

## CLOSING THE JOINT PATENT INFRINGEMENT LOOPHOLE

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A potential case of joint patent infringement arises whenever two or more parties collectively perform all of the steps of a patented claim, but in which no single party acting alone itself completes each of the steps.<sup>1</sup> This situation most often arises in cases involving so-called “method” or “process” patents, those protecting a series of steps used to perform a particular function (e.g., Henry Ford’s innovative assembly line process).<sup>2</sup> Under existing law, method claims can only be infringed when a single actor herself performs all of the steps of a patented claim, either directly or vicariously.<sup>3</sup> As a result, two or more parties can potentially avoid infringement liability altogether by working at arms-length to each individually perform different portions of a patented process.<sup>4</sup>

Method patents have become particularly vulnerable to being divided in this manner in

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<sup>1</sup> 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 joint infringement cases, with some instead referring to infringement through the combined actions of multiple parties as “divided” 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 new to the patent infringement lexicon, courts more typically use the terms ‘joint infringement’ or ‘divided infringement’”). This article will employ the more traditional “joint infringement” phrasing to describe this form of activity.

<sup>2</sup> See, e.g., Long Truong, Note: *After BMC Resources, Inv. v. Paymentech, L.P.: Conspiratorial Infringement as a Means of Holding Joint Infringers Liable*, 103 N.W. U. L. REV. 1897, 1919 (2009) (explaining that joint infringement most often arises with respect to “process patents with no novel end product because no party would face direct infringement liability as the user or seller of the end product”).

In contrast, neither apparatus patents (those covering a specific product or machine) nor system patents (those protecting a patented structure containing multiple component devices) are typically vulnerable to being circumvented in this same way, as anyone selling or using an infringing product—or controlling an infringing system—can be held liable for infringement even if more than one party helped construct the infringing device. 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”); Dolly Wu, *Joint Infringement and Internet Software Patents: An Uncertain Future?*, 91 J. PAT. & TRADEMARK OFF. SOC’Y 439, 519 (2009) (describing system claims as those composed of “multiple distinct components”).

<sup>3</sup> See *BMC Resources, Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1379 (Fed. Cir. 2007) (holding that “[f]or process patent or method patent claims, infringement occurs when a party performs all of the steps of the process.”).

<sup>4</sup> See Ken Hobday, Comment: *The Incredibly Ever-Shrinking Theory of Joint Infringement: Multi-Actor Method Claims*, 38 CAP. U. L. REV. 137, 140 (2009) (concluding that recent joint infringement precedents have “largely eviscerated the theory’s usefulness in proving infringement”); Wu, *supra* note 2, at 441 (observing that joint infringement cases require a showing that one part is vicariously liable for the infringing acts performed by another).

the digital age, as collaborating parties are now often easily able to coordinate their activities via networked computers.<sup>5</sup> Consequently, joint infringement cases have become increasingly common in recent years not only in the Internet sector, but also in the personalized medicine, biotechnology, wireless communications, and financial services industries as well.<sup>6</sup> This trend is only likely to accelerate in the future, as the so-called “Internet of Things” connects countless new devices—including everything ranging from wristwatches to washing machines—to the Internet, increasing the frequency with which different parties interact through new technology.<sup>7</sup>

Unfortunately, U.S. patent law is currently ill-equipped to deal with cases of joint infringement.<sup>8</sup> Because the statutory provision governing the direct infringement of a patent establishes a strict liability regime—holding anyone who performs all of the steps of a patented claim liable for infringement regardless of their knowledge of the patent<sup>9</sup>—courts have been hesitant to apply this section to the combined actions of two or more parties working together.<sup>10</sup> Indeed, imposing strict liability in cases of joint infringement risks holding parties liable even though they may have had no idea that their activities were being combined with those of another party to violate a patent.<sup>11</sup> As a result, courts have generally applied the direct infringement provision only in cases where a single party either infringes an entire patent claim itself or else

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<sup>5</sup> 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”).

<sup>6</sup> 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.”); W. Keith Robinson, *Economic Theory, Divided Infringement and Enforcing Interactive Patents*, 67 FLA. L. REV. \_\_\_, at 7-8, 17 (forthcoming, 2015), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2489430](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2489430) [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”).

<sup>7</sup> 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).

<sup>8</sup> See 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 1950’s technology to the cutting edge innovations of today.”).

<sup>9</sup> 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 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.”).

<sup>10</sup> 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.”).

<sup>11</sup> See Robinson, *No “Direction,” supra* note 8, at 66 (recognizing concern that a broad application of Section 271(a)’s strict liability regime to joint infringement cases could ensnare “innocent actors”).

vicariously controls another's infringing acts.<sup>12</sup>

At the same time, however, both of the statutory provisions governing the indirect infringement of a patent—via either inducement<sup>13</sup> or contributory infringement<sup>14</sup>—have themselves been interpreted to require an underlying direct infringement of the patent-in-suit.<sup>15</sup> So, in light of the precedent outlined above,<sup>16</sup> patentees must show that a single actor has directly infringed an entire claim of a patented method in order to prevail in a lawsuit asserting indirect infringement liability. Consequently, patent-holders have found it increasingly difficult to pursue infringement claims in cases where no single party acting alone directly infringes a patent.<sup>17</sup>

While many commentators have acknowledged the difficulties posed by this joint infringement “loophole,”<sup>18</sup> few, if any, to date have recognized that the root cause of the problem dates back to the shortsighted manner in which Congress drafted the Patent Act of 1952 (“Patent Act”), the most recent comprehensive overhaul of U.S. patent policy. For the first time, the Patent Act created a new statutory provision—Section 271—to address the infringement of a patent; previously, patent infringement had been governed by common law principles.<sup>19</sup> Unfortunately, although the common law had been well equipped to resolve cases of joint infringement through the application of the traditional tort doctrine of contributory liability—imposing liability whenever two or more parties knowingly worked together to injure a plaintiff<sup>20</sup>—the Patent Act's codification prevents courts from relying on this common law principle in present-day joint infringement cases. Indeed, because the Patent Act specifically limits the imposition of contributory liability to only a narrow set of cases involving the most problematic form of contributory infringement occurring in the 1950s, liability cannot arise under the applicable provision in cases where no single actor alone has infringed the patent.<sup>21</sup>

Consequently, patent-holders have been largely unable to seek redress for acts of joint

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<sup>12</sup> See, e.g., *BMC Resources, Inv. v. Paymentech, L.P.*, 498 F.3d 1373, 1380 (Fed. Cir. 2007) (“Courts faced with a divided infringement theory have also generally refused to find liability where one party did not control or direct each step of the patented process.”).

<sup>13</sup> 35 U.S.C. 271(b) (2010).

<sup>14</sup> 35 U.S.C. 271(c) (2010).

<sup>15</sup> See *Limelight Networks, Inc. v. Akamai Tech., Inc.*, 134 S.Ct. 2111, 2118 (2014) (holding that because “in this case . . . direct infringement never occurred. Limelight cannot be liable for inducing infringement that never came to pass.”); *Mercoid Corp. v. Mid-Continent Co.*, 320 U. S. 661, 677 (1944) (“In a word, if there is no [direct] infringement of a patent there can be no contributory infringer.”).

<sup>16</sup> See *supra* note 12 and accompanying text.

<sup>17</sup> See *Ahn, supra* note 1, at 152 (asserting that “the requirement of proving direct infringement in both direct and indirect infringement cases create[s] a loophole in joint infringement situations where no single party performs every step”).

<sup>18</sup> See, e.g., *id.* at 170 (declaring that the limitations placed on joint 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 existing law as creating a “loophole” in joint infringement cases); Ben Morgan, *Joint Infringement and the Impact of BMC Resources, Inc. v. Paymentech, L.P.*, 12 SMU SCI. & TECH. L. REV. 173, 176 (2009) (identifying a “loophole” allowing parties to circumvent joint infringement liability); Wu, *supra* note 4, at 441 (contending that the vicarious liability requirement for joint infringement is “unlikely” to be met in many Internet-related cases).

<sup>19</sup> 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.”).

<sup>20</sup> See *infra* notes 40-41 and 54-55 and accompanying text (describing the applicability of contributory tort liability).

<sup>21</sup> See *infra* notes 117-120 and accompanying text (discussing the manner in which the Patent Act prevents courts from incorporating tort contributory liability doctrine in patent cases).

infringement. Not only does this loophole potentially allow would-be infringers to safely circumvent patent infringement liability,<sup>22</sup> but it also threatens to render an entire body of patents—those predicated on the combined actions of two or more parties—largely unenforceable.<sup>23</sup> These shortcomings in the current statutory framework thus threaten to disincentivize socially beneficial research and development activities not only in the e-commerce sector, but also—as noted above—potentially in the biotechnology and personalized medicine industries as well.<sup>24</sup>

This article therefore asserts that Congress should modify the Patent Act to remedy this undesirable state of affairs. In particular, it proposes adding a new subsection to the Patent Act authorizing courts to apply the principles underlying the traditional common law tort doctrine of contributory liability in cases of joint patent infringement.<sup>25</sup> By creating a new statutory provision imposing liability whenever two or more parties knowingly and jointly infringe a patent, Congress can close the current joint infringement loophole without triggering the policy concerns that would arise under the existing statutory framework if strict liability were imposed on those who unwittingly participate in only a small portion of the infringement of a patent.<sup>26</sup>

The article proceeds in four parts. Part I reviews the pre-1952 case law, tracing the common law development of the law of patent infringement, and the doctrine of contributory infringement liability 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 joint infringement lawsuits. Part III of the article examines the resulting difficulties that courts have faced when trying to fairly resolve cases of joint infringement under the existing statutory framework. Finally, Part IV asserts that Congress should act to close this joint infringement loophole, proposing a new statutory provision that would equitably balance the competing policy issues raised by joint patent infringement lawsuits.

## I. The Common Law Development of Joint Infringement Doctrine

Prior to the passage of the Patent Act, there was no statutory provision governing the infringement of a patent.<sup>27</sup> Instead, courts drew upon traditional common law tort principles to

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<sup>22</sup> 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”).

<sup>23</sup> See Damon Gupta, *Virtually Uninfringeable: Valid Patents Lacking Protection Under the Single Entity Rule*, 94 J. PAT. & TRADEMARK OFF. SOC’Y 61, 61 (2012) (stating that “[s]ome valid patents are practically uninfringeable”). See also W. Keith Robinson, *A Case Study of Federal Circuit Policy Making*, 66 SMU L. REV. 579, 597 (2013) [hereinafter Robinson, *Case Study*] (recognizing that “multi-participant inventions require[] multi-participant claims”).

<sup>24</sup> See *supra* note 6 and accompanying text (noting the diverse fields of business affected by joint patent infringement).

<sup>25</sup> See *infra* notes 201-202 and accompanying text (discussing proposed statutory provision).

<sup>26</sup> See *infra* notes 108-112 and accompanying text (identifying policy concerns raised by resolving joint infringement cases under the current statute).

<sup>27</sup> 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.”).

resolve patent infringement lawsuits, analogizing the infringement of a patent to a trespass on another's property.<sup>28</sup>

In order for an infringement to have occurred, however, courts at common law generally required that the infringer perform each of the elements of at least one of the patent's claims. Indeed, U.S. courts have traditionally viewed every step of a patent claim to be an essential part of the invention, and thus have demanded that the defendant perform each of these elements in order for an infringement to arise.<sup>29</sup> As the U.S. Supreme Court explained in *Union Water-Meter Co. v. Desper*:

It may be observed . . . that the courts of this country cannot always indulge the same latitude which is exercised by English judges in determining what parts of a machine are or are not material. 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.<sup>30</sup>

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 came to be known as the “all-elements” or “all limitations” rule.<sup>31</sup>

Before long, would-be infringers recognized that the all-elements rule provided a possible avenue for circumventing patent protection. By performing all but one step of a patented invention—leaving it to their customers to contribute the final element and complete the infringement—companies could theoretically evade patent infringement liability. For instance, in the seminal case of *Wallace v. Holmes*,<sup>32</sup> a manufacturer produced all but one part of a patented oil lamp—including all of the lamp's key inventive components—while leaving it to its customers to supply the lamp's chimney, the final piece of the patented apparatus.<sup>33</sup> 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 the manufacturer's customers

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<sup>28</sup> See, e.g., *Thomsons 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, 131 (2013) (“Patent infringement in the United States was originally a matter of common law.”).

<sup>29</sup> 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).

<sup>30</sup> 101 U.S. 332, 337 (1879).

<sup>31</sup> 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”).

<sup>32</sup> 29 F. Cas. 74 (C.C.D. Conn. 1871) (No. 17,100).

<sup>33</sup> *Id.* at 79.

individually for infringement, an obviously burdensome and unrealistic task.<sup>34</sup>

Recognizing the seeming injustice presented in cases like this, courts at common law turned to various tort doctrines governing vicarious and contributory liability to hold the would-be infringer 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 wrongdoing in situations where the party possessed the ability to direct or control the wrongdoer's action.<sup>35</sup> Liability in these cases was typically premised 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.<sup>36</sup> In these situations, the principal could then be held liable for the infringing acts committed by its agent.

For instance, in *Crowell v. Baker Oil Tools*,<sup>37</sup> 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.<sup>38</sup> In resolving the case, the Ninth Circuit Court of Appeals held that, "It is obvious that one may infringe a patent if he employ an agent for that purpose or have the offending articles manufactured for him by an independent contractor."<sup>39</sup> Thus, if one party forms an agency agreement with another, or enters a contract with the second party specifically requiring the performance of part of a patented claim, then the first party could be held vicariously liable for the acts of the second party, giving rise to direct infringement liability at common law.

Meanwhile, in cases where the infringing acts were divided between two parties not connected through a contractual or agency relationship, courts could still potentially hold the defendants accountable under the traditional tort law doctrine of contributory liability.<sup>40</sup> 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."<sup>41</sup> Applying this theory in the patent infringement context, the U.S. Supreme Court has 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

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<sup>34</sup> 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").

<sup>35</sup> 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 (explaining that "vicarious liability . . . implicates some measure of direction or control over the actors actually engaging in the infringing acts").

<sup>36</sup> See Hobday, *supra* note 4, at 158 (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.").

<sup>37</sup> 143 F.2d 1003 (9th Cir. 1944).

<sup>38</sup> See *id.* at 1004 (noting that the plaintiff in the declaratory judgement suit was "not engaged in manufacturing the device").

<sup>39</sup> *Id.*

<sup>40</sup> See Oswald, *supra* note 1, at 18 (explaining that "contributory tortfeasors can be held jointly and severally liable for the wrongdoing").

<sup>41</sup> RESTATEMENT (SECOND) OF TORTS § 875 (1979).

importance in situations . . . where enforcement against [the] direct infringers would be difficult.”<sup>42</sup> For example, in the 1872 case of *Renwick v. Pond*,<sup>43</sup> the court held that a defendant was contributorily liable for selling an infringing firearm even though its customers were the ones who supplied the actual cartridge fired from the gun, an explicit part of the patented invention.<sup>44</sup>

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 case of *Wallace v. Holmes*,<sup>45</sup> discussed above,<sup>46</sup> for instance, the court ruled that the company manufacturing most, but not all, of the patented oil lamp had “virtually” infringed the patent when it knew its customers would be adding the final infringing piece themselves.<sup>47</sup> Thus, the *Wallace* court was, in effect, applying the basic tort theory of contributory liability, holding 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 (Second) of Torts*, which specifies that a defendant can be held contributorily liable for either (i) committing “a tortious act in concert with [an]other or pursuant to a common design with him, or (ii) giving someone “substantial assistance or encouragement” to commit a tortious act themselves.<sup>48</sup>

Most contributory infringement cases in the late 1800s and early 1900s proceeded along similar lines. Because these cases typically involved a patented device—as opposed to a patented method—some party inevitably sold or used the entire infringing apparatus, and as a result could be held directly liable for infringement,<sup>49</sup> with any contributing parties subject to liability for indirect infringement. As a result, courts were rarely, if ever, required to delineate the outer limits of contributory infringement liability.<sup>50</sup>

Most significantly for present purposes, it was unclear at common law whether 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 entire patented process was being performed, no single party acting alone completed the entire infringement, as was traditionally required at common law.<sup>51</sup> While there do not appear to be any reported decisions from the era considering this issue, an 1890 patent treatise did suggest that

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<sup>42</sup> *Dawson Chemical Co. v. Rohm and Haas Co.*, 448 U.S. 176, 188 (1980). *See also* Robinson, *No “Direction”*, *supra* note 8, 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)).

<sup>43</sup> 20 F. Cas. 536 (C.C.S.D.N.Y. 1872) (No. 11,702).

<sup>44</sup> *See id.*; *see also* R. CARL MOY, *MOY’S WALKER ON PATENTS* § 15:4 (4th ed. 2003) (reciting early contributory infringement cases).

<sup>45</sup> 29 F. Cas. 74 (C.C.D. Conn. 1871) (No. 17,100).

<sup>46</sup> *See supra* notes 32-34 and accompanying text (discussing case).

<sup>47</sup> *Id.* at 75.

<sup>48</sup> RESTATEMENT (SECOND) OF TORTS § 875 (1979).

<sup>49</sup> *See, e.g.,* Lemley et al., *supra* note 2, 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.”).

<sup>50</sup> *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.”).

<sup>51</sup> *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”).

“[a]ll who perform or who unite in the performance of an act of infringement . . . may be sued jointly or severally” for violating the patent.<sup>52</sup> The treatise failed to cite any supporting case law for this proposition, however.<sup>53</sup> As a result, we do not know precisely whether a common law court would have imposed contributory liability in these cases.

Nevertheless, as will be discussed in greater detail below,<sup>54</sup> the tort doctrine of contributory liability would have been well suited to resolve present-day joint infringement cases of this nature.<sup>55</sup> Unfortunately, as the next part of this article explains, despite the promise of this doctrine, Congress’s codification of the common law of patent infringement in the Patent Act now prevents courts from fully imposing contributory tort liability in cases of joint infringement.

## II. The Patent Act Forecloses the Imposition of Contributory Tort Liability in Joint Infringement Cases

Congress codified the common law of patent infringement in the Patent Act in 1952.<sup>56</sup> Specifically, the Act included a new provision—Section 271—that for the first time provided a statutory framework governing patent infringement.<sup>57</sup> Subsection (a) defines the direct infringement of a patent, providing 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.”<sup>58</sup> This provision thus, in effect, establishes a strict liability paradigm for direct infringement; one can be held liable for infringement even if she was unaware of the patent’s existence.<sup>59</sup>

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<sup>52</sup> 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.”).

<sup>53</sup> *See generally id.* 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)).

<sup>54</sup> *See infra* notes 104-112 and accompanying text (discussing the benefits of resolving joint infringement cases under the traditional tort theory of contributory liability).

<sup>55</sup> For example, Prosser and Keeton have noted that contributory tort liability can arise “where the acts of each of two or more parties, standing alone, would not be wrongful, but together they cause harm to the plaintiff.” W. PAGE KEETON ET AL., PROSSER & KEETON ON THE LAW OF TORTS § 52, at 354 (5th ed. 1984).

<sup>56</sup> *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 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, 835 (2013) (noting that “the Patent Act . . . codified the common law patent infringement doctrines at the time”); Su, *supra* note 27, at 610 (reporting that “patent infringement law was codified for the first time in 1952”).

<sup>57</sup> *See, e.g.,* Lerner, *supra* note 27, at 209 (“First enacted in 1952, § 271(a) of the 1952 Patent Act codified the common law approach to patent infringement.”); Su, *supra* note 27, at 610 (reporting that “patent infringement law was codified for the first time in 1952”).

<sup>58</sup> 35 U.S.C. § 271(a) (2010).

<sup>59</sup> *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 Not*

As a result, courts have traditionally read a single actor requirement into Section 271(a), requiring that one party perform each of the infringing steps itself—either directly or vicariously—in order for patent infringement liability to arise.<sup>60</sup> This makes sense from a notice perspective, as otherwise someone performing some, but not all, of a patented claim could find themselves strictly liable for infringement should it turn out that their actions were being combined with those of another to duplicate an entire patented invention without their knowledge.<sup>61</sup> In contrast, a party who performs all of the infringing steps itself can more fairly be held strictly liable for the infringement—even if it was unaware of the patent’s existence—because it was in the position to control the performance of all of the infringing acts.

Moreover, a single actor requirement is also consistent with the common law roots of Section 271(a). As noted above, courts at common law turned to the doctrine of contributory liability to provide the exclusive remedy in cases where all of the requisite infringing steps were not legally attributable to a single defendant.<sup>62</sup> This doctrine was, in turn, incorporated into the Patent Act in later subsections of Section 271, as discussed below.<sup>63</sup> Thus, one can reasonably conclude that Congress intended that direct infringement under Section 271(a) would only arise in cases where all of the infringing acts could be attributed to a single party, as had been the case at common law.<sup>64</sup>

Meanwhile, the Patent Act divided the common law doctrine of contributory patent infringement into two separate provisions.<sup>65</sup> The first, 35 U.S.C. § 271(b), holds a party liable for inducing infringement by another, declaring that “[w]hoever actively induces infringement of a

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*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.”).

<sup>60</sup> See, e.g., *BMC Res., Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1380 (Fed. Cir. 2007) (“Infringement requires, as it always has, a showing that a defendant has practiced each and every element of the claimed invention.”); see also *Robinson, No “Direction”*, *supra* note 8, at 84 (characterizing this requirement as the “‘single entity’ rule”).

<sup>61</sup> 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 (W.D. Wash. Sept. 21, 2012) (same).

Some have also argued that allowing patentees to prove an infringement through the combined acts of unrelated parties would circumvent the statutory framework by relegating the provisions directed towards indirect patent infringement superfluous. See *Lemley et al.*, *supra* note 2, at 262 (“Construing the patent laws to permit the individual, non-infringing acts of unrelated parties together to add up to infringement would render both § 271(b) and § 271(c) meaningless.”).

<sup>62</sup> See *supra* notes 40-53 and accompanying text (discussing the application of contributory infringement liability at common law).

<sup>63</sup> See *infra* notes 65-78 and accompanying text (explaining that contributory liability was divided into two provisions in the Patent Act, Sections 271(b) and (c)).

<sup>64</sup> See, e.g., *NTP, Inc. v. Research In Motion, Ltd.*, 418 F.3d 1282, 1319 (Fed. Cir. 2005) (“Section 271(a) was merely a codification of the common law of infringement that had developed up to the time of passage of the 1952 Patent Act. It was not meant to change the law of infringement.”).

<sup>65</sup> 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, 1019 (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 was to codify the existing common law of contributory infringement.”).

patent shall be liable as an infringer.”<sup>66</sup> Put differently, even if you do not infringe a patent yourself, under Section 271(b) you can still be held indirectly liable if you cause someone else’s direct infringement.<sup>67</sup> Inducement liability has arisen, for example, in cases where a party designed the infringing activity carried out by another,<sup>68</sup> instructed or directed the infringing party’s actions,<sup>69</sup> or agreed to indemnify the infringing party from liability.<sup>70</sup>

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 be held liable under Section 271(b).<sup>71</sup> Moreover, because the provision only applies to the inducement of “infringement,” courts have also held that a plaintiff must be able to show that a direct infringement of the patent—as defined by Section 271(a)—has occurred in order for inducement liability to arise.<sup>72</sup> In other words, in light of the Section 271(a) precedent discussed above,<sup>73</sup> a patent-holder cannot assert an inducement claim in a case where two parties collectively perform all of the steps of a patented claim, but in which no single party acting alone has infringed. Instead, inducement liability will only arise where one party has itself infringed the entire patented invention.

Perhaps more significantly, the Patent Act also included a provision limiting the imposition of “contributory” infringement to cases involving a specific fact pattern set forth in Section 271(c).<sup>74</sup> 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.<sup>75</sup>

Thus, Section 271(c) limits contributory infringement liability to cases in which the defendant

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<sup>66</sup> 35 U.S.C. § 271(b) (2010).

<sup>67</sup> See Truong, *supra* note 2, at 1905 (reciting the requirements for inducement under Section 271(b)).

<sup>68</sup> 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).

<sup>69</sup> See *Goodwill Const. Co., Inc. v. Beers Const. Co.*, 210 U.S.P.Q. 272, 1981 WL 40517 (N.D. Ga. 1981).

<sup>70</sup> 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).

<sup>71</sup> 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.”); 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).

<sup>72</sup> 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)).

<sup>73</sup> See *supra* note 60 and accompanying text (setting for the requirement that a single actor perform all of the infringing steps under Section 271(a)).

<sup>74</sup> 35 U.S.C. § 271(c) (2010).

<sup>75</sup> *Id.*

has assisted in another's infringement by selling a material component especially made for use in the infringement.<sup>76</sup> Like Section 271(b), however, in order to prevail on a claim of contributory infringement the patent-holder must show both that someone else has directly infringed the patent,<sup>77</sup> and that the defendant knowingly contributed to this infringement while aware of the patent-in-suit.<sup>78</sup>

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.<sup>79</sup> On the other hand, however, merely performing one step of a patented process would not give rise to a finding of contributory infringement under Section 271(c), because the defendant has not sold a material component to help facilitate another's direct infringement. As a result, the codified version of contributory infringement is considerably narrower than was the potential scope of the underlying tort doctrine at common law.<sup>80</sup>

To understand why Congress drafted Section 271(c) in such a limited manner requires a brief overview of the evolution of the common law doctrine of contributory infringement in the first half of the 1900s. At the start of the 20th Century, patentees began to realize that they could potentially use the threat of contributory infringement liability as a way to extend their patent monopolies by requiring that their customers only use authorized, but unpatentable, component parts with a patented machine.<sup>81</sup> In the 1896 case *Heaton-Peninsular Button-Fastener Co. v. Eureka Specialty Co.*,<sup>82</sup> for example, the owner of a patent related to attaching buttons to shoes with metallic fasteners prohibited its customers from using other company's staples in its patented machine.<sup>83</sup> Even though the staples themselves were not patented, the patent-holder sued a competitor for contributory infringement when it began to sell staples for use in the patentee's machine.<sup>84</sup>

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<sup>76</sup> 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) ("contributory 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.'").

<sup>77</sup> 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 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.").

<sup>78</sup> See, e.g., *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 377 U.S. 476, 488 (1964) (Aro II) (holding "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.").

<sup>79</sup> *Golden Blount, Inc. v. Robert H. Peterson Co.*, 438 F.3d 1354 (Fed. Cir. 2006).

<sup>80</sup> See *supra* notes 40-42 and accompanying text (summarizing the common law tort doctrine of contributory liability).

<sup>81</sup> See Adams, *supra* note 50, at 376-77 (discussing the history of contributory infringement).

<sup>82</sup> 77 F. 288 (6th Cir. 1896).

<sup>83</sup> *Id.* at 290.

<sup>84</sup> *Id.* at 289. See also Adams, *supra* note 50, at 377 (discussing case).

Courts were initially willing to impose contributory infringement liability in these cases.<sup>85</sup> The U.S. Supreme Court, however, eventually rejected this broad interpretation of the doctrine in the 1917 case of *Motion Pictures Patents Co. v. Universal Film Manufacturing Co.*,<sup>86</sup> a suit involving the use of a patented film projector to display movies produced by an unauthorized film studio.<sup>87</sup> 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.”<sup>88</sup> The Supreme Court later expanded this holding in the 1930s,<sup>89</sup> ruling that any attempt to extend a patent monopoly to an unpatented component part in such a manner constituted “patent misuse,” resulting in the patent owner thereafter being barred from suing under the patent.<sup>90</sup>

The Court continued to develop this theory of patent misuse into the 1940s, culminating in the 1944 case of *Mercoïd Corp. v. Mid-Continent Investment Co.*<sup>91</sup> *Mercoïd* involved a patent for a home heating system which used a combustion stoker switch to prevent fire from escaping the furnace once the thermostat had reached the desired temperature.<sup>92</sup> The patentee accused the defendant of contributory infringement after the defendant sold unauthorized stoker switches for use in the plaintiff’s patented system.<sup>93</sup> However, unlike the *Button-Fastener* and *Motion Picture Patents* cases above—which involved the sale of unpatented, so-called “staple” items of commerce capable of other substantial, non-infringing uses—the accused stoker switch in *Mercoïd* could not be used in any way other than as part of the patented system.<sup>94</sup> This brought the case more closely in line with the original contributory infringement cases decided back in the 1800s.<sup>95</sup> 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.<sup>96</sup> As a result, the *Mercoïd* decision effectively eradicated the doctrine of contributory infringement from the patent landscape.<sup>97</sup>

Section 271(c) was intended to overturn *Mercoïd* and restore the doctrine of contributory infringement liability back to its pre-1944 roots.<sup>98</sup> This, in turn, explains the narrow focus of the

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<sup>85</sup> See *Heaton-Peninsular*, 77 F. at 292.

<sup>86</sup> 243 U.S. 502 (1917).

<sup>87</sup> *Id.* at 506-07.

<sup>88</sup> *Id.* at 516.

<sup>89</sup> See, e.g., *Carbice Corp. of America v. American Patents Development Corp.*, 283 U.S. 27 (1931).

<sup>90</sup> See MOY, *supra* note 44, at § 15:8 (discussing the implications of patent misuse following the U.S. Supreme Court’s decision in *Carbice*).

<sup>91</sup> 320 U.S. 661 (1944).

<sup>92</sup> *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.”).

<sup>93</sup> *Id.* (“*Mercoïd* manufactured and sold combustion stoker switches for use in the Cross combination patent”).

<sup>94</sup> *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.”)

<sup>95</sup> See *supra* notes 43-47 and accompanying text (discussing the early contributory infringement cases of *Renwick v. Pond* and *Wallace v. Holmes*).

<sup>96</sup> *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).

<sup>97</sup> See Adams, *supra* note 50, at 382 (explaining that “the Supreme Court used the patent misuse defense to in effect eradicate the doctrine of contributory infringement”).

<sup>98</sup> See *Akamai Tech., Inc. v. Limelight Networks, Inc.*, Case No. 2009-1372 (Fed. Cir. May 13, 2015) (Moore, J. dissenting), available at <http://www.cafc.uscourts.gov/images/stories/opinions-orders/9-1372.Opinion.5-11->

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 problematic form of contributory infringement arising at the time.<sup>99</sup>

Unfortunately, the Patent Act's limited and shortsighted codification of contributory infringement liability has restricted the potential applicability of the common law doctrine in significant ways. Most importantly for present purposes, Section 271(c) prevents courts from imposing contributory liability in joint patent infringement lawsuits to the full extent that would have been allowable at common law. As noted above,<sup>100</sup> the tort doctrine of contributory liability has been used to hold two or more parties liable whenever they collectively injure a plaintiff, even if each of the defendants' individual actions were not themselves actionable.<sup>101</sup> Indeed, as Prosser and Keeton note, contributory tort liability arises "where the acts of each of two or more parties, standing alone, would not be wrongful, but together they cause harm to the plaintiff."<sup>102</sup> At the same time, however, courts generally restrict contributory tort liability to cases in which the defendants are knowingly or purposefully assisting one another in the commission of the tort.<sup>103</sup> In other words, contributory liability would not arise if the parties were reasonably unaware that their individual actions were collectively harming someone else.

Such a doctrine would have been particularly well suited to handle present-day cases of joint infringement. As under the common law tort doctrine, joint infringement inflicts an injury on the patentee through the combined actions of two or more parties.<sup>104</sup> And, as allowable at common law, in most cases each individual joint infringer's actions alone do not constitute wrongful conduct, since they encompass only a portion of the patented process (and therefore do not individually satisfy the all-elements rule).<sup>105</sup> Importantly, however, unlike the strict liability regime currently imposed in direct infringement cases under Section 271(a),<sup>106</sup> contributory tort liability at common law required that a defendant know that his or her actions were being combined with those of another to injure the plaintiff.<sup>107</sup> This knowledge requirement would have added a critically important element in cases of joint infringement. As noted above,<sup>108</sup> resolving joint infringement cases under the current framework for direct infringement—as

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2015.1.PDF (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.").

<sup>99</sup> See 35 U.S.C. § 271(c) (2010).

<sup>100</sup> See *supra* notes 40-41 and accompanying text (summarizing contributory liability at common law).

<sup>101</sup> 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").

<sup>102</sup> KEETON ET AL., *supra* note 55, at 354 (5th ed. 1984).

<sup>103</sup> 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 Mark Bartholomew, *Copyright, Trademark and Secondary Liability After Grokster*, 32 COLUM. J.L. & ARTS 445, 465 (2009))).

<sup>104</sup> See *supra* notes 1-4 and accompanying text (describing the most common types of joint infringement cases).

<sup>105</sup> See *supra* notes 29-31 and accompanying text (reciting the historical underpinnings of the all-elements rule).

<sup>106</sup> See *supra* note 59 and accompanying text (discussing the imposition of strict liability under Section 271(a)).

<sup>107</sup> 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 103, at 465)).

<sup>108</sup> See *supra* note 61 and accompanying text (discussing notice issues under Section 271(a)'s strict liability regime).

specified in Section 271(a)—raises significant notice concerns, as someone could potentially be held strictly liable for participating in an infringement even though they had no idea that their actions were being combined with those of another to complete all of the steps of a patented method.<sup>109</sup>

Take, for example, the average Internet user. It is entirely possible that many Internet users have unwittingly contributed to the joint infringement of a patented method at one time or another through their interactions with a website.<sup>110</sup> Under a strict liability regime, these Internet users could find themselves jointly liable for the direct infringement of the patent even though they had no idea that they were contributing to the infringement of a patent, let alone of the patent's existence.<sup>111</sup> At the same time, however, the existing judicial approach limiting joint infringement liability to cases in which a single party performs the entire method itself—either directly or vicariously—risks allowing websites to intentionally circumvent patent protection by deliberately dividing the performance of a method between itself and its users.<sup>112</sup> The common law tort doctrine of contributory liability would have equitably resolved these competing policy concerns by only imposing liability in cases where two or more parties were knowingly collaborating to infringe a patent.

Unfortunately, courts can no longer rely on this traditional tort principle following the Patent Act's codification of the law of contributory infringement, as Section 271(c) has effectively displaced the common law doctrine.<sup>113</sup> 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.<sup>114</sup> So Congress need not “affirmatively proscribe[] the use of . . . common law” in order to displace the common law principle.<sup>115</sup> Instead, whenever a statute “speak[s] directly to a question,” courts may not “‘supplement’ Congress’ answer so thoroughly that the [statute] becomes meaningless.”<sup>116</sup>

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,<sup>117</sup> this contributory infringement provision has significantly limited the scope of the common law

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<sup>109</sup> 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 (W.D. Wash. Sept. 21, 2012) (same).

<sup>110</sup> See *Grow*, *supra* note 9, at 111 (noting that those using the Internet could potentially be participating in “the unauthorized performance of a patented method”).

<sup>111</sup> See *id.* (discussing same).

<sup>112</sup> See *supra* note 5 and accompanying text (noting that parties may be able to structure their activities to avoid patent infringement liability).

<sup>113</sup> See *Akamai Tech., Inc. v. Limelight Networks, Inc.*, Case No. 2009-1372 (Fed. Cir. May 13, 2015), available at <http://www.cafc.uscourts.gov/images/stories/opinions-orders/9-1372.Opinion.5-11-2015.1.PDF> (stating that “joint tortfeasor law and § 271 are fundamentally incompatible”).

<sup>114</sup> *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.”).

<sup>115</sup> *Mobil Oil*, 436 U.S. at 625.

<sup>116</sup> *Id.*

<sup>117</sup> See *supra* notes 74-78 and accompanying text (discussing the requirements for liability to arise under Section 271(c)).

doctrine, not only requiring 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 occur in order for inducement liability to arise.<sup>118</sup> As a result, neither provision permits a defendant to be held liable for inducing or contributing to an infringement through the performance of some, but not all, of the patented steps unless another party itself directly infringes an entire patented claim.

Thus, although courts have often said that the Patent Act’s codification of the law of infringement was intended to preserve the pre-existing common law doctrine,<sup>119</sup> 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.”<sup>120</sup> As a result, courts can no longer utilize this traditional tort doctrine when resolving cases of joint patent infringement today.

Consequently, the Patent Act has substantially impaired the ability of courts to deal with cases of joint patent infringement. Because the full breadth of the common law tort doctrine of contributory liability can no longer be relied on in joint infringement cases, 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 Joint Infringement Cases Under the Patent Act

In light of the competing policy concerns outlined above,<sup>121</sup> courts have found it difficult to consistently and equitably resolve cases of joint patent infringement under the Patent Act, instead adopting various, conflicting approaches in these suits. Unfortunately, neither of the two primary standards developed by lower courts to resolve these cases is satisfactory, as both fail to strike an adequate balance between holding liable those who knowingly divide the performance of an infringing method among themselves, while at the same time not extending liability to those unaware of their partial involvement in the infringement.

For example, one set of courts initially adopted a broad joint infringement standard intended to protect patentees, holding that two or more parties would be liable under Section 271(a) whenever there was simply “some connection” between their infringing activities.<sup>122</sup> In

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<sup>118</sup> 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)).

<sup>119</sup> See *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 377 U.S. 476, 485 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.”).

<sup>120</sup> S. Rep. No. 82-1979, at 21 (1952), as reprinted in 1952 U.S.C.C.A.N. 2394, 2421 (emphasis added).

<sup>121</sup> See *supra* notes 108-112 and accompanying text (addressing the implications of over- and under-enforcement in joint infringement cases).

<sup>122</sup> *Cordis Corp. v. Medtronic AVE, Inc.*, 194 F. Supp. 2d 323, 349 (D. Del. 2002) (holding that “if two or more entities perform different steps of the method, those entities must have some connection to each other” in order for

other words, these courts effectively imposed liability anytime two or more parties—no matter how loosely connected—collectively performed all of the infringing steps of a patent claim. In *Applied Interact, LLC v. Vermont Teddy Bear Co., Inc.*, for example, the defendant and visitors to its website were accused of jointly infringing a patented method for remotely holding a sweepstakes over the Internet.<sup>123</sup> Finding that joint infringement liability would arise whenever there was “‘some connection’ between the [defendant] and the other [infringing] entities,”<sup>124</sup> the district court concluded that the plaintiff had pled a sufficient case of direct, joint infringement under Section 271(a) in light of the alleged interaction between the defendant and visitors to its website (who submitted sweepstakes entry forms online).<sup>125</sup>

Conversely, recognizing the risk of extending liability to parties that were unaware of their participation in the joint infringement of a patent, a majority of courts instead adopted a more limited approach to these cases.<sup>126</sup> Relying on the common law theory of vicarious liability,<sup>127</sup> these courts only imposed liability on joint infringers in cases where the parties had effectively formed an agency, or else entered a binding contractual relationship, with one of the parties directing or controlling the other’s activities.<sup>128</sup>

This was the approach adopted by the U.S. Court of Appeals for the Federal Circuit (“Federal Circuit” or “CAFC”)—the nation’s primary appellate patent court—when it finally took up the issue for the first time in 2007. In *BMC Resources, Inc. v. Paymentech, L.P.*,<sup>129</sup> the Federal Circuit considered a patented method for processing debit banking transactions without the use of a personal identification number (PIN).<sup>130</sup> In particular, the patent explicitly included steps to be performed by (i) a bank customer, (ii) a third-party billing processor, and (iii) a financial institution.<sup>131</sup> Adhering to the traditional common law doctrine of vicarious liability, the CAFC held that cases of joint infringement required a showing that either the alleged infringers had entered into an agency relationship, or else 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.<sup>132</sup> Although the panel recognized that this standard could “allow parties to enter into arms-length agreements to avoid infringement” liability in some

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liability to arise).

<sup>123</sup> No. 04-Civ-8713, 2005 WL 2133416, at \*1 (S.D.N.Y. Sept. 6, 2005) (explaining that “All four patents relate to methods of communication between an ‘organizer’ and audience members in remote locations. The patents contemplate that the organizer will broadcast certain stimuli, such as product advertisements or sweepstakes; that audience members will respond to the stimuli from remote locations and be able to generate product coupons at those remote locations; and that the organizer will evaluate the individual responses.”).

<sup>124</sup> *Id.* at \*4.

<sup>125</sup> *Id.* at \*6 (holding that the defendant “may, at least at this stage of the litigation, be liable for direct infringement when customers with whom VTB has ‘some connection’ perform certain steps of the disputed claims”).

<sup>126</sup> See, e.g., *Engate, Inc. v. Esquire Deposition Services, LLC*, 236 F. Supp. 2d 912, 914-15 (N.D. Ill. 2002) (rejecting joint infringement liability where the defendant did not direct its partners to perform the infringing acts); *Free Standing Stuffer, Inc. v. Holly Development Co.*, 187 U.S.P.Q. 323, 333 (N.D. Ill. 1974) (imposing joint infringement liability when the defendant specifically directed its partner to perform the infringing steps); *Mobil Oil Corp. v. W.R. Grace & Co.*, 367 F. Supp. 207, 253 (D. Conn. 1973) (holding the defendant jointly liable for patent infringement when it “in effect, made each of its customers its agent in completing the infringement step”).

<sup>127</sup> See *supra* notes 35-39 and accompanying text (discussing the contours of vicarious liability at common law).

<sup>128</sup> See *Grow, supra* note 9, at 83 (explaining that many courts required “that the alleged joint infringers had effectively entered some sort of agency relationship with one party directing or controlling the other’s activities”).

<sup>129</sup> 498 F.3d 1373 (Fed. Cir. 2007).

<sup>130</sup> *Id.* at 1375.

<sup>131</sup> *Id.*

<sup>132</sup> *Id.* at 1381.

cases,<sup>133</sup> it determined that the limitation was justified on policy grounds to avoid holding unwitting parties strictly liable for the joint infringement of a patent.<sup>134</sup>

The Federal Circuit reaffirmed this approach the following year in *Muniauction, Inc. v. Thomson Corp.*,<sup>135</sup> a case involving a patented process covering the interactions of various parties participating in a municipal bond auction over the Internet.<sup>136</sup> In *Muniauction*, the plaintiff had argued that the direction or control standard for joint infringement cases adopted in *BMC Resources* 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.<sup>137</sup> The *Muniauction* court disagreed, however, holding that this evidence was "not sufficient to [impose] liability for direct infringement."<sup>138</sup> Instead, the court required that the defendant exhibit a level of control over the infringing activities sufficient to render it vicariously liable for the acts at common law.<sup>139</sup> Merely instructing customers on how to perform the infringing acts was, in this case, not enough.

Although the Federal Circuit's formulation of the direction or control standard—and its emphasis on vicarious liability in particular—was consistent with the Patent Act's partial codification of the common law of infringement,<sup>140</sup> some on the court nevertheless soon expressed their dissatisfaction with the rule. 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 Federal Circuit's heightened standard for joint infringement. Instead, liability would only be imposed if the customers were, in effect, acting as the defendant's agent, with a contractual obligation to perform the infringing steps.

As a result, several judges on the Federal Circuit began to voice their concern over the *BMC Resources/Muniauction* "direction or control" standard. In the joint infringement case of *Golden Hour Data Systems, Inc. v. emsCharts, Inc.*,<sup>141</sup> for instance, Judge Newman issued a dissent contending that the direction or control standard was "incorrect as a matter of law."<sup>142</sup> Instead, she 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."<sup>143</sup> Meanwhile, in *McKesson Technologies, Inc. v. Epic Systems Corp.*,<sup>144</sup> Judge Bryson's concurring opinion simply stated:

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<sup>133</sup> *Id.*

<sup>134</sup> *Id.* (stating that the concern of intentional circumvention "does not outweigh concerns over expanding the rules governing direct infringement").

<sup>135</sup> 532 F.3d 1318 (Fed. Cir. 2008).

<sup>136</sup> *Id.* at 1321.

<sup>137</sup> *Id.* at 1330.

<sup>138</sup> *Id.*

<sup>139</sup> *Id.* ("the 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").

<sup>140</sup> See *supra* notes 60-61 and accompanying text (discussing the incorporation of vicarious liability into Section 271(a) of the Patent Act).

<sup>141</sup> 614 F.3d 1367 (Fed. Cir. 2010).

<sup>142</sup> *Id.* at 1383 (Newman, J., dissenting).

<sup>143</sup> *Id.*

<sup>144</sup> Case No. 2010-1291 (Fed. Cir. 2011), available at <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*, *Muniauction*, and *Akamai Technologies*. 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.<sup>145</sup>

The Federal Circuit heeded Judge Bryson’s call for en banc review of its joint infringement standard in a combined appeal of the *McKesson* suit and *Akamai Technologies, Inc. v. Limelight Networks, Inc.*,<sup>146</sup> a case involving a patent relating to the storage and expedited transfer of multimedia files—such as photos or videos—over the Internet.<sup>147</sup> The court granted the rehearing in *Akamai* to decide a specific question: “If separate entities each perform separate steps of a method claim, under what circumstances would that claim be directly infringed and to what extent would each of the parties be liable?”<sup>148</sup>

The majority opinion in *Akamai* began by discussing the policy rationale supporting the standard for direct, joint infringement adopted in *BMC Resources*. In particular, the court justified its reliance on the traditional 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.<sup>149</sup>

The *BMC Resources/Muniauction* 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, rendering all of the infringing acts fairly attributable to the mastermind party. As a result, a majority of the en banc court opted to preserve the existing standard for liability in direct, joint infringement cases under Section 271(a).<sup>150</sup>

Despite generally upholding the direction or control standard for joint infringement, however, the en banc majority nevertheless decided to address the potential loophole this rule created under a different provision in the Patent Act. In particular, the court turned to the law of inducement under Section 271(b) with the goal of more equitably resolving the joint infringement issue. A majority of the en banc court believed that the inducement provision was well suited to handle cases of joint infringement not only because it applied in cases where one

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<sup>145</sup> *Id.* at \*1 (Bryson, J., concurring).

<sup>146</sup> 692 F.3d 1301 (Fed. Cir. 2012).

<sup>147</sup> *Akamai Tech., Inc. v. Limelight Networks, Inc.*, 614 F. Supp. 2d 90, 96 (D. Mass. 2009).

<sup>148</sup> *Akamai Tech., Inc. v. Mass. Inst. Tech.*, 419 F. App’x 989, 989 (Fed. Cir. 2011). In addition, because the *McKesson* case involved allegations of induced infringement under Section 271(b), rather than direct infringement under Section 271(a), the question for the rehearing in that case was premised as follows: “If separate entities each perform separate steps of a method claim, under what circumstances, if any, would either entity or any third party be liable for inducing infringement or for contributory infringement?” *McKesson Tech. Inc. v. Epic Sys. Corp.*, 463 F. App’x 906, 907 (Fed. Cir. 2011).

<sup>149</sup> *Akamai Tech., Inc.*, 692 F.3d at 1307.

<sup>150</sup> *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).”).

party “advises, encourages, or otherwise induces others to engage in infringing conduct,”<sup>151</sup> but also because it 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.<sup>152</sup>

Despite these advantages, the majority’s hopes of resolving the problems posed by joint infringement under Section 271(b) faced a significant hurdle. Specifically, as noted above,<sup>153</sup> courts have traditionally required patentees to show that someone else has directly infringed the patent under Section 271(a) before inducement liability will arise. And because the *Akamai* 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 standard seemingly foreclosed the possibility of relying on inducement liability to address acts of joint infringement that did not constitute a violation of Section 271(a).

The en banc majority hoped to sidestep this issue by redefining what it meant 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.”<sup>154</sup> 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 the steps were committed by a single entity.”<sup>155</sup> Thus, the *Akamai* majority was effectively redefining the term “infringement” for purposes of Section 271(b). Whereas the infringing acts must all be attributable to a single party in order for direct infringement liability to arise under Section 271(a), in cases where a party knowingly performed all of the infringing steps with another, the en banc majority was willing to impose inducement liability under Section 271(b).<sup>156</sup>

The *Akamai* 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.<sup>157</sup>

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.”<sup>158</sup>

Be that as it may, considering the novelty of the *Akamai* majority’s reinterpretation of

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<sup>151</sup> *Id.*

<sup>152</sup> *Id.* at 1308.

<sup>153</sup> See *supra* notes 72-73 and accompanying text (discussing the traditional interpretation of inducement liability under Section 271(b)).

<sup>154</sup> *Akamai Tech., Inc.*, 692 F.3d at 1308-09 (emphasis omitted).

<sup>155</sup> *Id.* at 1306.

<sup>156</sup> See *id.* at 1318 (reciting the new standard for inducement liability).

<sup>157</sup> *Id.* at 1309.

<sup>158</sup> *Id.* In addition, the majority also asserted that the legislative history of the Patent Act supported its new inducement standard, emphasizing testimony from one 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.

inducement liability under Section 271(b), it was not particularly surprising that the U.S. Supreme Court granted certiorari in the case,<sup>159</sup> nor that a unanimous Court ultimately reversed the Federal Circuit’s decision in 2014.<sup>160</sup> The Supreme Court began its discussion of the issue by noting the long-standing rule that “liability for inducement must be predicated on direct infringement.”<sup>161</sup> 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 this distinction, stating that “[t]he Federal Circuit’s analysis fundamentally misunderstands what it means to infringe a method patent.”<sup>162</sup>

Instead, the Supreme Court held that inducement liability must be premised on a finding of direct infringement as defined in Section 271(a).<sup>163</sup> Otherwise, courts would be required “to develop two parallel bodies of infringement law: one for liability for direct infringement, and one for liability for inducement.”<sup>164</sup> And because the Federal Circuit in *Akamai* had once again affirmed the requirement that all infringing acts must be attributable to a single party under Section 271(a)—a rule that the Supreme Court “[a]ssumed without deciding . . . is correct”—there could thus be no finding of inducement in the case.<sup>165</sup>

On remand, a panel of the Federal Circuit once again affirmed the *BMC Resources/Muniauction* standard for joint infringement.<sup>166</sup> This time, however, in addition to suits involving an agency relationship or a binding contractual requirement to perform an infringing step, the *Akamai* panel suggested that vicarious liability could also arise in cases where the joint infringers had formed a “joint enterprise.”<sup>167</sup> 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.<sup>168</sup>

Unfortunately, despite the *Akamai* panel’s suggestion to the contrary, the Patent Act also prevents courts from relying on joint enterprise theory to resolve cases of joint patent infringement. Indeed, the common law doctrine of joint enterprise is itself a subset of contributory negligence law,<sup>169</sup> and therefore—like contributory liability generally—was

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<sup>159</sup> *Limelight Networks Inc. v. Akamai Technologies, Inc.*, 134 S.Ct. 895 (2014).

<sup>160</sup> *Limelight Networks Inc. v. Akamai Technologies, Inc.*, 134 S.Ct. 2111 (2014).

<sup>161</sup> *Id.* at 2117.

<sup>162</sup> *Id.*

<sup>163</sup> *Id.* (“where there has been no direct infringement, there can be no inducement of infringement under § 271(b).”).

<sup>164</sup> *Id.* at 2118.

<sup>165</sup> *Id.* at 2117 (“there 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”).

<sup>166</sup> *Akamai Tech., Inc. v. Limelight Networks, Inc.*, Case No. 2009-1372 (Fed. Cir. May 13, 2015), *available at* <http://www.cafc.uscourts.gov/images/stories/opinions-orders/9-1372.Opinion.5-11-2015.1.PDF>.

<sup>167</sup> *See id.* at 18 (“Turning to the scope of vicarious liability, the vicarious liability test includes, for example, principal-agent relationships, contractual arrangements, and joint enterprises.”).

<sup>168</sup> *Id.* at 19 (citing RESTATEMENT (SECOND) OF TORTS § 491, cmt. c (1979)).

<sup>169</sup> 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 generally* RESTATEMENT (SECOND) OF TORTS § 491, cmt. c (1979).

displaced by the enactment of Section 271(c).<sup>170</sup> Moreover, considering that joint enterprise liability would require that each of the participants in the enterprise possess “an equal right of control” over the all of the infringing steps,<sup>171</sup> even this doctrine would not apply to cases where two or more parties jointly infringed a patent at arms-length. Thus, joint enterprise liability would do relatively little to help close the existing joint patent infringement loophole.

As a result, in light of the limitations of the existing statutory framework,<sup>172</sup> courts will likely continue to struggle to equitably resolve joint infringement cases in the future unless Congress takes steps to address this issue.

#### **IV. Congress Should Close the Joint Patent Infringement Loophole**

As the foregoing analysis has revealed, the Patent Act prevents courts from fully relying on the common law tort doctrine of contributory liability, with the result that judges have struggled to equitably resolve joint patent infringement cases under the existing statutory framework. In light of this shortcoming, most courts have typically held that joint infringement is only actionable when a single party either itself completes all of the infringing steps, or else performs them vicariously through the actions of an agent or contractual partner.<sup>173</sup> While this rule is justifiable in light of the current statutory text and underlying policy concerns,<sup>174</sup> it nevertheless creates a significant loophole, allowing would-be infringers to intentionally evade liability by dividing the infringing acts among two or more parties operating at arms-length. Because this loophole has largely resulted 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 Loophole Allows Would-Be Infringers to Intentionally Evade Liability**

The current statutory framework governing patent infringement creates a loophole that allows would-be infringers to avoid liability for the unauthorized use of a patented process with relative ease.<sup>175</sup> Parties are often able to utilize a patented method without fear of liability by working together at arms-length to divide the performance of the infringing steps among themselves.<sup>176</sup> So long as one of the jointly infringing parties is not directing and controlling the

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<sup>170</sup> See *supra* notes 113-120 and accompanying text (discussing the Patent Act’s displacement of common law contributory liability doctrine).

<sup>171</sup> RESTATEMENT (SECOND) OF TORTS § 491, cmt. c (1979).

<sup>172</sup> See *supra* notes 65-78 and accompanying text (discussing the requirements for inducement or contributory infringement liability under the Patent Act).

<sup>173</sup> See *supra* notes 127-139 and accompanying text (noting that a majority of courts have limited joint infringement liability to cases where one party is vicariously liable for all of the infringing acts).

<sup>174</sup> See *supra* notes 65-78 and 108-112 and accompanying text (discussing the constraints of inducement or contributory infringement liability under the Patent Act, and the competing policy considerations raised by joint infringement cases).

<sup>175</sup> See Morgan, *supra* note 18, at 198 (contending that “Section 271 of the Patent Act . . . is ill-suited . . . to address a situation in which multiple parties collectively perform each and every element of a patent claim.”); Robinson, *Case Study, supra* note 23, at 596-97 (stating that the Federal Circuit’s vicarious liability standard “created a loophole”).

<sup>176</sup> See Stacie L. Greskowiak, Note: *Joint Infringement After BMC: The Demise of Process Patents*, 41 LOY. U. CHI. L.J. 351, 399 (2010) (asserting *See* Robinson, *Case Study, supra* note 23, at 597 (finding that “in-house counsel

others' activities, then no act of direct infringement will have occurred under the prevailing judicial interpretation of Section 271(a).<sup>177</sup> As a result, the patent-holder will be left without recourse, since the indirect infringement provisions also require an underlying act of direct infringement in order for inducement or contributory infringement liability to arise.<sup>178</sup>

Exploiting this potential loophole often proved impractical historically, as dividing the performance of a patented process among two or more parties was often not possible unless the parties were located in close physical proximity to one another. This historic structural limitation has proven less effective at deterring joint infringement in recent years, however, due to technological advances that easily allow physically remote parties to work together via networked computers.<sup>179</sup> Because parties can now often coordinate their activities across great distances with little difficulty, recent telecommunications advances have given rise to a significant increase in instances of joint patent infringement.<sup>180</sup>

Moreover, the proliferation of joint infringement cases can also be attributed in part to the dramatic increase in the number of business method patents issued by the U.S. Patent and Trademark Office in recent years.<sup>181</sup> Unlike more traditional manufacturing processes, many of these business methods are directed towards electronic forms of commerce that are easily divisible, making them particularly susceptible to performance by multiple parties working together via the Internet.<sup>182</sup> And also unlike more traditional method patents, the performance of these business methods are less likely to be divided among parties connected through a binding contractual or agency relationship, but instead are typically executed through the combined actions of two or more entities operating at arms-length, thus not giving rise to vicarious liability.<sup>183</sup>

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[can] structure contracts so that a 'mastermind' is not identified"); Robinson, *Case Study, supra* note 23, at 597 (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").

<sup>177</sup> 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.").

<sup>178</sup> See *supra* notes 65-78 and accompanying text (discussing the requirements for inducement or contributory infringement liability under the Patent Act).

<sup>179</sup> See Grow, *supra* note 9, at 72 (stating that "[r]ecent technological advances have presented challenges to this traditional framework, however, as the development of the Internet has allowed individuals to easily coordinate their activities remotely via networked computers").

<sup>180</sup> See Keith Jaasma, *Finding the Patent Infringement "Mastermind": The "Control or Direction" Standard for Joint Infringement*, 26 SANTA CLARA COMPUTER & HIGH TECH. L.J. 411, 429 (2010) (finding that "the rate at which district courts have decided issues related to 'joint' or 'divided' infringement has increased significantly" in recent years).

<sup>181</sup> See James S. Sfeakas, *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).

<sup>182</sup> 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" joint infringement "because their elements are easily separable.").

<sup>183</sup> 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").

These trends are only likely to continue to 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 now being designed to connect to the Internet.<sup>184</sup> As a result, these technologies are increasing the frequency with which multiple parties—typically the device manufacturer and user—interact, thereby giving rise to potential joint infringement concerns. At the same time, the growing specialization of the economy as a whole will also likely continue to trigger new joint infringement lawsuits, as firms are increasingly outsourcing various business functions—many of which may constitute part of a patented method—to outside vendors.<sup>185</sup> A single credit card transaction, for instance, may now involve the interaction of six or more participants.<sup>186</sup> Because both of these forms interactions—i.e., (i) Internet-connected devices and (ii) firms and their outside vendors—will, in most instances, occur via arms-length coordination, rather than a formal agency relationship, they typically will not run afoul of the Federal Circuit’s vicarious liability standard for joint infringement cases. Consequently, patent-holders are discovering that—whether intentionally or inadvertently—parties are increasingly structuring their operations in ways that make it impossible for the patentees to enforce their rights to a patented method.<sup>187</sup>

This loophole has significant policy ramifications. For starters, the existing approach to joint infringement cases threatens to make an entire body of patented inventions practically unenforceable in the United States. Indeed, although inventions explicitly requiring the interaction of two or more parties are patentable under current U.S. law, they will not give rise to infringement liability in all but the relatively rare cases in which one of the infringing parties is vicariously liable for the others’ activities.<sup>188</sup> As a result, countless potentially valuable inventions related to the coordinated activities of two or more parties have become all but unenforceable.

The inability to protect such inventive processes under U.S. law threatens to disincentivize firms from engaging in otherwise socially beneficial research and development activities. Not only do inventions in the wireless technology and financial services sectors often involve the interaction of multiple participants,<sup>189</sup> but increasingly those in the emerging fields of

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<sup>184</sup> 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’”).

<sup>185</sup> See Robinson, *Economic Theory*, *supra* note 6, at 19 (noting that “[p]artnering is more efficient for [many] companies and allows them to specialize, which can result in higher quality service.”).

<sup>186</sup> See *id.* (reporting same).

<sup>187</sup> 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 (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 US 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 40% year-on-year.”).

<sup>188</sup> See Ahn, *supra* note 1, at 171 (stating that the Federal Circuit’s vicarious liability standard threatens to render “many thousands of patents . . . worthless”); Gupta, *supra* note 23, at 61 (finding that “[s]ome patents are practically unenforceable.”).

<sup>189</sup> See Robinson, *Economic Theory*, *supra* note 6, at 17 (declaring that inventions in wireless technology, Internet

biotechnology and personalized medicine do as well. For instance, because patented methods in the field of personalized medicine may include both diagnostic testing and genetic analysis steps, these patents are particularly susceptible to having their claims divided among multiple parties working together at arms-length.<sup>190</sup> As a result, firms may become less eager to invest in this particularly promising field of medical discovery due to fears that they will not be able to recoup their expenses should their patented processes effectively prove to be unenforceable.

Some commentators have attempted 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 the patentee focusing its patent claims only on the activities of a single-party acting alone.<sup>191</sup> While this strategy may help protect some patentees, it is not a universal solution, as some patentable inventions inherently require the performance of various functions by different parties.<sup>192</sup> Moreover, even those inventions that could, in theory, be described with reference to only a single party's actions may still be susceptible to circumvention by multiple parties who intentionally divide the infringing activities among themselves in order to avoid infringement liability.<sup>193</sup>

On the other hand, expanding the scope of liability under the existing statutory framework to address cases of joint infringement—as some commentators have suggested<sup>194</sup>—would also be ill-advised. As discussed above,<sup>195</sup> because direct infringement is a strict liability offense, allowing two or more parties to be held jointly liable for infringement anytime their collective actions infringe a patent raises considerable notice concerns.<sup>196</sup> Permitting patentees to hold multiple parties liable for infringement in such cases would threaten to punish countless innocent actors who just happen to perform one step of a patented method without knowing that their activities were being combined with those of another to infringe a patent.<sup>197</sup>

This is not merely a hypothetical threat, as recent years have seen an increase in the

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retail, and financial services” often “facilitate interaction between multiple participants”).

<sup>190</sup> 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 market with a disease or drug treatment”).

<sup>191</sup> See Lemley et al., *supra* note 2, 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.”).

<sup>192</sup> See Greskowiak, *supra* note 176, at 404 (declaring that “[u]nitary claim drafting is impossible in some instances”).

<sup>193</sup> See Robinson, *Case Study*, *supra* note 23, 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.”).

<sup>194</sup> See Ahn, *supra* note 1, at 173-75 (advocating a broader standard for vicarious liability under Section 271(a)); Dokhanchy, *supra* note 182, at 162-63 (proposing a return to the “some connection” standard for direct joint infringement under Section 271(a)); Gupta, *supra* note 23, at 70-71 (endorsing a new standard for knowing, collaborative infringement under Section 271(a)); Truong, *supra* note 2, at 1922-25 (suggesting that courts should incorporate civil conspiracy law in cases of direct joint infringement).

<sup>195</sup> See *supra* notes 108-112 and accompanying text (discussing notice concerns arising from holding one member of a joint infringement liable for performing some, but not all, of the infringing acts).

<sup>196</sup> 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.”).

<sup>197</sup> See *supra* notes 110-112 and accompanying text (discussing 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).

number of lawsuits seeking to hold customers liable in cases where they have unwittingly participated in a joint infringement with a service provider.<sup>198</sup> Consequently, any expansion of liability under Section 271(a) to encompass a broader set of joint infringement cases would unfairly result in parties being forced to guess how other, independent actors are performing their portions of a process.<sup>199</sup> Therefore, the existing statutory framework is incapable of equitably resolve many cases of joint patent infringement.

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

This article has established that the current statutory framework established by the Patent Act is unable to effectively govern cases of joint patent infringement due in no small part to the manner in which Congress drafted the direct and indirect infringement provisions in Section 271, and, in particular, subsection (c) governing contributory infringement.<sup>200</sup> Moreover, it has argued that the resulting loophole has significant adverse policy ramifications.<sup>201</sup> Therefore, this article concludes that Congress should amend the Patent Act to close the joint patent infringement loophole.

In particular, Congress should enact a new statutory provision within Section 271 to address cases of joint infringement. 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 infringement liability by intentionally dividing the performance of a patented method between two or more actors.

At the same time, however, the “knowingly” element in the proposed subsection would avoid the innocent infringer issues raised by an expanded interpretation of Section 271(a), the current direct infringement provision.<sup>202</sup> Indeed, such a requirement would ensure that a party who performs one step of a patented method would not face joint infringement liability if it were unaware that its actions were being combined with those of someone else to violate a patent. So, for instance, in the case of the hypothetical Internet user discussed above,<sup>203</sup> merely submitting

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<sup>198</sup> See Rychlinski, *supra supra* note 176, at 229-30 (reporting that “litigation targeting the unsuspecting third party has been . . . even though the third party may not have deep pockets”).

<sup>199</sup> 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 joint 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 supra* note 176, at 230 (wondering how “damages [should] be calculated for an entity that only practices some but not all steps of a method claim?”).

<sup>200</sup> See Parts II and III *supra* (discussing the limitations of the existing statutory framework).

<sup>201</sup> See Part IV.A *supra* (discussing the ways in which the current statutory loophole may disincentivize firms from undertaking socially beneficial research and development activities).

<sup>202</sup> See *supra* notes 194-199 and accompanying text (discussing alternative proposals to close the joint infringement loophole).

<sup>203</sup> See *supra* notes 110-112 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).

some data to a website would not result in the user being held jointly liable for infringing a patent, unless the user was aware that the website was collecting this information in order to infringe a patented method.

Notably, then, the proposed provision would thus require knowledge of both the patent-in-suit *and* the fact that others are performing the remaining infringing acts. This is consistent with the existing indirect infringement provisions, both of which have been interpreted to require knowledge of the patent-in-suit.<sup>204</sup> 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 unaware that their activities were contributing to the infringement of a patent.<sup>205</sup>

However, because the proposed statutory text refers to “knowingly and collectively perform[ing] a patented process *with another*,” this provision would apply in cases where one party solicits or instructs someone else to perform part of a patented process, so long as that party was aware of the existence of the patent and completed the remaining infringing activities itself. In other words, the hypothetical Section 271(j) would not require that all parties involved in the joint infringement be aware that they are contributing to the unauthorized performance of a patented process; instead, merely one of the participants would need to be aware that the parties’ collective actions infringed. 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. This approach would therefore serve to partially overturn the Federal Circuit precedent holding that a company providing instructions to its customers on how to perform part of a patented process does not give rise to a finding of joint infringement under Section 271(a).<sup>206</sup>

In short, then, the proposed statutory amendment would effectively return the law of patent infringement back to its pre-Patent Act roots. As discussed above,<sup>207</sup> the common law tort doctrine of contributory liability would have allowed courts to impose liability in joint infringement cases when the infringers knew that their actions were being combined with those of their collaborators to injure a patent-holder.<sup>208</sup> Unfortunately, by shortsightedly drafting Section 271(c) in such a way as 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 joint infringement.<sup>209</sup> The hypothetical Section 271(j) proposed above would correct that mistake.

Admittedly, the new statutory provision proposed here could itself give rise to a potential

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<sup>204</sup> See *supra* notes 71 and 77-78 and accompanying text (discussing the knowledge requirements read into inducement under Section 271(b) and contributory infringement under Section 271(c)).

<sup>205</sup> 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.

<sup>206</sup> See *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318, 1330 (Fed. Cir. 2008) (holding that “instruct[ing] bidders on” how to use an infringing system “is not sufficient to [impose] liability for direct infringement”).

<sup>207</sup> See *supra* notes 104-109 and accompanying text (discussing the applicability of common law tort doctrine to cases of joint infringement).

<sup>208</sup> 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 103, at 465).

<sup>209</sup> See *supra* notes 113-120 and accompanying text (discussing the Patent Act’s displacement of common law contributory liability doctrine).

loophole allowing parties to circumvent infringement liability in some cases. For example, should a company intentionally remain unaware of how its partners complete their portion(s) of a patented process, then the company would lack the requisite knowledge that it was “collectively perform[ing] a patented process with another.” And if all of the parties involved in such a joint infringement were to intentionally avoid knowledge of the particular nature of each other’s acts, then no party would be liable for joint infringement under the proposed Section 271(j), even though they were collectively performing a patented process. So the new proposed subsection could incentivize some companies to learn as little as possible about the exact nature of their partners’ operations.<sup>210</sup>

That having been said, exploiting this loophole will typically only be feasible in cases where the precise means by which a process is performed is immaterial, and the parties are instead merely contracting for the output one side will provide to the other. Take, for example, a patent claiming a method for limiting the number of times a computer user can view a digital movie file over the Internet.<sup>211</sup> If a company providing access to a library of digitally stored movies wishes to limit the number of times 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 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 the parties would not be knowingly infringing the patent-in-suit.

While this potential loophole may appear unjust, it can nevertheless be justified as a matter of policy. Indeed, the fact that parties would be willing to contract for output without regard to the specific manner in which it is created suggests that the exact process being used is relatively insignificant, meaning that the use of a particular patented method is relatively unimportant to the parties. As a result, while perhaps 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 instead are merely contracting with one another to perform a function in some 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.<sup>212</sup>

But in cases where a party does, in fact, insist that the functionality be performed in a particular way—in order to ensure that the output is compatible with the rest of the coding for its website, for instance—then the website would be liable for joint infringement under the proposed statutory provision if it were also aware of the patent-in-suit. In these cases, because the website is mandating how its vendor performs its share of the infringing process, this would suggest that

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<sup>210</sup> Cf. Robinson, *Case Study*, *supra* note 23, at 604 (noting that in some cases “a vendor [may wish] to keep [its] methods a secret”).

<sup>211</sup> 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 Jaasma, *supra* note 180, at 434-36 (discussing case).

<sup>212</sup> See, e.g. *nCube Corp. v. Seachange Intern., 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 joint infringement under the proposed statutory provision.

the specific steps disclosed in the patent do have some particular 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 staging of the performance of one or more of the infringing steps abroad. Under the Federal Circuit's decision in *NTP, Inc. v. Research In Motion, Ltd.*,<sup>213</sup> in order to infringe a patented method each and every step of the infringement must be completed within the United States.<sup>214</sup> Otherwise, in light of the territorial limitations of the Patent Act, no infringement will have occurred since the all-elements rule requires that every step of the patented process be performed in the United States.<sup>215</sup>

Consequently, parties truly intent on circumventing patent protection could still succeed in avoiding infringement liability in some cases by simply performing one step of the patented method abroad.<sup>216</sup> This may be quite feasible, for instance, in cases involving computerized processes, where one or more of the steps of the method could relatively easily be assigned to a server physically located in a foreign country. However, it is important to note that the hypothetical statutory provision proposed here does nothing to change the law in this regard. Indeed, this loophole is not exclusive to cases of joint infringement, as even a single actor could potentially exploit this extraterritoriality exception under current law.

So even if the proposed statutory amendment would not close every potential loophole, it would still help curb the ability of multiple parties to intentionally structure their activities in such a way as to avoid liability under U.S. patent law. Considering that the existing joint patent infringement loophole is largely of Congress's own making—and bearing in mind its resulting policy ramifications<sup>217</sup>—the time has come for Congress to take steps to correct this oversight.

## CONCLUSION

This article has examined the increasingly common phenomenon of joint 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 codification of the law of patent infringement in the Patent Act now unfortunately prevents courts from relying on this doctrine in present-day joint infringement lawsuits. As a result, subsequent courts have struggled to equitably resolve these cases within the confines of the Patent Act.

This article has asserted that Congress should take steps to correct its prior mistake by enacting a new statutory provision governing cases of joint patent infringement. By authorizing liability in cases where two or more parties knowingly combine their activities to infringe a patent, Congress can ensure that would-be infringers will no longer be able to intentionally

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<sup>213</sup> 418 F.3d 1282 (Fed. Cir. 2005).

<sup>214</sup> *Id.* at 1318 (“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.”).

<sup>215</sup> See *supra* notes 29-31 and accompanying text (reciting the historical development of the all-elements rule).

<sup>216</sup> See Lemley et al., *supra* note 2, 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.”).

<sup>217</sup> See Part IV.A *supra* (discussing the ways in which the current statutory loophole may disincentivize firms from undertaking socially beneficial research and development activities).

circumvent patent protection, while at the same time protecting innocent actors who unwittingly contribute to the infringement of a patented process.