).

17. Previously, patent infringement had been governed by common law principles. See Giles S. Rich, *Infringement Under Section 271 of the Patent Act*, 21 GEO. WASH. L. REV. 521, 521–22 (1953) (noting that before 1952, it was left “to the judicial branch to settle the question of infringement when requested to do so by patent owners. Under these circumstances the courts evolved their own . . . law on infringement, with no legislative guidance.”).

18. See *infra* notes 36–37 and 50–54 and accompanying text (describing the applicability of contributory liability under tort law).

19. See *infra* notes 107–110 and accompanying text (discussing the manner in which the Patent Act prevents courts from incorporating tort contributory liability doctrine in patent cases).

20. For an explanation of the limitations placed on contributory infringement by the Patent Act, see *infra* notes 67–71 and accompanying text.

21. See *infra* notes 205–206 and accompanying text (discussing proposed statutory provision).

framework should those who unwittingly perform only a small portion of a patent be held strictly liable for its infringement.²²

The Article proceeds in four parts. Part I reviews the pre-1952 case law and traces the common law development of the law of patent infringement, and the doctrine of contributory infringement in particular. Part II then considers the codification of this doctrine in the Patent Act, making the novel observation that congressional shortsightedness in 1952 prevents courts today from employing the common law principle best suited for resolving most divided infringement lawsuits. Part III examines the resulting difficulties that courts have faced when trying to fairly resolve cases of divided infringement under the existing statutory framework. Finally, Part IV asserts that Congress should act to correct its shortsighted codification of the law of contributory infringement, and proposes a new statutory provision that would fully reincorporate the common law tort doctrine of contributory liability into the Patent Act. This new provision would allow courts to equitably balance the competing policy issues implicated by divided patent infringement lawsuits.

I. THE COMMON LAW DEVELOPMENT OF CONTRIBUTORY PATENT INFRINGEMENT DOCTRINE

To fully appreciate the shortcomings of the Patent Act, a brief review of the pre-1952 development of the common law of contributory patent infringement is necessary. Before the passage of the Patent Act, no statutory provision governed patent infringement.²³ Instead, courts drew upon traditional common law tort principles to resolve patent infringement lawsuits, analogizing the infringement of a patent to a trespass on another's property.²⁴

22. See *infra* notes 99–102 and accompanying text (identifying policy concerns raised by resolving divided infringement cases under the current statute).

23. See, e.g., Michael Liu Su, *A Rock and a Hard Place: Choosing Between § 271(A) and (B) for Divided Infringement in Akamai*, 28 BERKELEY TECH. L.J. 609, 610 (2013) (reporting that “patent infringement law was codified for the first time in 1952”); see also Melissa Y. Lerner, *You Can Run, But You Can't Hide: The Expansion of Direct Infringement and the Evisceration of Preventive Contracting in Maersk*, 93 J. PAT. & TRADEMARK OFF. SOC'Y 207, 209 (2011) (“First enacted in 1952, § 271(a) of the 1952 Patent Act codified the common law approach to patent infringement.”).

24. See, e.g., Thomson-Houston Elec. Co. v. Ohio Brass Co., 80 F. 712, 721–22 (6th Cir. 1897) (“An infringement of a patent is a tort analogous to trespass or trespass on the case”); see also James G. Dilmore, *Actual Knowledge of Direct Infringement is Required for Induced Infringement: Global-Tech Appliances, Inc. v. SEB S.A.*, 50 DUQ. L. REV. 659, 668 (2012) (noting that “[b]efore passage of the Patent Act, patent infringement existed as a judicially created tort”); Mark Tomlinson, *Whodunnit? Divided Patent Infringement in Light of Akamai Technologies, Inc. v. Limelight Networks, Inc.*, 7 J. BUS. ENTREPRENEURSHIP & L. 129,

In order to find a party liable for infringement, however, courts at common law generally required a showing that the defendant performed each step of at least one claim from the asserted patent. Indeed, U.S. courts have traditionally viewed every element of a patent claim to be an essential part of the invention.²⁵ As the U.S. Supreme Court explained in *Union Water-Meter Co. v. Desper*, “Our law requires the patentee to specify particularly what he claims to be new, and if he claims a combination of certain elements or parts, we cannot declare that any one of these elements is immaterial. The patentee makes them all material by the restricted form of his claim.”²⁶ As a result, the unauthorized performance of some, but not all, of the steps of a patent claim could not support a finding of infringement at common law, a doctrine that has come to be known as the “all-elements” or “all-limitations” rule.²⁷

Before long, would-be infringers realized that this requirement provided a possible avenue for circumventing infringement liability. By performing all but one step of a patented invention—leaving it to their customers to contribute the final element and complete the would-be infringement—companies could theoretically evade infringement liability under the all-elements rule. Initially, this fact pattern arose most often in lawsuits involving apparatus patents. In the seminal 1871 case of *Wallace v. Holmes*,²⁸ for example, a manufacturer produced all but one part of a patented oil lamp, including all of the lamp’s key inventive components, but let its customers supply the final piece of the patented apparatus—the lamp’s chimney.²⁹ Because the manufacturer of the infringing lamp did not perform all of the patented steps itself, the patent-holder could not sue it directly for infringement under the traditional doctrine; instead, the patentee’s only recourse would have been to sue each of

131 (2013) (“Patent infringement in the United States was originally a matter of common law.”).

25. See *Prouty v. Ruggles*, 41 U.S. 336 (1842) (holding that a defendant must use all three parts of an invention, not just two, for an infringement to have occurred).

26. 101 U.S. 332, 337 (1879).

27. See Joshua P. Larsen, *Liability for Divided Performance of Process Claims After BMC Resources, Inc. v. Paymentech, L.P.*, 19 DEPAUL J. ART, TECH. & INTELL. PROP. L. 41, 49 (2008) (explaining that under “the ‘All Limitations’ or the ‘All Elements’ rule . . . ‘each element of a claim is [considered] material and essential.’”); Joshua R. Nightingale, *An Empirical Study on the Use of Technical Advisors in Patent Cases*, 93 J. PAT. & TRADEMARK OFF. SOC’Y 400, 408 (2011) (stating that the requirement that plaintiff “show that the alleged infringing device contains each claim limitation or its equivalent . . . is known as the ‘all elements’ or ‘all limitations’ rule”).

28. 29 F. Cas. 74 (C.C.D. Conn. 1871) (No. 17,100).

29. *Id.* at 79.

the manufacturer's customers individually, an overly burdensome and unrealistic task.³⁰

Recognizing the seeming injustice presented by cases like this, courts at common law turned to various tort doctrines governing vicarious and contributory liability to hold would-be infringers liable for performing some, but not all, of the infringing acts. Through the doctrine of vicarious liability, for instance, courts could hold parties liable for another's infringing activities in situations where the first party possessed the ability to direct or control the second party's action.³¹ Courts typically premised liability in these cases on the law of agency, under which one party (the principal) agreed to have the other (its agent) act on its behalf and subject to its control.³² In these situations, the principal could then fairly be held liable for the infringing acts committed by its agent.

For example, in *Crowell v. Baker Oil Tools*³³ the would-be infringer did not manufacture any of the infringing oil well casings itself, but instead contracted with another company to produce the accused devices on its behalf.³⁴ In resolving the case, the Ninth Circuit Court of Appeals observed, "It is obvious that one may infringe a patent if he employ an agent for that purpose"³⁵ Thus, in cases where the infringing parties had formed an agency relationship, the principal could be held vicariously liable for the acts of the agent, giving rise to a finding of direct infringement at common law.

30. See *id.* (noting that if the manufacturer were not held liable for infringement, "the complainants would be driven to the task of searching out the individual purchasers for use who actually place the chimney on the burner and use it—a consequence which, considering the small value of each separate lamp, and the trouble and expense of prosecution, would make the complainants helpless and remediless.").

31. See Mark Bartholomew & John Tehranian, *The Secret Life of Legal Doctrine: The Divergent Evolution of Secondary Liability in Trademark and Copyright Law*, 21 BERKELEY TECH. L.J. 1363, 1367 (2006) (finding that "[t]he most common test used to determine vicarious liability is control or the right to control the direct tortfeasor."); Oswald, *supra* note 1, at 16–17 (explaining that "vicarious liability . . . implicates some measure of direction or control over the actors actually engaging in the infringing acts.").

32. See Ken Hobday, Comment: *The Incredibly Ever-Shrinking Theory of Joint Infringement: Multi-Actor Method Claims*, 38 CAP. U.L. REV. 137, 158 (2009) (observing that "vicarious liability ordinarily requires some kind of consensual arrangement in which an agent agrees to act under a principal's control"); Note, *An Efficiency Analysis of Vicarious Liability Under the Law of Agency*, 91 YALE L.J. 168, 168 (1981) (stating that "[a]n important basis for the imposition of vicarious liability on a business principal is the existence of 'control' or a right of 'control' by the principal over the physical conduct of his agent.").

33. 143 F.2d 1003 (9th Cir. 1944).

34. See *id.* at 1004 (noting that the plaintiff in the declaratory judgment suit was "not engaged in manufacturing the device").

35. *Id.*

Meanwhile, in cases where the infringing acts were divided between two parties not connected through an agency relationship, courts at common law could still potentially hold the defendants liable under the traditional tort doctrine of contributory liability.³⁶ As summarized in the *Restatement (Second) of Torts*, contributory tort liability applies to “[e]ach of two or more persons whose tortious conduct is a legal cause of a single and indivisible harm to the injured party.”³⁷ Expounding on this theory in the patent infringement context, the U.S. Supreme Court explained that, at common law, contributory infringement liability served to “protect patent rights from subversion by those who, without directly infringing the patent themselves, engage in acts designed to facilitate infringement by others. This protection is of particular importance in situations . . . where enforcement against [the] direct infringers would be difficult.”³⁸ For example, in the 1872 case of *Renwick v. Pond*,³⁹ the court held that a defendant was contributorily liable for selling an infringing firearm even though its customers had supplied the actual cartridge fired from the gun, which was an explicit part of the patented invention.⁴⁰

Although courts at common law did not always clearly identify which theory of indirect liability they were imposing in a particular case, this general framework allowed them to capture most wrongful acts of infringement. In the abovementioned case of *Wallace v. Holmes*,⁴¹ for instance, the court ruled that the company manufacturing most, but not all, of a patented oil lamp “virtually” infringed the patent when it knew its customers would add the final infringing piece themselves.⁴² Thus, the *Wallace* court, in effect, applied the basic tort theory of contributory liability and held the manufacturer liable for assisting in the ultimate infringement of the patent. Indeed, imposition of contributory liability in cases like *Wallace v. Holmes* is consistent with the doctrine delineated by the *Restatement*

36. See Oswald, *supra* note 1, at 18 (explaining that “contributory tortfeasors can be held jointly and severally liable for the wrongdoing.”).

37. RESTATEMENT (SECOND) OF TORTS § 875 (1979).

38. Dawson Chemical Co. v. Rohm and Haas Co., 448 U.S. 176, 188 (1980); see also Robinson, *No “Direction”*, *supra* note 9, at 69 (“Under this early formulation of contributory infringement, ‘one who intentionally caused, or aided and abetted, the commission of a tort by another was jointly and severally liable with the primary tortfeasor.’”) (quoting Hewlett-Packard Co. v. Bausch & Lomb Inc., 909 F.2d 1464, 1469 (Fed. Cir. 1990)).

39. 20 F. Cas. 536 (C.C.S.D.N.Y. 1872) (No. 11,702).

40. See *id.*

41. 29 F. Cas. 74 (C.C.D. Conn. 1871) (No. 17,100); see also *supra* notes 28–30 and accompanying text (discussing case).

42. *Wallace*, 29 F. Cas. at 75.

(*Second*) of *Torts*, which specifies that a defendant can be held contributorily liable when she knowingly either (i) commits “a tortious act in concert with [an]other or pursuant to a common design with him,” or (ii) gives someone “substantial assistance or encouragement” to commit a tortious act themselves.⁴³

Most contributory infringement cases in the late 1800s and early 1900s proceeded along similar lines.⁴⁴ Because these cases typically involved a patented apparatus—as opposed to a patented method—some party inevitably sold or used the entire infringing device, and as a result, could be held directly liable for infringement,⁴⁵ with any contributing parties subject to indirect liability for vicarious or contributory infringement. As a result, courts were rarely, if ever, required to delineate the outer limits of contributory infringement liability.⁴⁶

Most significantly for present purposes, it does not appear that courts at common law were ever called on to determine whether contributory infringement liability would arise in cases where two or more parties each performed some, but not all, of the infringing steps of a patented method or process. In these cases, although the parties performed the entire patented process, no single actor completed the entire infringement herself, as was traditionally required at common law.⁴⁷ While there do not appear to be any reported decisions from the era considering this issue, an 1890 patent treatise did suggest that “[a]ll who perform or who unite in the performance of an act of infringement . . . may be sued jointly or

43. RESTATEMENT (SECOND) OF TORTS § 876 (1979).

44. See, e.g., *Travers v. Beyer*, 26 F. 450 (C.C.N.D. N.Y. 1886); *Boyd v. Cherry*, 50 F. 279 (C.C.D. Iowa 1883); *American Cotton-Tie Co. v. Simmons*, 106 U.S. 89 (1882); *Strobridge v. Lindsay, Sterritt & Co.*, 6 F. 510 (C.C.W.D. Pa. 1881); *Rumford Chemical Works v. Hecker*, 20 F. Cas. 1342, No. 12133 (C.C.D. N.J. 1876); *American Cotton Tie Supply Co. v. Bullard*, 1 F. Cas. 625, No. 294 (C.C.S.D. N.Y. 1879); *Bowker v. Dows*, 3 F. Cas. 1070, No. 1734 (C.C.D. Mass. 1878); *Richardson v. Noyes*, 20 F. Cas. 723, No. 11792 (C.C.D. Mass. 1876); see also R. CARL MOY, *MOY’S WALKER ON PATENTS* § 15:4 (4th ed. 2003) (identifying early contributory infringement cases).

45. See, e.g., *Lemley et al.*, *supra* note 3, at 275 (explaining that “[d]irect and/or indirect infringement remedies may . . . be more readily available” in cases of apparatus patents because “some act of making, using, selling, or importing will eventually correspond to the claimed apparatus, even if based originally on contributions from multiple parties.”).

46. See Charles W. Adams, *A Brief History of Indirect Liability for Patent Infringement*, 22 SANTA CLARA COMPUTER & HIGH TECH. L.J. 369, 375 (2006) (declaring that “[t]here was some uncertainty in the early cases as to what was required for a defendant to be liable for contributory infringement.”).

47. See Edwin M. Thomas, *The Law of Contributory Infringement*, 21 J. PAT. OFF. SOC’Y 811, 835 (1939) (noting that at common law, “[t]here must [have] be[en] a complete infringement somewhere before a contributor is liable”).

severally” for violating the patent.⁴⁸ The treatise failed to cite any supporting case law for this proposition, however.⁴⁹ As a result, it is unknown whether, or how, a common law court would have imposed contributory liability in such cases.

Although no case directly posed this question at common law, the doctrine of contributory tort liability would have been particularly well-suited to handle these sorts of cases of divided infringement. As with the common law tort doctrine, divided infringement inflicts an injury on the patentee through the combined actions of two or more parties.⁵⁰ And perhaps more significantly, divided infringement, like contributory tort liability, presents a situation in which “the acts of each of two or more [infringing] parties, standing alone, would not be wrongful, but together they cause harm to the plaintiff.”⁵¹ Therefore, this doctrine was particularly well-suited to address cases in which each individual divided infringer’s actions alone did not constitute wrongful conduct, since they encompassed only a portion of the patented process (and therefore did not individually satisfy the all-elements rule).⁵² Importantly, however, unlike the strict liability regime currently imposed in direct infringement cases under the Patent Act,⁵³ contributory tort liability at common law required that a defendant be reasonably aware that his or her actions were being combined with those of another to injure the plaintiff.⁵⁴ Such a requirement would have served to obviate any concern in the patent infringement context about holding an otherwise innocent actor legally accountable for unwittingly performing one part of an infringing method.

48. WILLIAM ROBINSON, 3 THE LAW OF PATENTS FOR USEFUL INVENTIONS § 135 (1890); *see also* Albert H. Walker, Textbook of the Patent Laws of the United States of America § 406 (4th ed. 1904) (“Where several persons cooperate in any infringement, all those persons are liable therefor as contributors thereto. In that, as in all cases of torts for which several persons are liable, all may be sued jointly, or any of them may be sued alone.”).

49. *See generally* ROBINSON, *supra* note 48, at § 135. The treatise did cite precedent standing for a different proposition, however, namely that both one who unlawfully manufactures a patented invention and another party who then sells the infringing device can be held liable for infringement. *See id.* (citing *Jennings v. Dolan*, 29 Fed. Rep. 861 (S.D.N.Y. 1887)).

50. *See supra* notes 1–3 and accompanying text (describing the most common types of divided infringement cases).

51. W. PAGE KEETON ET AL., PROSSER & KEETON ON THE LAW OF TORTS § 52, at 354 (5th ed. 1984).

52. *See supra* notes 25–27 and accompanying text (reciting the historical underpinnings of the all-elements rule).

53. *See infra* note 58 and accompanying text (discussing the imposition of strict liability under Section 271(a)).

54. *See* Oswald, *supra* note 1, at 18 (stating that contributory tort liability “is tempered by a ‘culpability requirement’ that considers ‘whether a reasonable person, standing in the shoes of the defendant, would have been aware of the misdeeds of another’”) (quoting Bartholomew, *infra* note 95, at 465).

As Part II reveals, however, the potential promise of this doctrine was undone by Congress's codification of the common law of patent infringement, which prevents courts from fully relying on theories of contributory tort liability in divided infringement cases today.

II. THE PATENT ACT LIMITS THE IMPOSITION OF CONTRIBUTORY TORT LIABILITY IN DIVIDED INFRINGEMENT CASES

Although the doctrine of contributory tort liability appears well-suited to equitably resolve divided patent infringement lawsuits, present-day courts are unable to fully rely on this body of law when resolving these cases due to Congress's narrow—and short-sighted—codification of the law of patent infringement in the Patent Act of 1952. This Part examines the restrictions imposed by the Patent Act by first reviewing its codification of the law of infringement, and then probing the ways in which that codification limited the scope of the common law principle of contributory infringement.

A. *The Patent Act's Codification of the Law of Patent Infringement*

Congress codified the common law of patent infringement for the first time in the Patent Act of 1952,⁵⁵ creating a new statutory provision, Section 271, to govern patent infringement.⁵⁶ Subsection 271(a) defines the direct infringement of a patent, stating that “whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent.”⁵⁷ This provision thus, in effect, establishes a strict liability paradigm for direct infringement: a party

55. See, e.g., Neil F. DuChes, Note, *Synopsis of the Extraterritorial Protection Afforded by Section 337 as Compared to the Patent Act*, 14 MICH. TELECOMM. & TECH. L. REV. 447, 449 (2008) (explaining that “the Patent Act of 1952 independently codified the common law of infringement in Section 271(a)”); Steven W. Moore, Note, *A Last Step Rule for Direct Infringement of Process Claims: Clarifying Indirect Infringement and Narrowing Joint Infringement*, 61 CLEV. ST. L. REV. 827, 834 (2013) (noting that “the Patent Act . . . codified the common law patent infringement doctrines at the time”); Su, *supra* note 23, at 610 (reporting that “patent infringement law was codified for the first time in 1952”).

56. See, e.g., Lerner, *supra* note 23, at 209 (“First enacted in 1952, § 271(a) of the 1952 Patent Act codified the common law approach to patent infringement.”); Su, *supra* note 23, at 610 (reporting that “patent infringement law was codified for the first time in 1952”).

57. 35 U.S.C. § 271(a) (2010).

can be held liable for infringement even if it was unaware of the patent's existence.⁵⁸

Meanwhile, the Patent Act divided the common law doctrine of contributory patent infringement into two separate provisions.⁵⁹ The first, Section 271(b), holds a party liable for inducing another's infringement, declaring that "[w]hoever actively induces infringement of a patent shall be liable as an infringer."⁶⁰ Put differently, even if a party does not infringe a patent itself, under Section 271(b) it can still be held indirectly liable if it causes someone else's direct infringement.⁶¹ Inducement liability has arisen, for example, in cases where a party designed the infringing activity carried out by another,⁶² instructed or directed the infringing party's actions,⁶³ or agreed to indemnify the infringing party from liability.⁶⁴

Because the Patent Act speaks in terms of "active" inducement, however, courts have traditionally required a showing that the inducer knew of the patent-in-suit in order to impose liability under Section 271(b).⁶⁵ Moreover, because the provision only applies to

58. See *In re Seagate Tech., LLC*, 497 F.3d 1360, 1368 (Fed. Cir. 2007) (en banc) ("[P]atent infringement is a strict liability offense."); see also Roger D. Blair & Thomas F. Cotter, *Strict Liability and Its Alternatives in Patent Law*, 17 BERKELEY TECH. L.J. 799, 800 (2002) ("Patent infringement is a strict liability tort in the sense that a defendant may be liable without having had any notice, prior to the filing of an infringement action, that her conduct was infringing."); Karthik Kumar, Note, *Of Deep-Fryers and (Semiconductor) Chips: Why Ignorance of a Patent is No Excuse for Its Indirect Infringement*, 40 AIPLA Q.J. 727, 733 (2012) ("Direct infringement is a strict liability tort: a defendant can be liable even without knowledge of the patent's existence.").

59. See, e.g., Cristin Keegan, Comment, *Using Old Ideas to Catch New Infringers: How Courts Should Look to Patent Law to Apply Liability for Inducing Infringement*, 36 SETON HALL L. REV. 1015, 1020 (2006) ("The Patent Act codified the common law concept of contributory infringement and divided it into two categories: contributory infringement and inducing infringement."); Eric L. Lane, *The Federal Circuit's Inducement Conflict Resolution: The Flawed Foundation and Ignored Implications of DSU Medical*, 6 J. MARSHALL REV. INTELL. PROP. L. 198, 202 (2007) ("The goal of Congress in enacting the contributory infringement and inducement sections of the Patent Act of 1952 was to codify the existing common law of contributory infringement.").

60. 35 U.S.C. § 271(b) (2010).

61. See Long Truong, Note, *After BMC Resources, Inc. v. Paymentech, L.P.: Conspiratorial Infringement as a Means of Holding Joint Infringers Liable*, 103 NW. U. L. REV. 1897, 1905 (2009) (reciting the requirements for inducement under Section 271(b)).

62. See *Water Tech. Corp. v. Calco, Ltd.*, 850 F.2d 660, 668 (Fed. Cir. 1988) (imposing inducement liability on the developer of an infringing system).

63. See *Goodwill Const. Co., Inc. v. Beers Const. Co.*, 210 U.S.P.Q. 272, 1981 WL 40517 (N.D. Ga. 1981).

64. See *H.B. Fuller Co. v. Nat'l Starch and Chemical Corp.*, 689 F. Supp. 923, 944–45 (D. Minn. 1988); see also Moy, *supra* note 44, at § 15:17 (reciting cases).

65. See *Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S. Ct. 2060, 2068 (2011); see also Soonbok Lee, Note, *Induced Infringement as a Strict Liability Claim: Abolishment of the Specific Intent Requirement*, 4 HASTINGS SCI. & TECH. L.J. 381, 383 (2012) (noting that although "§ 271(b) does not expressly mention any knowledge or intent of the inducer . . . courts nevertheless have consistently required a certain level of specific intent of the inducer.");

the inducement of “infringement,” courts have also required a plaintiff to show that someone else has directly infringed the patent—as defined by Section 271(a)—in order for inducement liability to arise.⁶⁶

Perhaps more significantly for present purposes, the Patent Act also included a provision defining the “contributory” infringement of a patent, limiting the concept to cases involving a specific fact pattern set forth in Section 271(c).⁶⁷ That provision states:

Whoever offers to sell or sells within the United States or imports into the United States a component of a patented machine, manufacture, combination or composition, or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use, shall be liable as a contributory infringer.⁶⁸

Thus, Section 271(c) limits contributory infringement liability to cases in which the defendant has assisted in another’s unauthorized performance of a patent by selling a material component especially made for use in the infringement.⁶⁹ Like Section 271(b), however, in order to prevail on a claim of contributory infringement the patent-holder must show both (i) that someone else directly infringed the patent,⁷⁰ and (ii) that the defendant knowingly contributed a

Mathew Lowrie, Kevin M. Littman & Lucas Silva, *The Changing Landscape of Joint, Divided and Indirect Infringement—The State of the Law and How to Address It*, 12 J. HIGH TECH. L. 65 (2011) (stating that plaintiffs “must be able to show that the defendant at least knew of the patent” in an inducement case).

66. See *Limelight Networks, Inc. v. Akamai Tech., Inc.*, 134 S. Ct. 2111, 2117 (2014) (holding that inducement liability under Section 271(b) must be predicated on a direct infringement of the patent as specified under Section 271(a)).

67. 35 U.S.C. § 271(c) (2010).

68. *Id.*

69. See generally *id.*; see also Daniel Harris Brean, *Asserting Patents to Combat Infringement Via 3D Printing: It’s No “Use”*, 23 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 771, 794 (2013) (“[C]ontributory infringement under subsection (c) requires provision of material components to another for incorporation into an infringing product with knowledge ‘that the combination for which [the] component was especially designed was both patented and infringing.’”); Report, *A Lawyer’s Ramble Down the Information Superhighway*, 64 FORDHAM L. REV. 697, 726 (1995) (reporting that “one who sells material components of a patented invention within the United States, with knowledge of the components’ intended infringing use, is liable for contributory infringement unless the item is ‘a staple article . . . of commerce suitable for substantial noninfringing use.’”).

70. See, e.g., *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 341 (1961) (Aro I) (stating “it is settled that if there is no *direct* infringement of a patent there can be no *contributory* infringement”); see also Andrea Sloan Pink, Comment, *Copyright Infringement Post*

component to this infringement while being aware of the patent-infringement.⁷¹

So, for example, under Section 271(c) the manufacturer of a gas fireplace component has been held liable for contributory infringement when the part it sold had no substantial use beyond its inclusion in a patented fireplace burner assembly.⁷² At the same time, however, merely performing one or more steps of a patented process—as in the typical divided infringement case—would not give rise to a finding of contributory infringement under Section 271(c) unless the defendant supplied a material component in order to help facilitate another’s direct infringement of an entire patented claim.

To understand why Congress drafted Section 271(c) in such a narrow manner requires a brief review of the continued evolution of the common law doctrine of contributory infringement throughout the first half of the 1900s. Around the turn of the twentieth century, patentees began to realize that they could potentially use the threat of contributory infringement liability to expand their patent monopolies by requiring that their customers only use authorized, but unpatentable, component parts with a patented machine.⁷³ In the 1896 case of *Heaton-Peninsular Button-Fastener Co. v. Eureka Specialty Co.*,⁷⁴ for example, the owner of a patent covering a machine that used staples to attach buttons to shoes prohibited its customers from using other companies’ fasteners in its device.⁷⁵ Even though the staples themselves were not patented, the patent-holder sued a competitor for contributory infringement when it began to sell fasteners for use in the patentee’s machine.⁷⁶

Isoquantic Shift: Should Bulletin Board Services Be Liable?, 43 UCLA L. REV. 587, 621 (1995) (reciting the traditional rule that “[e]very act of contributory infringement requires that there be a direct infringement by another.”).

71. See, e.g., *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 377 U.S. 476, 488 (1964) (Aro II) (explaining that “a majority of the Court is of the view that § 271(c) does require a showing that the alleged contributory infringer knew that the combination for which his component was especially designed was both patented and infringing.”); see also Jennifer K. Bush, John E. Gartman, & Elizabeth I. Rogers, *Six Patent Law Puzzlers*, 13 TEX. INTELL. PROP. L.J. 1, 32 (2004) (noting that “[t]he statutory provision for contributory infringement contains an explicit knowledge requirement which the Supreme Court and Federal Circuit have construed to require knowledge of the patent.”).

72. *Golden Blount, Inc. v. Robert H. Peterson Co.*, 438 F.3d 1354 (Fed. Cir. 2006).

73. See Adams, *supra* note 46, at 376–77 (discussing the development of using arrangements to extend patent monopolies in the early 1900s).

74. 77 F. 288 (6th Cir. 1896).

75. *Id.* at 290.

76. *Id.* at 289; see also Adams, *supra* note 46, at 377 (discussing case).

Courts were initially willing to impose contributory infringement liability in these cases.⁷⁷ The Supreme Court eventually rejected this interpretation of the doctrine, however, in *Motion Pictures Patents Co. v. Universal Film Manufacturing Co.*,⁷⁸ a 1917 case involving the use of a patented film projector to display movies produced by an unauthorized film studio.⁷⁹ In particular, the Court determined that it would be improper to allow a patentee to “extend the scope of its patent monopoly by restricting the use of it to materials necessary in its operation but which are no part of the patented invention”⁸⁰ The Supreme Court later expanded this holding in 1931,⁸¹ ruling that any attempt to extend a patent monopoly to an unpatented component part in such a manner was beyond the legitimate scope of the patent owner’s monopoly and resulted in the patent owner thereafter being barred from ever again asserting the patent in an infringement action.⁸²

The Court continued to develop this theory of patent misuse into the 1940s, which culminated in the 1944 case of *Mercoïd Corp. v. Mid-Continent Investment Co.*⁸³ *Mercoïd* involved a patent for a home heating system that used a combustion stoker switch to prevent fire from escaping a furnace once the thermostat had reached the desired temperature.⁸⁴ The patentee accused the defendant of contributory infringement after the defendant sold unauthorized stoker switches for use in the plaintiff’s patented system.⁸⁵ However, unlike the *Button-Fastener* and *Motion Picture Patents* cases discussed above—which involved the sale of unpatented, so-called “staple” items of commerce capable of other non-infringing uses—the accused stoker switch in *Mercoïd* could not be used in any way other

77. See, e.g., *Henry v. A. B. Dick Co.*, 224 U.S. 1 (1912); *Leeds & Catlin Co. v. Victor Talking Machine Co.*, 213 U.S. 325 (1909); *National Phonograph Co. v. Schlegel*, 128 F. 733 (8th Cir. 1904); *Rupp & Wittgenfeld Co. v. Elliott*, 131 F. 730 (6th Cir. 1904); *Cortelyou v. Lowe*, 111 F. 1005 (2d Cir. 1901); *Dickerson v. Matheson*, 57 F. 524 (2d Cir. 1893); *Edison Phonograph Co v. Kaufmann*, 105 F. 960 (C.C.W.D. Pa. 1901); *Tubular Rivet & Stud Co. v. O’Brien*, 93 F. 200 (C.C.D. Mass. 1898); see also *Moy*, *supra* note 44, at § 15:5 (discussing evolution of the doctrine of contributory patent infringement).

78. 243 U.S. 502 (1917).

79. *Id.* at 506–07.

80. *Id.* at 516.

81. *Carbice Corp. of Am. v. Am. Patents Dev. Corp.*, 283 U.S. 27 (1931).

82. See *Moy supra* note 44, at § 15:8 (discussing the implications of patent misuse following the U.S. Supreme Court’s decision in *Carbice*).

83. 320 U.S. 661 (1944).

84. *Id.* at 664 (“The patent is a combination or system patent, covering a domestic heating system which comprises three main elements—a motor driven stoker for feeding fuel to the combustion chamber of a furnace, a room thermostat for controlling the feeding of fuel, and a combustion stoker switch to prevent extinguishment of the fire.”).

85. *Id.* (“[Mercoïd] manufactured and sold combustion stoker switches for use in the Cross combination patent”).

than as part of the patented system.⁸⁶ This brought the case more closely in line with the original contributory infringement suits—like the oil lamp case of *Wallace v. Holmes*—decided back in the 1800s.⁸⁷ Nevertheless, the Supreme Court ruled that the patentee in *Mercoïd* had engaged in patent misuse by seeking to hold the competitor contributorily liable for selling the component part.⁸⁸ As a result, the *Mercoïd* decision effectively eradicated the doctrine of contributory infringement from the patent landscape.⁸⁹

Section 271(c) was intended to overturn *Mercoïd* and restore the doctrine of contributory infringement liability back to its pre-1944 roots.⁹⁰ This explains the narrow focus of the provision. Congress specifically limited the imposition of contributory infringement liability in Section 271(c) to cases involving the sale of component parts of a patented invention because that was the most pressing form of contributory infringement at issue at the time.⁹¹ Indeed, as the House and Senate Report accompanying the bill that would become the Patent Act clearly explained, Section 271(c) was “concerned with the usual situation in which contributory infringement arises.”⁹²

B. The Patent Act Limited the Scope of Contributory Infringement Liability

Taken together, the Patent Act’s two provisions codifying the common law of contributory infringement no longer permit courts

86. *Id.* (stating that “we may assume that *Mercoïd* did not act innocently” since “the Circuit Court of Appeals said that it could find no use for the accused devices other than in the Cross combination patent.”).

87. See *supra* notes 39–42 and accompanying text (discussing the early contributory infringement cases of *Renwick v. Pond* and *Wallace v. Holmes*).

88. *Mercoïd*, 320 U.S. at 667 (finding that “it makes no difference that the unpatented device is part of the patented whole” when considering whether patent misuse had occurred).

89. See *Adams*, *supra* note 46, at 382 (explaining that “the Supreme Court used the patent misuse defense to in effect eradicate the doctrine of contributory infringement”).

90. See *Akamai Tech., Inc. v. Limelight Networks, Inc.*, 786 F.3d 899, 922 (Fed. Cir. 2015) (Moore, J. dissenting) (noting that “the 1952 Patent Act was” intended to “restore notions of infringement which had been curtailed by the Supreme Court’s decisions in [*Mercoïd*]); see also Alfred P. Ewert & Irah H. Donner, *Will the New Information Superhighway Create “Super” Problems for Software Engineers? Contributory Infringement of Patented or Copyrighted Software-Related Applications*, 4 ALB. L.J. SCI. & TECH. 155, 167 (1994) (stating that “Congress came to the rescue with the Patent Act by including § 271(c) and (d) which define contributory infringement and limit application of the misuse doctrine, effectively overruling the *Mercoïd* decision”).

91. See 35 U.S.C. § 271(c) (2010).

92. S. Rep. No. 82-1979 (1952), as reprinted in 1952 U.S.C.C.A.N. 2394, 2402.

to apply the underlying tort doctrine as broadly as would have originally been allowable at common law.⁹³ The tort doctrine of contributory liability allowed courts to hold two or more parties liable whenever they knowingly worked together to injure a plaintiff,⁹⁴ even if each of the defendant's individual actions alone were not themselves actionable.⁹⁵ Conversely, under Sections 271(b) and (c), courts can only impose liability in cases where one party directly infringes the patent-in-suit. Under Section 271(b), for instance, a party can only be held liable for inducement when it encourages or supports another's direct infringement of the patent.⁹⁶ Meanwhile, because Section 271(c) only applies to parties who sell component parts for use in another's infringement, it too does not cover cases in which two parties collectively infringe a patent, but in which neither party acting alone performs all of the patented steps.

As a result, the Patent Act's limited and shortsighted codification of the doctrine of contributory infringement restricts the potential applicability of the common law principle in significant ways. Most importantly for present purposes, Section 271(c) prevents courts from imposing contributory liability in divided patent infringement lawsuits to the full extent that would have been allowable at common law. As noted above, contributory tort liability was particularly well-suited for equitably resolving divided infringement lawsuits.⁹⁷ Not only does the tort doctrine of contributory liability apply to the collective and wrongful conduct of two or more parties—it includes a knowledge component as well.⁹⁸ Thus, unlike the strict liability regime for direct patent infringement imposed by Section 271(a), at common law contributory tort liability could only arise when a

93. See *supra* notes 36–38 and accompanying text (summarizing the common law tort doctrine of contributory liability).

94. See *supra* notes 36–37 and accompanying text (summarizing contributory liability at common law).

95. See RESTATEMENT (SECOND) OF TORTS § 875 (1979) (explaining that “[e]ach of two or more persons whose tortious conduct is a legal cause of a single and indivisible harm to the injured party” is subject to liability for the entire harm); see also Oswald, *supra* note 1, at 18 (stating that contributory tort liability “is tempered by a ‘culpability requirement’ that considers ‘whether a reasonable person, standing in the shoes of the defendant, would have been aware of the misdeeds of another’”) (quoting Mark Bartholomew, *Copyright, Trademark and Secondary Liability After Grokster*, 32 COLUM. J.L. & ARTS 445, 465 (2009)).

96. See *Limelight Networks, Inc. v. Akamai Tech., Inc.*, 134 S. Ct. 2111, 2117 (2014) (holding that inducement liability under Section 271(b) must be predicated on a direct infringement of the patent as specified under Section 271(a)).

97. See *supra* notes 50–54 and accompanying text (discussing the potential applicability of contributory tort liability doctrine to divided patent infringement lawsuits).

98. See *supra* notes 53–54 and accompanying text (considering the benefits of importing the knowledge requirement from contributory tort liability into divided infringement litigation).

defendant was reasonably aware that her actions were being combined with those of another to injure the plaintiff.

This knowledge requirement would have added a critically important element in cases of divided infringement. Indeed, resolving divided infringement lawsuits under the current framework for direct infringement—as specified in Section 271(a)—raises significant notice concerns, as it could potentially hold defendants strictly liable for participating in an infringement even though they had no idea that their otherwise innocent actions were being combined with those of another party to complete all of the steps of a patented method.⁹⁹

Take, for example, the average Internet user. Anyone who uses the Internet may have, at one point or another, unwittingly contributed to the divided infringement of a patented method through their interactions with a website.¹⁰⁰ Under a strict liability regime—in which parties would be liable for infringement anytime their combined actions infringed a patent—these Internet users could find themselves held jointly liable for the direct infringement of the patent even though they had no idea that they were contributing to its infringement.¹⁰¹ Adding the knowledge component of the common law doctrine of contributory tort liability would serve to eliminate that concern in divided infringement cases.

At the same time, however, any standard limiting divided infringement liability to cases in which a single party performs the entire method itself—either directly or vicariously—inevitably allows parties to intentionally circumvent patent protection by deliberately dividing the performance of a patent method between itself and another party operating at arms-length (such as a website and its users).¹⁰² The common law doctrine of contributory tort liability would account for this concern as well, imposing liability only in cases where a party knowingly collaborates with someone else to infringe a patent.

99. See *Akamai Tech., Inc. v. Limelight Networks, Inc.*, 692 F.3d 1301, 1307 (Fed. Cir. 2012) (en banc), *rev'd on other grounds*, 134 S. Ct. 2111 (2014) (“Because direct infringement is a strict liability tort, it has been thought that extending liability in that manner would ensnare actors who did not themselves commit all the acts necessary to constitute infringement and who had no way of knowing that others were acting in a way that rendered their collective conduct infringing.”); *Deep9 Corp. v. Barnes & Noble, Inc.*, Case No. C11-0035JLR, 2012 WL 4336726, at *5 (W.D. Wash. Sept. 21, 2012) (citing the same language).

100. See *Grow*, *supra* note 10, at 111 (noting that those using the Internet could potentially be participating in “the unauthorized performance of a patented method”).

101. See *id.*

102. See *supra* note 4 and accompanying text (noting that parties may be able to structure their activities to avoid patent infringement liability).

Unfortunately, even though contributory tort liability would have equitably resolved the competing policy concerns presented by divided infringement, courts can no longer rely on this common law doctrine following the Patent Act's codification of the law of contributory infringement, as Sections 271(b) and (c) effectively displaced it.¹⁰³ As the U.S. Supreme Court has explained, a federal statute preempts the common law whenever "the legislative scheme '[speaks] directly to [the] question'" at issue in the case.¹⁰⁴ Congress need not "affirmatively proscribe[] the use of . . . common law" in order to displace the common law principle.¹⁰⁵ Instead, whenever a statute directly addresses an issue, courts may not "supplement' Congress' answer so thoroughly that the [statute] becomes meaningless."¹⁰⁶

Applying this precedent to the Patent Act, Section 271(c) clearly speaks to the question of when contributory patent infringement liability may arise. And, as noted above,¹⁰⁷ this contributory infringement provision has significantly limited the scope of the underlying common law tort doctrine, by requiring not only a showing that someone else has directly infringed the patent, but also that the contributory infringer specifically sold a material component especially made for use in the underlying infringement. Similarly, Section 271(b)—the provision governing induced infringement—also requires that an underlying act of direct infringement have occurred in order for inducement liability to arise.¹⁰⁸ Therefore, neither of the provisions codifying the common law of contributory infringement permits a defendant to be held liable for inducing or contributing to an infringement through the performance of some, but not all, of the steps of a patent claim unless someone else has directly infringed the entire patented invention.

Although courts have often said that the Patent Act's codification of the law of infringement was intended to preserve the pre-existing

103. *See Akamai Tech., Inc. v. Limelight Networks, Inc.*, 786 F.3d 899, 911 (Fed. Cir. 2015) (stating that "joint tortfeasor law and § 271 are fundamentally incompatible").

104. *Milwaukee v. Illinois*, 451 U.S. 304, 315 (1981) (quoting *Mobil Oil Corp. v. Higginbotham*, 436 U.S. 618, 625 (1978)); *see also Cent. Bank of Denver, N.A. v. First Interstate Bank of Denver, N.A.*, 511 U.S. 164, 184 (1994) ("The fact that Congress chose to impose some forms of secondary liability, but not others, indicates a deliberate congressional choice with which the courts should not interfere.").

105. *Milwaukee*, 451 U.S. at 315.

106. *Mobil Oil*, 436 U.S. at 625.

107. *See supra* notes 67–71 and accompanying text (discussing the requirements for liability to arise under Section 271(c)).

108. *See Limelight Networks, Inc. v. Akamai Tech., Inc.*, 134 S. Ct. 2111, 2117 (2014) (holding that inducement liability under Section 271(b) must be predicated on a direct infringement of the patent as specified under Section 271(a)).

common law doctrine,¹⁰⁹ this is not entirely correct. Sections 271 (b) and (c) have limited the common law principle of contributory infringement liability in important but heretofore not fully recognized ways. Indeed, Congress itself clearly expressed its intent to limit the common law doctrine in the House and Senate report accompanying the bill that would become the Patent Act, noting that Sections 271 (b) and (c) were meant to “define and *limit* [the] contributory infringement of a patent.”¹¹⁰ As a result, courts can no longer utilize the underlying traditional tort doctrine to its full historic extent when resolving cases of divided patent infringement today.

Consequently, the Patent Act substantially impairs the ability of courts to deal with cases of divided patent infringement. Because the full breadth of the common law tort doctrine of contributory liability cannot be relied on to resolve divided infringement lawsuits, courts have found it increasingly difficult—if not impossible—to equitably balance the competing policy issues at stake when deciding these cases.

III. COURTS HAVE STRUGGLED TO RESOLVE DIVIDED INFRINGEMENT CASES UNDER THE PATENT ACT

Unable to rely on the common law doctrine best suited for resolving divided patent infringement lawsuits, courts have instead formulated a series of ever-changing, conflicting standards in hopes of equitably resolving these cases under the Patent Act. Indeed, the difficulty that divided infringement poses for the judiciary under the existing statutory framework is perhaps best illustrated by the fact that the Federal Circuit—the nation’s primary appellate patent court—has itself adopted six different standards in these cases in the last decade alone. Unfortunately, none of the standards developed to date is entirely satisfactory, as each either is inconsistent with the common law of infringement (as codified in the Patent Act), or fails to strike an adequate balance between protecting

109. See *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 377 U.S. 476, 485–86 n.6 (1964) (Aro II) (stating that Section 271(c) “was designed to ‘codify in statutory form principles of contributory infringement’ which had been ‘part of our law for about 80 years’”) (citing H. R. Rep. No. 82-1923, at 9 (1952)); *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469 (Fed. Cir. 1990) (“The legislative history of the Patent Act indicates that no substantive change in the scope of what constituted ‘contributory infringement’ was intended by the enactment of § 271.”).

110. S. Rep. No. 82-1979, at 21 (1952), as reprinted in 1952 U.S.C.C.A.N. 2394, 2421 (emphasis added).

those who are unaware of their partial involvement in an infringement while still imposing liability on parties who knowingly divide the performance of an infringing method among themselves.

A. The Federal Circuit's Initial and Conflicting Divided Infringement Precedents

The Federal Circuit first addressed divided infringement in the 2005 case of *Cross Medical Products, Inc. v. Medtronic Sofamore Danek, Inc.*¹¹¹ There, a panel of the Federal Circuit refused to hold a manufacturer of orthopedic implants liable for infringement, finding that at least one step of the asserted patent claim—which required that the patented implant be attached to a patient's spine—was performed by surgeons, rather than the defendant manufacturer. Implicitly drawing upon the common law doctrine of vicarious liability,¹¹² the court adopted what appeared to be an agency-based standard for divided infringement, stating that because the “surgeons . . . are, as far as we can tell, not agents of Medtronic,” it would be inappropriate to hold the defendant liable for their infringing acts.¹¹³

Several months later, however, a separate panel of the Federal Circuit endorsed a very different standard for divided infringement in *On Demand Machine Corp. v. Ingram Industries, Inc.*¹¹⁴ After reversing the lower court's finding that the defendant had infringed a patent relating to on-demand book publishing on claim construction grounds,¹¹⁵ the *On Demand* court's decision went on to include dicta regarding the divided infringement issue. The court began by quoting the trial court's jury instructions, which specified that “[w]hen infringement results from the participation and combined action(s) of more than one person or entity, they are all joint infringers and jointly liable for patent infringement.”¹¹⁶ Although such a standard would have significantly exceeded the conditions in which courts imposed vicarious or contributory liability at common

111. 424 F.3d 1293 (Fed. Cir. 2005).

112. See *supra* notes 31–32 and accompanying text (explaining that courts at common law imposed vicarious infringement liability when one party served as the agent of another).

113. *Cross Medical Products*, 424 F.3d at 1311.

114. 442 F.3d 1331 (Fed. Cir. 2006).

115. The Federal Circuit reversed the trial court's finding of infringement based on a claim construction issue; see *id.* at 1345 (concluding that “no reasonable jury could find infringement, on the correct claim construction”).

116. *Id.* at 1344–45.

law¹¹⁷—imposing liability on any party who unwittingly performed one step of an infringing process, regardless of their knowledge or intent—the panel in *On Demand* nevertheless stated that it “discern[ed] no flaw in this instruction as a statement of law.”¹¹⁸

Still not satisfied, a third Federal Circuit panel adopted yet another divided infringement standard the next year in *BMC Resources, Inc. v. Paymentech, L.P.*¹¹⁹ *BMC Resources* involved a patented method for processing debit banking transactions, which explicitly included steps to be performed by (i) a bank customer, (ii) a third-party billing processor, and (iii) a financial institution.¹²⁰ The *BMC Resources* panel began by rejecting the plaintiff’s assertion that *On Demand* had endorsed a broad standard for liability in divided infringement cases, instead characterizing the prior panel’s discussion of the issue as nothing more than dictum, reached “without any analysis of the issues presented relating to divided infringement.”¹²¹

The *BMC Resources* panel opted to adhere to the traditional common law doctrine of vicarious liability,¹²² holding that cases of divided infringement required a showing that either the alleged infringers had entered into an agency relationship or that one of the parties exhibited sufficient “direction or control” over the other’s activities such that all of the acts could be fairly attributed to the “mastermind” party.¹²³ Although the panel recognized that such a standard could “allow parties to enter into arms-length agreements to avoid infringement” liability in some cases,¹²⁴ it nevertheless justified the limitation on policy grounds in order to avoid holding unwitting parties strictly liable for the divided infringement of a patent.¹²⁵

The Federal Circuit reaffirmed and clarified this approach the following year in *Muniauction, Inc. v. Thomson Corp.*,¹²⁶ which involved a patented process covering the interactions of various

117. See *supra* notes 31–32 and 36–38 and accompanying text (reciting the common law standards for vicarious and contributory liability).

118. *Id.* at 1345.

119. 498 F.3d 1373 (Fed. Cir. 2007).

120. *Id.* at 1375.

121. *Id.* at 1380.

122. See *supra* notes 31–32 and accompanying text (explaining that courts at common law imposed vicarious infringement liability when one party served as the agent of another).

123. *BMC Resources v. Payment Tech., L.P.*, 498 F.3d 1372, 1381 (Fed. Cir. 2007).

124. *Id.*

125. *Id.* (stating that the concern of intentional circumvention “does not outweigh concerns over expanding the rules governing direct infringement”).

126. 532 F.3d 1318 (Fed. Cir. 2008).

parties participating in municipal bond auctions held over the Internet.¹²⁷ In *Muniauction*, the plaintiff had argued that the *BMC Resources* standard for divided infringement cases had been satisfied, emphasizing that the defendant controlled its users' "access to [the infringing auction] system and instruct[ed] bidders on" how to perform the infringing steps.¹²⁸ The *Muniauction* panel disagreed and held that merely instructing customers on how to perform the infringing acts was not sufficient to impose vicarious liability at common law.¹²⁹ Thus, the *Muniauction* panel appeared to suggest that a more legally binding form of control over all of the infringing acts was necessary to support a finding of direct infringement.

The *BMC Resources* and *Muniauction* courts' emphasis on common law vicarious liability theories—e.g., the so-called "direction or control" standard—was generally consistent with the Patent Act's partial codification of the common law of infringement in Section 271. Courts at common law only held a party directly liable for another's infringing acts in cases where the second party effectively operated as an agent of the first.¹³⁰ Meanwhile, common law courts turned to the doctrine of contributory liability in cases where all of the requisite infringing steps were not legally attributable to a single defendant,¹³¹ a doctrine that was subsequently incorporated into the Patent Act in later subsections of Section 271.¹³² Thus, because the doctrine of contributory infringement was codified in different provisions of the Patent Act—subsections that require proof of another party's underlying direct infringement of the patent¹³³—it is reasonable to conclude that Congress intended that direct infringement liability under Section 271(a) would only arise in cases where a single party either performed all of the infringing acts itself or was vicariously responsible for another's activities.

Nevertheless, some judges on the Federal Circuit soon expressed their dissatisfaction with the court's new divided infringement rule.

127. *Id.* at 1321.

128. *Id.* at 1330.

129. *Id.* ("[T]he control or direction standard is satisfied in situations where the law would traditionally hold the accused direct infringer vicariously liable for the acts committed by another party that are required to complete performance of a claimed method.").

130. *See supra* notes 31–35 and accompanying text (discussing common law courts' reliance on vicarious liability doctrine in patent infringement lawsuits).

131. *See supra* notes 36–49 and accompanying text (discussing the application of contributory infringement liability at common law).

132. *See supra* notes 59–71 and accompanying text (explaining that contributory liability was divided into two provisions in the Patent Act, Sections 271(b) and (c)).

133. *See supra* note 70 and accompanying text (noting that contributory infringement liability requires a showing of an underlying act of direct infringement under Sections 271(a) of the Patent Act).

Indeed, as *Muniauction* illustrates, even if a would-be infringer specifically instructed its customers on how to perform several of the infringing acts, that still would not be enough for liability to arise under the *BMC Resources* standard for divided infringement. Instead, in those circumstances it appeared that a defendant would only be liable for direct infringement if its customers were, in effect, acting as its agents, with a contractual obligation to perform the infringing steps subject to the defendant's control.¹³⁴ Thus, *BMC Resources* and *Muniauction* created a potential loophole that would-be infringers could easily exploit to avoid infringement liability.

As a result, several judges on the Federal Circuit began to voice their concern over the *BMC Resources* and *Muniauction* courts' direction or control standard. In *Golden Hour Data Systems, Inc. v. emsCharts, Inc.*,¹³⁵ for instance, Judge Newman issued a dissent contending that the direction or control standard was "incorrect as a matter of law."¹³⁶ She harkened for a return to the standard for divided infringement endorsed in *On Demand* and argued that defendants should be held jointly liable for infringing a patent whenever they "combined their procedures into an integrated system that met all of the limitations of [the asserted patent] claims."¹³⁷ Similarly, in *McKesson Technologies, Inc. v. Epic Systems Corp.*, although Judge Bryson acknowledged that the trial court correctly applied the *BMC Resources* and *Muniauction* standard, he nevertheless questioned whether those decisions had been properly decided and encouraged the entire Federal Circuit to take the matter up en banc.¹³⁸

134. See Jingyuan Luo, *Shining the Limelight on Divided Infringement: Emerging Technologies and the Liability Loophole*, 30 BERKELEY TECH. L.J. 675, 687 (2015) (noting that under *BMC Resources* and *Muniauction*, "[a]bsent proof that defendants had either an agency relationship or contractual obligations with another party performing some of the infringing steps, courts [were] reluctant to find liability for divided infringement").

135. 614 F.3d 1367 (Fed. Cir. 2010).

136. *Id.* at 1383 (Newman, J., dissenting).

137. *Id.*

138. Case No. 2010-1291, at *1 (Fed. Cir. 2011) (Bryson, J., concurring), <http://law.justia.com/cases/federal/appellate-courts/cafc/10-1291/10-1291-2011-04-12.html> ("I agree that the decision in this case is correct in light of this court's decisions in *BMC Resources* [and] *Muniauction*. . . . Whether those decisions are correct is another question, one that is close enough and important enough that it may warrant review by the en banc court in an appropriate case.").

B. Akamai I

The Federal Circuit heeded Judge Bryson's call for en banc review of *BMC Resources* and *Muniauction* in *Akamai Technologies, Inc. v. Limelight Networks, Inc.* (*Akamai I*), which resulted in yet another new standard for divided infringement.¹³⁹ In *Akamai*, a panel of the Federal Circuit had initially held that the plaintiff had not sufficiently shown that the defendant directed and controlled its customers' involvement in the alleged divided infringement of patents relating to the storage and expedited transfer of multimedia files—such as photos or videos—over the Internet.¹⁴⁰

The en banc majority began its opinion in *Akamai I* by discussing the policy rationale supporting the *BMC Resources* direction or control standard for divided infringement. In particular, the court justified its reliance on the traditional common law principle of vicarious liability:

Because direct infringement is a strict liability tort, it has been thought that extending liability [to multiple independent parties collectively performing the steps of a method claim] would ensnare actors who did not themselves commit all the acts necessary to constitute infringement and who had no way of knowing that others were acting in a way that rendered their collective conduct infringing.¹⁴¹

The en banc majority found that the *BMC Resources* requirement that the plaintiff show sufficient direction or control—rising to the level of creating a binding contractual or agency relationship—helped to alleviate this concern by rendering all of the infringing acts fairly attributable to the mastermind party.¹⁴² As a result, a majority of the *Akamai I* en banc court opted to preserve the existing

139. 692 F.3d 1301 (Fed. Cir. 2012). The *Akamai I* case was technically a combined en banc appeal, with the court also granting an en banc appeal in the *McKesson* case as well. *McKesson Tech. Inc. v. Epic Sys. Corp.*, 463 F. App'x 906, 907 (Fed. Cir. 2011). The parties in *McKesson* reached a settlement following the Federal Circuit's en banc ruling, while the parties in *Akamai* have continued to litigate the case. *See Epic Sys. Corp. v. McKesson Tech., Inc.*, 133 S. Ct. 1520 (2013) (dismissing the petition for writ of certiorari in *McKesson* following settlement).

140. *Akamai Tech., Inc. v. Limelight Networks, Inc.*, 629 F.3d 1311 (Fed. Cir. 2010), *see also Akamai Tech., Inc. v. Limelight Networks, Inc.*, 614 F. Supp. 2d 90, 96 (D. Mass. 2009) (describing the patents at issue in the case).

141. *Akamai I*, 692 F.3d at 1307.

142. *See id.* (concluding that liability is warranted in cases where one party vicariously controls another's infringing acts).

standard for liability in divided infringement cases brought under Section 271(a)—the Patent Act’s direct infringement provision.¹⁴³

After upholding the *BMC Resources* standard for direct infringement, however, the en banc majority in *Akamai I* went on to look to a different provision in the Patent Act to address cases of divided infringement that did not rise to the level of a Section 271(a) violation. In particular, the court believed that Section 271(b)—the Patent Act’s inducement provision—was particularly well-suited to handle cases of divided infringement. Not only did it apply to cases in which one party “advises, encourages, or otherwise induces others to engage in infringing conduct,”¹⁴⁴ but it also required that the “inducer act with knowledge that the induced acts constitute patent infringement,” thereby alleviating the innocent infringer concerns triggered by Section 271(a)’s strict liability regime.¹⁴⁵

Notwithstanding these potential advantages, the majority’s hopes of using Section 271(b) to resolve the problems posed by divided infringement faced a significant hurdle. Specifically, as noted above,¹⁴⁶ courts have traditionally required patentees to show that someone else has directly infringed a patent under Section 271(a) before inducement liability will arise. Because the *Akamai I* en banc majority had just affirmed that direct infringement liability still required a showing that one party had performed all of the infringing steps itself—either directly or vicariously—this underlying requirement seemingly foreclosed the possibility of relying on inducement liability to address acts of divided infringement that did not rise to the level of a Section 271(a) violation.

The en banc majority tried to sidestep this issue by adopting a new meaning of what it took to “infringe” a patent for purposes of Section 271(b). Although the majority opinion acknowledged that inducement liability had always been premised on a showing “that there has been direct infringement,” it argued that this was “not the same as requiring proof that a single party would be liable as a direct infringer.”¹⁴⁷ Put differently, the court held that even though “all of the steps of a claimed method must be performed in order to find induced infringement . . . it is not necessary to prove that all

143. *Id.* (“Because the reasoning of our decision today is not predicated on the doctrine of direct infringement, we have no occasion at this time to revisit any of those principles regarding the law of divided infringement as it applies to liability for direct infringement under 35 U.S.C. § 271(a).”).

144. *Id.*

145. *Id.* at 1308.

146. *See supra* note 66 and accompanying text (discussing the traditional interpretation of inducement liability under Section 271(b)).

147. *Akamai I*, 692 F.3d at 1308–09.

the steps were committed by a single entity.”¹⁴⁸ Thus, *Akamai I* effectively redefined the term “infringement” for purposes of Section 271(b). Whereas all of the infringing acts must be attributable to a single party in order for direct infringement liability to arise under Section 271(a), the en banc majority was willing to impose inducement liability under Section 271(b) in cases where a party knowingly divides the performance of the infringing steps with another.¹⁴⁹

Considering the novelty of the *Akamai I* en banc majority’s reinterpretation of inducement liability under Section 271(b), it was neither surprising that the U.S. Supreme Court granted certiorari in the case,¹⁵⁰ nor that a unanimous Court ultimately reversed the Federal Circuit’s decision.¹⁵¹ The Supreme Court began its opinion by noting the long-standing rule that “liability for inducement must be predicated on direct infringement.”¹⁵² Although the en banc majority of the Federal Circuit had asserted that this underlying “infringement” could be defined differently for purposes of Sections 271(a) and (b), the Court rejected such a distinction, stating that “[t]he Federal Circuit’s analysis fundamentally misunderstands what it means to infringe a method patent.”¹⁵³

Instead, the Supreme Court held that inducement liability must be premised on a finding of direct infringement as defined in Section 271(a).¹⁵⁴ Otherwise, courts would be required “to develop two

148. *Id.* at 1306.

149. *See id.* at 1318 (reciting the new standard for inducement liability). The *Akamai I* majority justified its new interpretation of inducement by arguing that:

Nothing in the text indicates that the term “infringement” in section 271(b) is limited to “infringement” by a single entity. Rather, “infringement” in this context appears to refer most naturally to the acts necessary to infringe a patent, not to whether those acts are performed by one entity or several.

Id. at 1309. Moreover, the en banc majority asserted, “[i]t would be a bizarre result to hold someone liable for inducing another to perform all of the steps of a method claim, but to hold harmless one who goes further by actually performing some of the steps himself.” *Id.* In addition, the majority also asserted that the legislative history of the Patent Act supported its new inducement standard, emphasizing testimony from Giles Rich, one of the drafters of the Patent Act, which suggested that contributory liability would arise at common law in cases where “there is no direct infringer of the patent but only two contributory infringers.” *Id.* at 1310.

150. *Limelight Networks Inc. v. Akamai Technologies, Inc.*, 134 S. Ct. 895 (2014).

151. *Limelight Networks Inc. v. Akamai Technologies, Inc.*, 134 S. Ct. 2111 (2014).

152. *Id.* at 2117.

153. *Id.*

154. *Id.* (“[W]here there has been no direct infringement, there can be no inducement of infringement under § 271(b).”).

parallel bodies of infringement law: one for liability for direct infringement, and one for liability for inducement.”¹⁵⁵ And because the Federal Circuit in *Akamai I* had once again affirmed the requirement that all infringing acts must be attributable to a single party under Section 271(a)—a standard that the Supreme Court “[a]ssumed without deciding . . . is correct”—there could be no finding of inducement in the case.¹⁵⁶

C. Akamai II

The Federal Circuit continued to modify its divided infringement standard on remand in *Akamai II*. First, a panel of the Federal Circuit began by once again affirming the *BMC Resources* “direction and control” standard for divided infringement under Section 271(a).¹⁵⁷ This time, however, in addition to suits involving an agency relationship, or those featuring a binding contractual requirement to perform an infringing step, the *Akamai II* panel suggested that vicarious liability could also arise in cases where the divided infringers had formed a “joint enterprise.”¹⁵⁸ As the court explained:

A joint enterprise exists . . . when there is: (1) an agreement, express or implied, among the members of the group; (2) a common purpose to be carried out by the group; (3) a community of pecuniary interest in that purpose, among the members, and (4) an equal right to a voice in the direction of the enterprise, which gives an equal right of control.¹⁵⁹

Contrary to the *Akamai II* panel’s hope that joint enterprise theory would help resolve the divided infringement dilemma, however, the Patent Act’s codification of contributory infringement liability prevents courts from properly relying on this doctrine. Indeed, the

155. *Id.* at 2118.

156. *Id.* at 2117 (“[T]here has simply been no infringement of the method in which respondents have staked out an interest, because the performance of all the patent’s steps is not attributable to any one person”).

157. *Akamai Tech., Inc. v. Limelight Networks, Inc.*, 786 F.3d 899 (Fed. Cir. 2015) (*Akamai II*).

158. *See id.* at 910 (“Turning to the scope of vicarious liability, the vicarious liability test includes, for example, principal-agent relationships, contractual arrangements, and joint enterprises.”).

159. *Id.* at 911 (citing RESTATEMENT (SECOND) OF TORTS § 491, cmt. c (1979)).

common law doctrine of joint enterprise is itself a subset of contributory tort liability law,¹⁶⁰ and therefore was displaced by Congress's codification of the law of contributory infringement liability in Sections 271(b) and (c).¹⁶¹ In any event, since joint enterprise liability requires that each of the participants in the enterprise possess "an equal right of control" over the all of the infringing steps,¹⁶² the doctrine would not apply to many of the most common cases of divided infringement—namely, those in which the infringing parties do not equally possess the power to control the infringing activities (such as those cases in which either the parties work together at arms-length, or a service provider instructs its customers on how to use its system on a take-it-or-leave-it basis). Thus, even if courts could properly rely on joint enterprise doctrine in divided infringement cases, this doctrine would do relatively little to prevent parties intent on circumventing infringement liability from doing so.

Although the *Akamai II* panel modestly expanded the scope of divided infringement liability following the Supreme Court's remand, the full Federal Circuit nevertheless opted to once again take up the issue en banc.¹⁶³ And, despite the deep divisions that had previously separated the court's judges on the issue, the en banc Federal Circuit surprisingly reached a unanimous per curiam opinion restating the law of divided infringement¹⁶⁴—thus providing its sixth standard in less than a decade.

The Federal Circuit's en banc decision in *Akamai II* began by reaffirming the requirement delineated in *BMC Resources* that in order for direct infringement liability to arise under Section 271(a), "all steps of a claimed method [must be] performed by or [be] attributable to a single entity."¹⁶⁵ The court then stated that there are two circumstances in which one entity may be held legally liable for infringing acts performed by another party: "(1) where that entity

160. The Restatement provision relied on by the *Akamai* panel, for instance, is contained within Chapter 17 of the RESTATEMENT (SECOND) OF TORTS, entitled "Contributory Negligence." See *Akamai*, 786 F.3d at 910–11 (citing RESTATEMENT (SECOND) OF TORTS § 491 (1979)).

161. See *supra* notes 103–110 and accompanying text (discussing the Patent Act's displacement of common law contributory liability doctrine).

162. RESTATEMENT (SECOND) OF TORTS § 491, cmt. c (1979).

163. *Akamai Tech., Inc. v. Limelight Networks, Inc.*, 612 F. App'x. 617 (Fed. Cir. 2015) (granting en banc rehearing).

164. *Akamai Tech., Inc. v. Limelight Networks, Inc.*, 797 F.3d 1020, 1022 (Fed. Cir. 2015) ("[W]e unanimously set forth the law of divided infringement under 35 U.S.C. § 271(a).").

165. *Id.*

directs or controls [the other party's] performance, and (2) where the actors form a joint enterprise.”¹⁶⁶

Although the court's recitation of the standard for divided infringement was nearly identical to that of the *Akamai II* panel up to this point, it diverged from its predecessor when it came to identifying the circumstances in which vicarious liability may arise under the direction or control standard. In addition to reiterating that a defendant can be held vicariously liable for either (i) the infringing acts of its agent, or (ii) those of a party under contract to specifically perform one or more steps of a patented method—as had been specified in *BMC Resources* and *Muniauction*—the en banc court added a third condition in which vicarious liability could apply in divided infringement cases.¹⁶⁷

Specifically, the court held that vicarious liability would also arise “when an alleged infringer conditions participation in an activity or receipt of a benefit upon the performance of a step or steps of a patented method and establishes the manner or timing of that performance.”¹⁶⁸ Such a standard would thus presumably extend vicarious liability to cases like that of *Muniauction*, in which a defendant's customers freely elected to perform one or more infringing steps pursuant to the defendant's instruction.¹⁶⁹

Unfortunately, the *Akamai II* en banc court's expansion of vicarious liability is once again at odds with the underlying common law doctrine. The tort doctrine of vicarious liability—as incorporated by the Patent Act¹⁷⁰—is itself closely intertwined with the law of agency.¹⁷¹ Agency law, in turn, only imposes liability on a party for the acts of another when the two have formed a principal-agent relationship.¹⁷² Importantly, merely allowing another party to act in a particular manner does not establish a principal-agent relationship at common law.¹⁷³ Instead, courts typically require that the principal expressly manifest its assent to be legally bound by the act

166. *Id.*

167. *Id.* at 1023.

168. *Id.*

169. *See supra* notes 126–129 and accompanying text (discussing *Muniauction*).

170. *See supra* notes 130–133 and accompanying text (noting that the Patent Act incorporated the common law doctrine of vicarious liability into Section 271(a)).

171. *See supra* notes 31–32 and accompanying text (describing the relationship between the tort doctrine of vicarious liability and agency law).

172. *See* RESTATEMENT (THIRD) OF AGENCY § 1.01 (2006) (“Agency is the fiduciary relationship that arises when one person (a “principal”) manifests assent to another person (an “agent”) that the agent shall act on the principal's behalf and subject to the principal's control, and the agent manifests assent or otherwise consents so to act.”).

173. *See id.* at § 3.01, cmt. b (“A principal's unexpressed willingness that another act as agent does not create actual authority.”).

of the agent.¹⁷⁴ Thus, the mere fact that one party has in some way “condition[ed] participation in an activity or [the] receipt of a benefit” on another party’s completion of a particular task does not, in and of itself, give rise to an agency relationship, and thus would not trigger vicarious liability at common law. Instead, agency relationships require a more express agreement between the parties that “the agent shall act on the principal’s behalf and subject to the principal’s control.”¹⁷⁵

Despite this inconsistency with the common law doctrine, the *Akamai II* en banc court believed that its new divided infringement standard was supported by a principle endorsed by the U.S. Supreme Court in the 2005 copyright case of *Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd.*¹⁷⁶ Specifically, the Court in *Grokster* had determined that a defendant could be held vicariously liable for another’s direct infringement of a copyrighted work so long as the defendant both profited from the infringement and declined to exercise a right to stop or limit it.¹⁷⁷

The *Akamai II* court offered no explanation or justification for why it believed it was appropriate to incorporate the copyright standard for vicarious liability into the Patent Act. Indeed, although it is true that courts traditionally look to patent law for direction when construing copyright law—due to the “historic kinship” between the two bodies of law¹⁷⁸—the copyright principle of vicarious liability does not provide appropriate guidance in cases of divided patent infringement insofar as *Grokster*’s discussion of vicarious liability occurred in a very different context than that of divided infringement.

Specifically, whereas divided patent infringement raises the question of whether two or more parties should be held jointly liable for the *direct* infringement of a patent, vicarious liability in the copyright context sets forth a basis for holding a party *indirectly* liable for another’s direct infringement of a copyrighted work.¹⁷⁹ In other words, vicarious liability under copyright law does not apply in cases

174. *See id.* (“[A]n agent’s actual authority originates with expressive conduct by the principal toward the agent by which the principal manifests assent to action by the agent with legal consequences for the principal.”).

175. *Id.* at § 1.01.

176. 545 U.S. 913 (2005); *see also* *Akamai Tech., Inc. v. Limelight Networks, Inc.*, 797 F.3d 1020, 1023 (Fed. Cir. 2015) (citing *Grokster*).

177. *Grokster*, 545 U.S. at 930 (noting that one “infringes vicariously by profiting from direct infringement while declining to exercise a right to stop or limit it”).

178. *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 439 (1984).

179. *See Grokster*, 545 U.S. at 930 (observing that vicarious liability a “doctrine[] of secondary liability [that] emerged from common law principles”).

where two parties jointly violate a copyright only through their combined actions, but instead addresses cases in which one party has helped encourage or facilitate another's complete infringement of a copyrighted work. Thus, the form of vicarious liability considered in *Grokster* is more akin to patent law's doctrine of inducement, in which a party is held liable for encouraging and supporting another's direct infringement of a patent.¹⁸⁰

Moreover, the *Akamai II* en banc court failed to recognize the different respective bases for direct and indirect liability in patent and copyright law. Unlike in patent law, where both direct and indirect liability are specifically governed by statute,¹⁸¹ indirect liability has never been codified in the Copyright Act.¹⁸² As a result, courts have been forced to fill in the gap by formulating their own common law rules for indirect copyright infringement. Consequently, while the *Grokster* Court retained the authority to set forth a common law standard for vicarious copyright liability (one based on the 1963 case of *Shapiro, Bernstein & Co., Inc. v. H.L. Green Co., Inc.*¹⁸³), vicarious liability in the context of divided patent infringement must instead be delineated as the law existed in 1952, when the Patent Act codified the circumstances giving rise to the direct infringement of a patent. Therefore, because the en banc Federal Circuit's expansion of vicarious liability in *Akamai II* was at odds with the traditional common law doctrine,¹⁸⁴ it does not provide a permissible basis for extending direct infringement liability under the Patent Act.

Thus, despite six different attempts in the last ten years, the Federal Circuit has been unable to devise a standard that both equitably balances the competing policy concerns presented by divided infringement and remains consistent with the Patent Act's codification of common law. As a result, divided infringement will likely continue to vex courts for the foreseeable future unless and until Congress amends the Patent Act.

180. See *supra* notes 59–64 and accompanying text (describing the law of inducement under the Patent Act); see also 6 PATRY ON COPYRIGHT § 21:79 (2015) (noting that the *Grokster* Court's theory of vicarious liability is closely related to the patent law doctrine of inducement).

181. See *supra* notes 59–71 and accompanying text (discussing the Patent Act's creation of specific statutory provisions governing inducement and contributory infringement).

182. See *Sony*, 464 U.S. at 434 (“The Copyright Act does not expressly render anyone liable for infringement committed by another.”).

183. 316 F.2d 304 (2d Cir. 1963); see also *Grokster*, 545 U.S. at 930 (citing *Shapiro*).

184. See *supra* notes 171–175 and accompanying text (comparing the *Akamai II* standard to the common law principle of vicarious liability).

IV. CONGRESS SHOULD AMEND THE PATENT ACT TO ADDRESS
DIVIDED PATENT INFRINGEMENT

As the foregoing analysis revealed, courts have struggled to equitably resolve cases of divided patent infringement under the existing statutory framework due to conflicting policy concerns, as evidenced by the Federal Circuit's series of ever-changing standards.¹⁸⁵ Because this confusion primarily results from the narrow and shortsighted manner in which Section 271(c) defines contributory infringement, Congress should take steps to reincorporate the full breadth of the common law principle of contributory tort liability back into the Patent Act.

A. *The Current Statutory Framework Prevents Courts From Equitably Resolving Divided Infringement Cases*

The Federal Circuit's failure to establish a consistent standard for divided infringement is understandable given the constraints of the existing statutory framework. Since the Patent Act prevents courts from relying on the full breadth of the common law tort doctrine of contributory liability, courts have instead been forced to either impermissibly expand the scope of liability authorized at common law, or choose between two suboptimal alternatives.

On the one hand, although the *BMC Resources* standard restricting divided infringement liability to cases in which one party directs and controls the activities of another is consistent with the common law doctrine of vicarious liability codified in the Patent Act,¹⁸⁶ it nevertheless created a substantial loophole for would-be infringers to exploit. By simply working together at arms-length to divide the performance of the infringing steps among themselves—without any one party directing and controlling the others' activities—companies could often utilize a patented method without fear of

185. See *supra* Part III.

186. See *supra* notes 131–132 and accompanying text (discussing the incorporation of principles of vicarious liability in the Patent Act).

incurring infringement liability.¹⁸⁷ As a result, patent-holders frequently found themselves left without recourse for infringement under the *BMC Resources* standard.¹⁸⁸

On the other hand, any attempts to expand the scope of divided infringement liability to encompass infringing acts divided between more loosely connected parties—such as the standard suggested by the Federal Circuit in *On Demand*¹⁸⁹—are also problematic. Not only is such an approach at odds with the common law principles codified in the Patent Act,¹⁹⁰ but it also raises considerable notice concerns. Indeed, such an approach threatens to hold countless innocent actors strictly liable for infringement merely because they happened to perform one step of a patented method without knowing that their activities were being combined with those of another to infringe a patent.¹⁹¹ Regrettably, this is not merely a speculative or hypothetical concern, as recent years have reportedly seen an increase in the number of lawsuits seeking to hold customers liable for unwittingly assisting a service provider with the infringement of a patent.¹⁹² Consequently, any expansion of liability to encompass a

187. See Stacie L. Greskowiak, Note, *Joint Infringement After BMC: The Demise of Process Patents*, 41 LOY. U. CHI. L.J. 351, 399 (2010) (asserting that under the *BMC Resources/Muniauction* standard, “a method patent [may] be . . . effortlessly circumvented” effectively “rendering the patentee’s rights essentially meaningless”); W. Keith Robinson, *A Case Study of Federal Circuit Policy Making*, 66 SMU L. REV. 579, 597 (2013) [hereinafter Robinson, *Case Study*] (finding that “in-house counsel [can] structure contracts so that a ‘mastermind’ is not identified”); Josh Rychlinski, Note, *Interactive Methods and Collaborative Performance: A New Future for Indirect Infringement*, 20 MICH. TELECOMM. & TECH. L. REV. 215, 228 (2013) (noting “the ease with which method patents can be directly infringed without consequence under the single entity rule”).

188. See W. Keith Robinson, *Ramifications of Joint Infringement Theory on Emerging Technology Patents*, 18 TEX. INTELL. PROP. L.J. 335, 338 (2010) (concluding that “[a]bsent significant evidence of how an accused infringer controlled third parties, patent holders have found it difficult to support claims of infringement under a joint infringement theory”).

189. See *supra* notes 114–118 and accompanying text (reviewing the *On Demand* precedent).

190. See *generally supra* Part I (discussing the various theories of vicarious and contributory liability utilized in infringement cases at common law); see also *supra* notes 160–162 and 170–175 and accompanying text (observing that the *Akamai II* panel’s reliance on joint enterprise theory, and the *Akamai II* en banc court’s expansion of the standard for vicarious liability are at odds with the Patent Act and underlying common law doctrine, respectively).

191. See *Akamai Tech., Inc. v. Limelight Networks, Inc.*, 692 F.3d 1301, 1307 (Fed. Cir. 2012) (“Because direct infringement is a strict liability tort, it has been thought that extending liability [to multiple independent parties collectively performing the steps of the method claim] would ensnare actors who did not themselves commit all the acts necessary to constitute infringement and who had no way of knowing that others were acting in a way that rendered their collective conduct infringing.”).

192. See Rychlinski, *supra* note 187, at 229–30 (reporting that “litigation targeting the unsuspecting third party has been . . . brought even though the third party may not have deep pockets”).

broader set of divided infringement cases can unfairly result in parties being forced to guess whether—and how—other independent actors are performing the rest of a patented process.¹⁹³

Unfortunately, the dilemma presented by these conflicting policy concerns is unlikely to dissipate anytime soon, as the recent proliferation of divided infringement lawsuits appears likely to continue into the foreseeable future. Indeed, the increasing frequency of divided infringement cases can be attributed in no small part to the recent rise in the number of business method patents issued by the U.S. Patent and Trademark Office.¹⁹⁴ Unlike more traditional manufacturing processes, many modern business methods are directed towards electronic forms of commerce that are particularly susceptible to being performed by multiple parties working together via the Internet.¹⁹⁵ Performance of these business methods is less likely to be divided among parties connected through an agency relationship, but instead will typically be executed through the combined actions of two or more entities operating at arms-length, thus not giving rise to infringement liability under traditional notions of vicarious liability.¹⁹⁶

These trends will likely accelerate in the future. As an initial matter, an ever-increasing number of new technologies are becoming interconnected, with everything from wristwatches to washing machines being designed to connect to the Internet.¹⁹⁷ As a result, the frequency with which multiple parties—the device manufacturer

193. See Michael A. Carrier, *Limelight v. Akamai: Limiting Induced Infringement*, 2014 Wis. L. REV. ONLINE 1, 7 (2014) (explaining that “an expansion of [direct infringement] liability could decrease the certainty and notice confronting potential infringers”). Expanded liability would also raise a host of difficult damages issues regarding the proper apportionment of liability in divided infringement cases involving only some loose connection between the parties (i.e., those in which no “mastermind” is controlling the entire infringement). See Rychlinski, *supra* note 187, at 230 (wondering how “damages [should] be calculated for an entity that only practices some but not all steps of a method claim”).

194. See James S. Sfekas, *Controlling Business Method Patents: How the Japanese Standard for Patenting Software Could Bring Reasonable Limitations to Business Method Patents in the United States*, 16 PAC. RIM L. & POL’Y J. 197, 203 (2007) (noting an increase in business methods patent applications from 2,821 in 1999, to 7,800 in 2000).

195. See Reza Dokhanchy, *Cooperative Infringement: I Get By (Infringement Laws) With a Little Help From My Friends*, 26 BERKELEY TECH. L.J. 135, 168 (2011) (noting that “business method and software claims are prime targets for” divided infringement “because their elements are easily separable”).

196. See Sean Africk, Note, *Induced to Infringe: Divided Patent Infringement in Light of the Akamai Ruling*, 14 NEV. L.J. 620, 626 (2014) (observing that “[u]nlike with the manufacture of tangible items, where the various parties are likely to have contractual or agency relationships with one another, it is not uncommon that the parties performing a business-method patent have little or no formal relationship”).

197. See Calo, *supra* note 7, at 1005 (recognizing the trend that “thermometers, appliances, glasses, watches, and other artifacts” will increasingly “become networked into an ‘Internet of Things’”).

and user, for example—interact is increasing, thereby giving rise to potential divided infringement litigation. At the same time, the growing specialization of the economy as a whole will also likely continue to trigger new divided infringement lawsuits, as firms outsource various business functions—many of which may constitute part of a patented method.¹⁹⁸

In most instances, both of these forms of interactions—i.e., (i) between Internet-connected devices and (ii) between firms and their outside vendors—will occur via arms-length coordination, rather than via a formal agency relationship, they typically will not satisfy the common law standard for vicarious liability. Therefore, courts are likely to continue to be forced to choose between various unsatisfying options when resolving divided infringement cases under the existing version of the Patent Act.¹⁹⁹

The resulting inability to reliably protect these inventive processes under U.S. patent law threatens to disincentivize firms from engaging in otherwise socially beneficial research and development activities. Not only do inventions in the e-commerce, wireless technology, and financial services industries often involve the interaction of multiple participants,²⁰⁰ but increasingly so do those in the emerging fields of biotechnology and personalized medicine. For instance, because patented methods in the personalized medicine sector may include both diagnostic testing and genetic analysis steps, these patents are particularly susceptible to

198. See Robinson, *Economic Theory*, *supra* note 6, at 1978–79 (noting that “[p]artnering is more efficient for [many] companies and allows them to specialize, which can result in higher quality service”). A single credit card transaction, for instance, may now involve the interaction of six or more participants. See *id.* (reporting the same).

199. Admittedly, recent changes in the law may reduce the frequency with which valid patents are jointly infringed in the future. In particular, the U.S. Supreme Court’s recent decision in *Alice Corp. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2360 (2014), held that software patents that simply disclose a method of performing otherwise unpatentable, abstract ideas are invalid under Section 101 of the Patent Act. See *id.* at 2358 (concluding that “the mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention”). As a result, *Alice* potentially implicates a number of business method and software patents. Indeed, some believe that *Alice* has already contributed to the nearly forty percent reduction in the number of patent cases filed in the fall of 2014. Richard Lloyd, *Alice decision a big reason for sharp fall in US patent litigation, says Mark Lemley*, IAM (Oct. 9, 2014), <http://www.iam-media.com/Blog/Detail.aspx?g=dadf4dce-0f75-45dc-9339-dacb0f7bb465> (explaining that Stanford Professor Mark Lemley “thinks the recent U.S. Supreme Court decision in *Alice v. CLS* may be a large part of the reason why” the number of new patent infringement lawsuits “filed in September [2014] was down forty percent year-on-year”).

200. See Robinson, *Economic Theory*, *supra* note 6, at 1967 (declaring that “divided infringement issues can arise with any technology that facilitates interaction between multiple . . . parties”).

having their claims divided among multiple parties working together at arms-length.²⁰¹ As a result, firms may become less eager to invest in this particularly promising field of medicine due to fears that they will not be able to fully recoup their expenses should their patented processes prove to be too easily usurped.²⁰²

Some scholars attempt to minimize the impact of these potential policy concerns by suggesting that any limitations under current law can be addressed through better claim drafting, with patentees focusing their patent claims only on the activities of a single party acting alone.²⁰³ While this strategy may help protect some patentees, it is not a universal solution, as some patentable inventions may inherently need to encompass functions performed by different parties.²⁰⁴ Moreover, even those inventions that could in theory be described with reference only to steps normally carried out by a single actor may still be susceptible to circumvention by multiple parties who discover that they can intentionally, but unnecessarily, divide the performance of the infringing activities amongst themselves to avoid infringement liability.²⁰⁵

As a result, the existing statutory framework prevents courts from establishing a standard that can consistently and equitably resolve divided patent infringement lawsuits. Given the policy ramifications of this state of affairs, legislative action is warranted.

201. *See id.* at 21 (discussing how “it may be more efficient for one entity [in the personalized medicine industry] to perform the diagnostic testing and another entity to correlate a detected marker with a disease or drug treatment”).

202. *See* Brian Ferguson, *Seagate Equals Sea Change: The Federal Circuit Establishes a New Test for Proving Willful Infringement and Preserves the Sanctity of the Attorney-Client Privilege*, 24 SANTA CLARA COMPUTER & HIGH TECH. L.J. 167, 169 (2007) (recognizing that “[t]he judicial system’s inability or refusal to enforce patent rights” may serve “as a disincentive to scientists to continue to innovate” by allowing “unscrupulous infringers . . . to take advantage of the fruits of the inventors’ labor without any adverse consequences.”); *see also* Daniel J. Hemel & Lisa Larrimore Ouellette, *Beyond the Patents–Prizes Debate*, 92 TEX. L. REV. 303, 311 (2013) (observing that the government awards patents to incentivize innovation); Gregory N. Mandel, *Leveraging the International Economy of Intellectual Property*, 75 OHIO ST. L.J. 733, 744 (2014) (“It is generally accepted that the primary objective of patent law is to incentivize innovation.”).

203. *See* Lemley et al., *supra* note 3, at 272 (“Most inventions that involve cooperation of multiple entities can be covered using claims drafted in unitary form simply by focusing on one entity and whether it supplies or receives any given element.”).

204. *See* Greskowiak, *supra* note 187, at 404 (declaring that “[u]nitary claim drafting is impossible in some instances”).

205. *See* Robinson, *Case Study*, *supra* note 187, at 597 (noting an example in which “claims directed to a single entity . . . still gave rise to joint infringement concerns” when “the defendants still managed to divide the steps among them”).

B. Congress Should Reincorporate the Full Breadth of the Common Law Doctrine of Contributory Tort Liability Into the Patent Act

Congress should take steps to amend the statute because the difficulties presented by divided patent infringement have largely resulted from the Patent Act's shortsighted codification of the law of contributory infringement. In particular, Congress should create a new provision within Section 271 to address cases of divided infringement, one that would fully reincorporate the traditional common law principles of contributory tort liability into the Patent Act. A new subsection (j), for instance, could provide that:

Whoever knowingly and collectively performs a patented process with another shall be liable as an infringer.

Such a provision would prevent parties from intentionally circumventing the imposition of patent infringement liability by purposely dividing the performance of a patented method between two or more actors.

Importantly, however, by including a "knowingly" element in the proposed statutory language, Congress would avoid the innocent infringer issues that would be raised under the existing Patent Act by expanding the scope of liability to reach acts of divided infringement performed by loosely connected parties.²⁰⁶ Indeed, such a requirement would ensure that a party who simply performs one step of a patented method would not face infringement liability if it were unaware that its actions were being combined with those of another party to violate a patent. So, for instance, in the case of the hypothetical Internet user discussed above,²⁰⁷ merely submitting some data to a website would not result in the user being held jointly liable for infringing a patent, unless the user was specifically aware that the website was collecting this information in order to infringe a patented method.

Notably, then, the proposed provision would require knowledge of both the patent-in-suit *and* the fact that one or more other parties is performing the remaining infringing acts. This is consistent with the Patent Act's existing indirect infringement provisions, both of which have been interpreted to require knowledge of the patent-

206. See *supra* notes 191–193 and accompanying text (discussing the notice concerns that would be triggered by imposing divided infringement liability anytime two or more parties' combined actions infringed a patent, regardless of how loosely connected the parties were).

207. See *supra* notes 100–102 and accompanying text (raising the possibility that Internet users could be held jointly liable for infringement in cases where they unwittingly performed one step of a patented process, with the website performing the rest of the infringing steps).

in-suit.²⁰⁸ With regards to Section 271(c), for instance, Justice Black explained in *Aro Mfg. Co. v. Convertible Top Replacement Co. (Aro II)* that requiring knowledge of both the patent and infringing acts was justified in cases of contributory infringement in order to protect innocent parties who may be unaware that their activities contributed to the infringement of a patent.²⁰⁹ Such an approach is also consistent with the underlying common law doctrine, which required that the offending parties be reasonably aware that their actions would inflict an injury upon the plaintiff.²¹⁰

However, because the proposed statutory text refers to “knowingly and collectively perform[ing] a patented process *with another*,” such a provision would apply anytime a party intentionally solicits or instructs another party to perform part of a patented process, so long as the instructing party was aware of both the existence of the patent and the completion of the remaining infringing activities. In other words, the hypothetical Section 271(j) would not require that *all* parties involved in the divided infringement be aware that they are contributing to the unauthorized performance of a patented process; instead, merely *one* of the participants would need to know that the parties’ collective actions constituted an infringement. So while this provision would not result in a finding of liability for an Internet user who unwittingly performs one step of a patented process, a website could face liability if it knew that its actions, combined with those of its users, violated a patent.

In short, the proposed statutory amendment would effectively return the law of contributory patent infringement back to its pre-Patent Act roots. As discussed above,²¹¹ the common law tort doctrine of contributory liability would have allowed courts to impose liability in divided infringement cases when one or more of the infringers knew that their actions were being combined with those of their collaborators to injure a patent-holder.²¹² Unfortunately, by

208. See *supra* notes 65 and 70–71 and accompanying text (discussing the knowledge requirements read into inducement under Section 271(b) and contributory infringement under Section 271(c)).

209. 377 U.S. 476, 525–28 (1964) (Black J., dissenting). In particular, Justice Black argued, “It is hard to believe that Congress intended to hold persons liable for acts which they had no reason to suspect were unlawful, and as I have pointed out the legislative history shows Congress did not.” *Id.* at 527.

210. See *supra* notes 53–54 and accompanying text (discussing the common law tort doctrine).

211. See *supra* notes 50–54 and accompanying text (discussing the applicability of common law tort doctrine to cases of divided infringement).

212. See Oswald, *supra* note 1, at 18 (stating that contributory tort liability “is tempered by a ‘culpability requirement’ that considers ‘whether a reasonable person, standing in the shoes of the defendant, would have been aware of the misdeeds of another’”) (quoting Bartholomew, *supra* note 95, at 465).

shortsightedly drafting Section 271(c) to only capture the most problematic form of contributory infringement arising at the time, Congress foreclosed the possibility that future courts could rely on this common law doctrine to resolve cases of divided infringement.²¹³ The hypothetical Section 271(j) proposed above would correct that mistake. In this respect, this solution is preferable to alternative proposals in the academic literature that seek to address divided infringement by either creating a new cause of action based upon a previously unrecognized theory of patent liability,²¹⁴ or expanding the potential scope of liability under the existing statutory framework.²¹⁵

Some commentators will undoubtedly object to such a proposal on the grounds that it would expand the scope of potential infringement liability beyond that currently permitted by the Patent Act. For those who believe that the patent system—and infringement litigation in particular—actually deter innovation,²¹⁶ any expansion of the sort proposed here may be viewed as undesirable. However, even if one accepts the premise that the over-enforcement of patents hinders technological innovation, the existing, confused state of the law regarding divided infringement provides a haphazard, suboptimal way to address the issue. Because divided infringement cases arise in a variety of different industries²¹⁷—some of which may more legitimately require and deserve patent protection than others²¹⁸—the impact of divided infringement is distributed indiscriminately across fields. Indeed, even within a particular industry the effects of divided infringement may be spread arbitrarily depending on the skill with which a particular patent’s

213. See, e.g., Truong, *supra* note 61, at 1922–25 (suggesting that courts should incorporate civil conspiracy law in cases of divided infringement).

214. See, e.g., Ahn, *supra* note 1, at 173–75 (advocating a broader standard for vicarious liability under § 271(a)); Dokhanchy, *supra* note 195, at 162–63 (proposing a return to the “some connection” standard for divided infringement endorsed by some district courts pre-*BMC Resources*).

215. See, e.g., Ahn, *supra* note 1, at 173–75 (advocating a broader standard for vicarious liability under § 271(a)); Dokhanchy, *supra* note 195, at 162–63 (proposing a return to the “some connection” standard for divided infringement endorsed by some district courts pre-*BMC Resources*).

216. See, e.g., JAMES BESSEN & MICHAEL J. MEURER, *PATENT FAILURE: HOW JUDGES, BUREAUCRATS, AND LAWYERS PUT INNOVATORS AT RISK* (2008) (concluding that the patent system actually disincentivizes innovation on the whole).

217. See *supra* notes 200–202 and accompanying text (identifying industries particularly susceptible to divided infringement concerns).

218. See, e.g., Dan L. Burk & Mark A. Lemley, *Policy Levers in Patent Law*, 89 VA. L. REV. 1575, 1581 (2003) (observing that “the cost of R&D varies widely from industry to industry and from innovation to innovation”); Benjamin N. Roin, *The Case For Tailoring Patent Awards Based on Time-to-Market*, 61 UCLA L. REV. 672, 676 (2014) (“There is overwhelming evidence that the [patent] system’s costs and benefits vary greatly across industries.”).

claims are drafted,²¹⁹ and the extent to which would-be infringers are motivated to exploit a particular patent by dividing its performance among multiple actors.²²⁰ All in all, then, the existing statutory framework's artificial limitation of the scope of divided infringement liability is a poor means by which to address more systemic problems within the U.S. patent system.

It is also worth noting that the new statutory provision proposed here could itself give rise to a loophole that allows parties to circumvent infringement liability in some cases. Specifically, if a party intentionally remained unaware of how its partners completed their portion(s) of a patented process, then it would lack the requisite knowledge that it was “collectively perform[ing] a patented process with another” as required under the proposed Section 271(j). And if each of the parties involved in such a divided infringement intentionally avoided knowledge of the particular nature of one another's acts, then no party would be liable for divided infringement under the proposed statute, even though their collective actions infringed a patented process.

Therefore, the new proposed subsection could incentivize some companies to learn as little as possible about the exact nature of their partners' operations.²²¹ That being said, exploiting this loophole would typically only be feasible in cases where the precise means by which a process is performed is largely immaterial, and the parties are instead merely contracting for the input or output they will provide to one another. For example, imagine a patent claiming a method for limiting the number of times a computer user can view a digital video file over the Internet.²²² If a company providing access to a library of digitally stored movies wishes to limit how often its users can view a particular file on its website, but does not care how that restriction is implemented, then the company could hire a vendor to provide this functionality without regard to the specific manner in which it is performed. And if it turns out

219. See Lemley et al., *supra* note 3, at 272 (observing that in some cases, divided infringement concerns can be avoided by drafting claims that simply focus on the activities of one entity).

220. See Robinson, *Case Study*, *supra* note 187, at 597 (noting an example in which “claims directed to a single entity . . . still gave rise to joint infringement concerns” when “the defendants still managed to divide the steps among them”).

221. *Cf. id.* at 604 (noting the possibility that “a vendor [may wish] to keep [its] methods a secret”).

222. See *Am. Patent Dev. Corp., LLC v. Movielink, LLC*, 637 F. Supp. 2d 224, 226 (D. Del. 2009) (considering the “alleg[ed] infringement of United States Patent No. 5,400,402 . . . which pertains to systems for controlling the use of video-on-demand programming”); see also Keith Jaasma, *Finding the Patent Infringement “Mastermind”: The “Control or Direction” Standard for Joint Infringement*, 26 SANTA CLARA COMPUTER & HIGH TECH. L.J. 411, 434–36 (2010) (discussing *Movielink*).

that the combined actions of the host site and vendor collectively infringe the patent, then neither would be liable under the proposed Section 271(j) because neither party would be knowingly infringing an entire claim from the patent-in-suit.

While this potential loophole may appear unjust to some, it can be justified as a matter of policy. Indeed, the fact that parties would be willing to contract for some functionality without regard to the specific manner in which it is performed suggests that the exact process being used is largely insignificant, and that the use of a particular patented method is not important to the parties. As a result, while not ideal from a patentee's perspective, the failure to impose liability in these cases is justifiable because the parties are not intentionally attempting to circumvent a patent, but are instead merely contracting with one another to perform some functionality in a generalized manner. Even then, a patentee could potentially attempt to trigger liability under the hypothetical Section 271(j) by sending the parties a notice letter accusing them of infringement, the receipt of which would force the parties to investigate how their vendors are performing the allegedly infringing functionality.²²³

Alternatively, in cases where a party insists that the functionality be performed in a specific way—in order to ensure that the resulting output is compatible with the rest of the coding for its website, for instance—then the mastermind party would be liable for divided infringement under the proposed statutory provision so long as it was also aware of the patent-in-suit. In these cases, because the party mandates that its vendor perform its share of the infringing process in a particular manner, this would suggest that the specific steps disclosed in the patent do have some value or importance. As a result, the website would be knowingly and collectively infringing the patent in violation of the hypothetical Section 271(j).

Finally, the proposed statutory provision may, in some cases, be vulnerable to potential circumvention in another manner: through the performance of one or more of the infringing steps abroad. Due to the territorial limitations of the Patent Act, the Federal Circuit has held that in order to infringe a patented method, each and

223. See, e.g. *nCube Corp. v. Seachange Int'l, Inc.*, 436 F.3d 1317, 1324 (Fed. Cir. 2006) (“Actual notice of another’s patent rights triggers an affirmative duty of due care to avoid infringement.”); *Rolls-Royce Ltd. v. GTE Valeron Corp.*, 800 F.2d 1101, 1109 (Fed. Cir. 1986) (“It is by now well settled that where a potential infringer has actual notice of another’s patent rights he has an affirmative duty of due care.”). Such a letter would also provide notice of the patent-in-suit to the infringing parties, satisfying the knowledge requirement for a finding of divided infringement under the proposed statutory provision.

every step of the infringement must be completed within the United States.²²⁴

Consequently, parties truly intent on circumventing patent protection following the enactment of the proposed Section 271(j) could avoid infringement liability in some cases by simply performing one or more steps of the patented method abroad.²²⁵ This may be feasible in cases involving computerized processes, for example, where one or more of the steps of a method could easily be assigned to a server physically located in a foreign country. However, it is important to note that this loophole already exists under current law, and is not exclusive to divided infringement cases, nor is it magnified by the proposed amendment to the Patent Act.²²⁶

Even if the proposed statutory amendment would not close every potential loophole, it would bring much needed legislative clarity and guidance to this area of the law. The dilemma presented by divided patent infringement is largely of Congress's own making. Bearing in mind its resulting policy ramifications,²²⁷ the time has come for Congress to take steps to correct this oversight.

CONCLUSION

This Article has examined the increasingly common phenomenon of divided patent infringement. Although courts at common law were well equipped to handle cases in which two or more parties collectively infringed a patented process through the imposition of contributory tort liability, Congress's shortsighted codification of the law of patent infringement in the Patent Act of 1952 prevents courts from relying on this doctrine in present-day divided infringement lawsuits. As a result, subsequent courts have struggled to equitably resolve these cases within the confines of the Patent Act.

224. *NTP, Inc. v. Research In Motion, Ltd.*, 418 F.3d 1282, 1318 (Fed. Cir. 2005) ("We therefore hold that a process cannot be used 'within' the United States as required by section 271(a) unless each of the steps is performed within this country.").

225. *See* Lemley et al., *supra* note 3, at 271 (explaining that "as communications technologies support ever increasing bandwidth, virtually any innovation that employs computation or decision-making is susceptible to placement of a particular component or step with an independent vendor or outside the United States in a way that may avoid traditional infringement remedies").

226. *See NTP*, 418 F.3d at 1318.

227. *See supra* Part IV.A (discussing the ways in which the current statutory loophole may disincentivize firms from undertaking socially beneficial research and development activities).

This Article proposes that Congress take steps to correct this mistake by enacting a new statutory provision governing cases of divided patent infringement. By authorizing liability in lawsuits alleging that two or more parties have knowingly worked together to infringe a patent, Congress can both ensure that would-be infringers will be unable to intentionally circumvent patent protection, and protect innocent actors who may unwittingly contribute to the infringement of a patented process.