

# Exhausting Patents

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## ABSTRACT

A bedrock principle of patent law—patent exhaustion—proclaims that an authorized sale of a patented article exhausts the patentee’s rights with respect to the article sold. Over one hundred and fifty years of case law, however, has produced two conflicting notions of patent exhaustion, one considering exhaustion to be mandatory regardless of whether the patentee subjects the sale to express patent restrictions, and another treating exhaustion as a default rule that applies only in unconditional sales. The uncertainty surrounding the patent exhaustion doctrine casts a significant legal cloud over patent licensing practices in the modern economy and has emerged as a central subject in scholarly debate on the nature and scope of intellectual property rights.

This Article takes a normative approach to patent exhaustion and argues that the correct exhaustion rule should be a “default-plus” rule that combines a default-rule component with a patent misuse test that is independent of the exhaustion analysis. The default-rule component would allow patentees to avoid exhaustion through express patent restrictions, while the patent misuse test would ensure that such restrictions do not violate public policy. This Article contends that this default-plus rule is superior to the mandatory rule in terms of theoretical foundation, malleability, and circumvention. Adopting this default-plus rule would minimize legal impediments to socially beneficial patent restrictions while preserving maximum flexibility in accommodating new technologies and licensing practices.

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## INTRODUCTION

In 2008, semiconductor chipset maker Broadcom, Inc. filed a lawsuit in federal court against rival Qualcomm, Inc. in the latest iteration of long-running patent disputes between the two industry giants.<sup>1</sup> Broadcom's suit centered around Qualcomm's practice of collecting royalties for its cellular wireless patents twice: once from chipset makers licensed to utilize Qualcomm's patents in manufacturing chipsets, and once from handset makers who subsequently purchase the patented chipsets and assemble them into handsets sold to consumers.<sup>2</sup> Broadcom alleged that Qualcomm's double royalty scheme violated the U.S. patent law doctrine of exhaustion, according to which the authorized sale of a patented article exhausts the patentee's ability to restrict how the purchaser uses the article.<sup>3</sup>

Broadcom's lawsuit came on the heel of a landmark U.S. Supreme Court decision earlier in the year in *Quanta Computer, Inc. v. LG Electronics, Inc.*, which rejected a similar double royalty scheme on patent exhaustion grounds.<sup>4</sup> But the *Quanta* decision failed to bring clarity to this area of law because of the Court's equivocation on the exact meaning of the exhaustion doctrine.<sup>5</sup> In 2009, Broadcom and Qualcomm reached a settlement, under which Qualcomm agreed to pay \$891 million to end the litigation and preserve its ability to seek patent royalty revenues from cellphone handset makers that use Broadcom chipsets.<sup>6</sup> The uncertainty surrounding the patent exhaustion doctrine, however, did not end with

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1. Julie Zeveloff, *Broadcom Sues Qualcomm Over 'Exhausted' Patents*, LAW360 (Oct. 8, 2008, 12:00 AM), <http://www.law360.com/articles/71995/broadcom-sues-qualcomm-over-exhausted-patents> [<http://perma.cc/JAK5-8FB6>].
  2. *Id.*
  3. *Id.* For general discussions of the exhaustion doctrine, see DONALD S. CHISUM, PRINCIPLES OF PATENT LAW: CASES AND MATERIALS 1136–38 (3d ed. 2004).
  4. 553 U.S. 617 (2008). In *Quanta*, LG Electronics (LGE) licensed Intel to make, use, and sell microprocessors and chipsets designed to practice several of LGE's method patents relating to computer memory processing. The microprocessors and chipsets, however, had to be combined with additional components to fully practice LGE's patents. In its license agreement with Intel, LGE made clear that its license did not grant the right for third parties to combine Intel microprocessors and chipsets with non-Intel products. Despite this restriction, Quanta Computer, Inc. (Quanta) purchased Intel's microprocessors and chipsets and combined them with non-Intel parts to build computers. The U.S. Supreme Court held that Quanta did not infringe LGE's patents because Intel's sale of the microprocessors and chipsets exhausted LGE's ability to restrict the use of the microprocessors and chipsets by subsequent purchasers like Quanta. *See id.* at 621–33.
  5. Specifically, the court failed to answer whether a patentee could ever bypass exhaustion through a conditional sale. *See infra* notes 96–97 and accompanying text.
  6. Don Clark, *Qualcomm, Broadcom Settle Legal Disputes*, WALL ST. J. (Apr. 27, 2009, 12:01 AM), <http://www.wsj.com/articles/SB124079729503758125> [<http://perma.cc/XTS4-79N2>].

the settlement of this dispute. In two separate 2013 cases, the Supreme Court again addressed patent exhaustion and its close counterpart in copyright law, the first sale doctrine,<sup>7</sup> but in neither case did the Court provide improved guidance for companies like Broadcom and Qualcomm.<sup>8</sup>

The legal drama between Broadcom and Qualcomm demonstrates the deep uneasiness surrounding the patent exhaustion doctrine. First developed by the Supreme Court in the mid-nineteenth century, the patent exhaustion doctrine has been reiterated in a long line of canonical cases stretching to the present day.<sup>9</sup> Yet underneath the seemingly unequivocal mandate of patent exhaustion lies a doctrine fraught with contradictions. Despite having habitually described patent exhaustion as a mandatory rule that automatically cuts off a patentee's rights with respect to a patented article that has been sold,<sup>10</sup> the Supreme Court has, on some

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7. See 17 U.S.C. § 109(a) (2013) (“[T]he owner of a particular copy or phonorecord lawfully made under this title, or any person authorized by such owner, is entitled, without the authority of the copyright owner, to sell or otherwise dispose of the possession of that copy or phonorecord.”).
  8. See *Bowman v. Monsanto Co.*, 133 S. Ct. 1761, 1769 (2013) (holding that the patent exhaustion doctrine did not permit a farmer to replant patented seeds sold under the condition that the seeds be planted in one growing season only); *Kirtsaeng v. John Wiley & Sons, Inc.*, 133 S. Ct. 1351, 1358 (2013) (holding that the first sale doctrine applies to copies of a copyrighted work lawfully made outside of the United States).
  9. See *Bowman*, 133 S. Ct. at 1766 (2013) (“[B]y exhausting the [patentee’s] monopoly in that item, the sale confers on the purchaser, or any subsequent owner, the right to use [or] sell the thing as he sees fit.”) (alterations in original); *Quanta*, 553 U.S. at 630 (2008) (“[W]hen a patented item is once lawfully made and sold, there is no restriction on [its] use to be implied for the benefit of the patentee.”) (alteration in original); *United States v. Univis Lens Co.*, 316 U.S. 241, 250 (1942) (“[S]ale of [a patented article] exhausts the monopoly in that article and the patentee may not thereafter, by virtue of his patent, control the use or disposition of the article.”); *Ethyl Gasoline Corp. v. United States*, 309 U.S. 436, 457 (1940) (“[B]y the authorized sales of the fuel by refiners to jobbers the patent monopoly over it is exhausted, and after the sale neither appellant nor the refiners may longer rely on the patents to exercise any control over the price at which the fuel may be resold.”); *Motion Picture Patents Co. v. Universal Film Mfg. Co.*, 243 U.S. 502, 516 (1917) (“[T]he right to vend is exhausted by a single, unconditional sale, the article sold being thereby carried outside the monopoly of the patent law and rendered free of every restriction which the vendor may attempt to put upon it.”); *Bauer & Cie v. O’Donnell*, 229 U.S. 1, 17 (1913) (“[A] patentee who has parted with a patented machine by passing title to a purchaser has placed the article beyond the limits of the monopoly secured by the patent act.”); *Keeler v. Standard Folding Bed Co.*, 157 U.S. 659, 666 (1895) (“[O]ne who buys patented articles of manufacture from one authorized to sell them becomes possessed of an absolute property in such articles, unrestricted in time or place.”); *Adams v. Burke*, 84 U.S. (17 Wall.) 453, 456 (1873) (“[W]hen the patentee, or the person having his rights, sells a machine or instrument whose sole value is in its use, he receives the consideration for its use and he parts with the right to restrict that use.”); *Bloomer v. McQuewan*, 55 U.S. (14 How.) 539, 549 (1852) (“[W]hen the machine passes to the hands of the purchaser, it is no longer within the limits of the [patent] monopoly.”).
  10. See cases cited in *supra* note 9. One particular example of the Court’s use of absolutist language regarding patent exhaustion can be found in *Keeler v. Standard Folding Bed Co.*, where the Court spoke of an “absolute property” acquired by purchasers of a patented article without qualifying it based on whether the sale is subject to conditions. 157 U.S. at 666.

occasions, upheld certain patent restrictions on purchasers as enforceable under patent law.<sup>11</sup> Adding to the confusion, beginning in the 1990s, the Federal Circuit, the nation's "patent court,"<sup>12</sup> has developed an alternative interpretation of patent exhaustion, treating the doctrine as a default rule that applies only in unconditional sales.<sup>13</sup> Under this default rule, patentees could still enforce a patent restriction against a purchaser as long as the restriction is made an express condition of the sale.<sup>14</sup>

The uncertain status of patent exhaustion casts a significant legal cloud over patent licensing in the modern economy. Unable to map out the exact contour of patent exhaustion, the Federal Circuit once described the doctrine as a proposition that "absent *unusual* circumstances, courts infer that a patent owner has given up the right to exclude concerning a patented article that the owner sells."<sup>15</sup> The use of the word "unusual" provides no guidance to patentees and licensees, who must grapple with patent exhaustion in a world constantly bubbling with new technologies and new patent licensing practices.<sup>16</sup>

Along with the first sale doctrine, patent exhaustion has also emerged as a pivotal concept stirring academic debates on the nature and scope of intellectual property rights.<sup>17</sup> For proponents of patent exhaustion like Mark Lemley and

11. In 1872, the Court allowed a patentee to enforce its patent rights against a purchaser of patented machines for using the machines during the extended term of the patent when the licensing agreement under which the machines were manufactured by a licensee explicitly provided no licenses beyond the original term of the patent. *See Mitchell v. Hawley*, 83 U.S. (16 Wall.) 544, 551 (1872). In 1912, the Court allowed a patentee to enforce a patent restriction that explicitly required the patented machines to be used only with supplies made by the patentee. *See Henry v. A.B. Dick Co.*, 224 U.S. 1, 48–49 (1912). In 1938, the Court allowed patent rights to be enforced against a commercial user of patented amplifiers when the amplifiers were sold under a license expressly limiting the use of the machines to private use only. *See Gen. Talking Pictures Corp. v. W. Elec. Co.*, 304 U.S. 175, 181–82 (1938).
12. The Federal Circuit has nearly exclusive jurisdiction over appeals in patent-related cases. *See* 28 U.S.C. § 1295(a)(1) (2012).
13. *See, e.g., B. Braun Med., Inc. v. Abbott Labs.*, 124 F.3d 1419, 1425 (Fed. Cir. 1997) (holding that a patentee could enforce an express restriction imposed in a conditional sale through infringement actions); *Mallinckrodt, Inc. v. Medipart, Inc.*, 976 F.2d 700, 709 (Fed. Cir. 1992) (holding that a patentee could enforce, through infringement actions, a "single use only" restriction on the use of patented articles against parties that reconditioned and reused the articles).
14. *See infra* Part I.B.
15. *Glass Equip. Dev., Inc. v. Besten, Inc.*, 174 F.3d 1337, 1341 n.1 (Fed. Cir. 1999) (emphasis added).
16. One example of the interaction of patent exhaustion with new technologies and new patent licensing practices can be found in *Bowman v. Monsanto Co.*, a 2013 Supreme Court case dealing with patent exhaustion in the genetically modified seeds industry. 133 S. Ct. 1761 (2013). *See infra* notes 189–199 and accompanying text.
17. For recent scholarly discussions of the patent exhaustion and first sale doctrines and their significance for intellectual property law and beyond, see Julie E. Cohen & Mark A. Lemley, *Patent Scope and Innovation in the Software Industry*, 89 CALIF. L. REV. 1, 30–35 (2001) (discussing

Mark McKenna, the doctrine is a “powerful tool for reducing the market power of an IP owner.”<sup>18</sup> For critics like Richard Epstein, patent exhaustion and the first sale doctrine are an “attack on the alienability of intellectual property licenses.”<sup>19</sup> Much of the focus of these debates, however, is on the historical foundation of the doctrine. Adam Mossoff, for example, argues that patent exhaustion is historically analogous to the rules American courts adopted in the nineteenth century for conveyance of real property, not to the rules governing conveyance of personal property.<sup>20</sup> Similarly, John Osborne observed that “[e]xpress restrictions in patent licenses are analogous to restrictive covenants in real property law which are enforceable against a subsequent purchaser of restricted property if the purchaser had constructive notice of the restriction.”<sup>21</sup>

This Article contributes to the debate on patent exhaustion by focusing on the normative aspects of the doctrine. Instead of dwelling on what courts may have intended patent exhaustion to mean in the past, this Article explores what patent exhaustion should mean in the future. Instead of focusing on historical

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the patent exhaustion doctrine in the context of software patents); Richard A. Epstein, *The Disintegration of Intellectual Property? A Classical Liberal Response to a Premature Obituary*, 62 STAN. L. REV. 455, 507–11 (2010) (criticizing the patent exhaustion doctrine as an attack on the alienation of intellectual property licenses and the classical liberal conception of property); Herbert Hovenkamp, *Response: Markets in IP and Antitrust*, 100 GEO. L.J. 2133, 2155 (2012) (arguing that the constraints imposed under the patent exhaustion doctrine and the first sale doctrine are better evaluated under the law of antitrust or misuse); Mark A. Lemley & Mark P. McKenna, *Is Pepsi Really a Substitute for Coke? Market Definition in Antitrust and IP*, 100 GEO. L.J. 2055, 2115–17 (2012) (arguing that the patent exhaustion doctrine and the first sale doctrine are needed limitations on the market power conferred by intellectual property rights); Adam Mossoff, *A Simple Conveyance Rule for Complex Innovation*, 44 TULSA L. REV. 707, 709 (2009) (advocating for free alienation of rights in patent conveyances); Aaron Perzanowski & Jason Schultz, *Digital Exhaustion*, 58 UCLA L. REV. 889, 932–35 (2011) (discussing the common law path of the patent exhaustion doctrine and its implications for copyright exhaustion in the digital marketplace); Glen O. Robinson, *Personal Property Servitudes*, 71 U. CHI. L. REV. 1449, 1464–69 (2004) (discussing the patent exhaustion doctrine as an example of intellectual property law’s inhospitality to chattel servitudes); Molly Shaffer Van Houweling, *The New Servitudes*, 96 GEO. L.J. 885, 917–21 (2008) (arguing that the patent exhaustion doctrine can be understood as an attempt to reduce informational costs associated with identifying and verifying patent restrictions imposed through notices).

18. Lemley & McKenna, *supra* note 17, at 2115.

19. Epstein, *supra* note 17, at 502.

20. See Mossoff, *supra* note 17, at 712–17. Mossoff cited nineteenth century cases in which patentees were allowed to impose a variety of restrictions on the use of the property interest they conveyed to licensees. *Id.* at 714. Mossoff argued that by the end of the nineteenth century, it was well-settled that patentees could convey lesser interests in their patents to licensees, who would take title to the underlying patents “subject to a reverter in case of violation of the conditions of the sale.” *Id.* at 715 (quoting *Heaton-Peninsular Button-Fastener Co. v. Eureka Specialty Co.*, 77 F. 288, 290 (6th Cir. 1896)).

21. John W. Osborne, *Justice Breyer’s Bicycle and the Ignored Elephant of Patent Exhaustion: An Avoidable Collision in Quanta v. LGE*, 7 J. MARSHALL REV. INTELL. PROP. L. 245, 259 n.84 (2008).

parallels, this Article investigates the theoretical and policy justifications for the doctrine. This Article argues that the correct rule on patent exhaustion should be a “default-plus” rule, a rule that combines a default rule component with a patent misuse test that is independent of the exhaustion analysis. The default-rule component allows patentees to avoid exhaustion through express patent restrictions, while the patent misuse test ensures that such restrictions do not violate public policy.

This Article lays out the case that the default-plus rule is superior to the mandatory rule in terms of theoretical foundation, malleability, and circumvention. As for theoretical foundation, this Article rejects the prevailing justifications for patent exhaustion and argues that the purpose of patent exhaustion is to require patentees to exercise their patent rights at the time of the sale of a patented article so as to protect and enable fair bargaining over the value of the patented article. This purpose is served by a default rule and does not require a mandatory rule. As for malleability, the mandatory rule of exhaustion is not flexible enough and can only give legal effects to socially beneficial patent restrictions in a haphazard way. As for circumvention, the formalistic nature of the mandatory rule of exhaustion creates more incentives for patentees to circumvent patent exhaustion by adopting socially inefficient transaction forms or product designs.

The Article proceeds as follows. In Part I, this Article combs through the foundational cases of patent exhaustion and provides an overview of the mandatory rule and the default rule. Part II lays out the default-plus rule and explains how it departs from the mandatory and default rules. The normative arguments for the default-plus rule are presented in Part III.

## I. CONFLICTING NOTIONS OF PATENT EXHAUSTION

The doctrine of patent exhaustion has had a long, tortuous history. During the one and a half centuries of its existence, courts have contrived patent exhaustion both as a mandatory rule and as a default rule, with starkly different implications for patentees’ rights.

### A. The Mandatory Rule

The Supreme Court has routinely described patent exhaustion as a mandatory rule. In the foundational case of *Bloomer v. McQuewan*, the Supreme Court rejected a patent assignee’s efforts to prevent users of patented wood-planing machines constructed during the patent’s original term from continu-

ing to use the machines during the patent's extended term.<sup>22</sup> Chief Justice Taney famously pronounced, "when the machine passes to the hands of the purchaser, it is no longer within the limits of the [patent] monopoly."<sup>23</sup> This broad, unqualified language is generally credited with giving birth to the exhaustion doctrine,<sup>24</sup> even though it is not clear whether *Bloomer* was truly decided on the basis of patent exhaustion.<sup>25</sup>

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22. 55 U.S. (14 How.) 539 (1852). *Bloomer* involved rather complicated facts that were all but lost in subsequent discussions of the case by courts and commentators. The underlying patent in *Bloomer* was originally granted for a fourteen-year term expiring in 1842. *Id.* at 547. The patent was subsequently extended twice, first by a general act of Congress enacted in 1836, extending the patent from 1842 to 1849, then by a private act of Congress enacted in 1845, extending the patent from 1849 to 1856. *Id.* During the patent's original term, the defendants were assigned the right to construct and use a certain number of the patented machines during the remainder of the original term in a territory that included Pittsburgh. *Id.* at 555 (McLean, J., dissenting). During the patent's first extended term, and after the passage of the 1845 private act authorizing the second extension, the plaintiff was assigned the right to construct and use the patented machines during the remainder of the first extended term and the entirety of the second extended term in a territory that also included Pittsburgh. *Id.* at 554–55. After the second extension of the patent took effect in 1849, the plaintiff brought a patent infringement suit against the defendants, who were continuing to use two machines constructed during the patent's original term. *Id.* at 555.
23. *Id.* at 549 (majority opinion).
24. In *Quanta Computer, Inc. v. LG Elec., Inc.*, for example, the Supreme Court cited *Bloomer* as the first case in which the Court had applied the patent exhaustion doctrine. *See* 553 U.S. 617, 625 (2008). This view is generally shared by patent law scholars and practitioners. *See, e.g.*, Erin Julia Daida Austin, *Reconciling the Patent Exhaustion and Conditional Sale Doctrines in Light of Quanta Computer v. LG Electronics*, 30 CARDOZO L. REV. 2947, 2954–55 (2009); Andrew T. Dufresne, *The Exhaustion Doctrine Revived? Assessing the Scope and Possible Effects of the Supreme Court's Quanta Decision*, 24 BERKELEY TECH. L.J. 11, 12 (2009); Alfred C. Server & William J. Casey, *Contract-Based Post-Sale Restrictions on Patented Products Following Quanta*, 64 HASTINGS L.J. 561, 564–65 (2013); Tyler Thorp, *Testing the Limits of Patent Exhaustion's "Authorized Sale" Requirement Using Current High-Tech Licensing Practices*, 50 SANTA CLARA L. REV. 1017, 1022 (2010).
25. It is not clear, however, whether *Bloomer* was truly decided on the basis of patent exhaustion. The Court's holding in *Bloomer* was predicated upon a special provision in the general congressional act of 1836 authorizing the first extension of the patent in question. That provision provided that the benefits of the extension of the patent "shall extend to assignees and grantees of the right to use the thing patented, to the extent of their respective interests therein." *Bloomer*, 55 U.S. (14 How.) at 541 (emphasis added). In an earlier case filed in the first extended term challenging the right of similarly situated defendants to continue using the patented machines beyond the expiration of the original term, the Supreme Court interpreted that special provision to "restore or save" to licensees, who were using the patented machines at the time of the first extension, the right to continued use of the machines, a right that, "without the clause, would have been vested again exclusively in the patentee." *Wilson v. Rousseau*, 45 U.S. (4 How.) 646, 682 (1846). According to the Court in *Rousseau*, but for this special provision, the new grant of exclusive rights under the 1836 act would have encompassed "patented articles or machines throughout the country, purchased for practical use in the business affairs of life . . ." *Id.* The Court in *Bloomer* held that the scope of a purchaser's rights during the second extended term should be determined in reference to not only the 1845 act authorizing the second extension, but also the "general laws" in force when the 1845 act was passed, which included the 1836 act. *Bloomer*, 55 U.S. (4 How.) at 545–46. The Court further held that because the 1836 act granted purchasers a continued use right, and because the 1845 act merely



In 1873, in *Adams v. Burke*,<sup>26</sup> the Supreme Court reaffirmed the principle it laid out in *Bloomer*. *Adams* involved a patentee who assigned to the licensee the patent rights for an improvement in coffin lids “for, to, and in” a geographical area encircling Boston.<sup>27</sup> The plaintiff was an assignee of the patentee’s remainder interest in the patent and brought an infringement suit against the defendant, who purchased coffin lids from the licensee and used them in a town outside of the area reserved for the licensee.<sup>28</sup> Ruling in favor of the defendant, the Court stated that “when the patentee, or the person having his rights, sells a machine or instrument whose sole value is in its use, he receives the consideration for its use and he parts with the right to restrict that use.”<sup>29</sup> Then, citing *Bloomer*, the Court held that “[t]he article, in the language of the court, passes without the limit of the monopoly.”<sup>30</sup>

The Supreme Court’s dedication to the mandatory patent exhaustion rule did not stop after *Adams*. In the 1895 case of *Keeler v. Standard Folding Bed Co.*,<sup>31</sup> the Supreme Court again used broad, unqualified language in describing the rights of the purchaser vis-à-vis the patentee. In *Keeler*, a patentee assigned patent rights for an improvement in folding beds to different persons in the states of Massachusetts and Michigan.<sup>32</sup> The assignee for Massachusetts brought a patent infringement suit against the defendant who had purchased patented folding beds from the assignee for Michigan and resold them in Massachusetts.<sup>33</sup> Upholding the defendant’s right to resell in Massachusetts, the Court stated that “one who buys patented articles of manufacture from one authorized to sell them

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extended the term of the patent without altering the substantive rights conferred on purchasers by the 1836 act, purchasers should be allowed to continue using previously constructed machines during the second extended term. *Id.* at 551. According to the Court in *Bloomer*, therefore, it was a special congressional statute—not the inherent power of a sale—that exhausted the patentee’s right to control the continued use of previously constructed machines.

26. 84 U.S. (17 Wall.) 453 (1873).

27. *Id.* at 454.

28. *Id.* It was not clear from the facts of the case where the sale of the coffin lids from the licensee to the defendant took place. But given that there were no allegations that the licensee violated its license terms, a reasonable assumption is that the sale took place within the area reserved for the licensee.

29. *Id.* at 456.

30. *Id.* at 456 & n.2. The Court, however, went on to state that “[w]hatever . . . may be the rule when patentees subdivide territorially their patents, . . . we hold that . . . when [the patented machines] are once lawfully made and sold, there is no restriction on their use to be implied for the benefit of the patentee or his assignees or licensees.” *Id.* at 456–57 (emphasis added). This language indicates that the Court in *Adams* may have attached legal significance to the fact that no express restrictions were imposed on the purchaser’s use of the coffin lids.

31. 157 U.S. 659 (1895).

32. *Id.* at 660.

33. *Id.*

becomes possessed of an absolute property in such articles, unrestricted in time or place.”<sup>34</sup> The patentee may be able to protect itself through an express contract with the purchaser, but that, according to the Court, is a question under contract law, not a question under patent law.<sup>35</sup>

In 1912, the Supreme Court took patent exhaustion in a wholly different direction in *Henry v. A.B. Dick*, where the Court upheld a patentee’s rights, under patent law, to enforce a patent restriction requiring the patented machines to be used only with supplies made by the patentee.<sup>36</sup> The Court in *A.B. Dick* interpreted *Bloomer* to stand only for the proposition that “a sale without reservations of a machine whose value consists in its use, for a consideration, carries with it the presumption that the right to use the particular machine is to pass with it.”<sup>37</sup> The Court made clear that the patentee could nonetheless avoid exhaustion by making the sale subject to express restrictions, which would then reserve the uses not permitted under the restrictions to the patentee.<sup>38</sup> According to the Court, for a limitation on the purchaser’s right of use to be lawful, “the purchaser must have notice that he buys with only a qualified right of use.”<sup>39</sup> As long as this requirement is met, the patentee would be accorded broad leeway in imposing “any conditions which are not in their very nature illegal with regard to this kind of property.”<sup>40</sup> The rationale for this broad leeway was the “absolute freedom in the use or sale of rights under the patent laws of the United States.”<sup>41</sup>

The Supreme Court’s approach in *A.B. Dick* turned out to be short-lived, however. In 1913, in *Bauer & Cie v. O’Donnell*, the Court refused to apply the logic of *A.B. Dick* to a patent restriction attempting to fix the resale price of patented articles.<sup>42</sup> The Court held that *A.B. Dick* involved the right to use the

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34. *Id.* at 666.

35. *Id.* (“It is, however, obvious that such a question would arise as a question of contract, and not as one under the inherent meaning and effect of the patent laws.”).

36. 224 U.S. 1, 49 (1912).

37. *Id.* at 23.

38. *Id.* at 24 (“But if the right of use be confined by specific restriction, the use not permitted is necessarily reserved to the patentee.”).

39. *Id.* at 26.

40. *Id.* at 30.

41. *Id.* at 29–30 (quoting *E. Bement & Sons v. Nat’l Harrow Co.*, 186 U.S. 70, 91 (1902)). Additionally, the Court stated that “[t]he fact that the conditions in the contracts keep up the monopoly or fix prices does not render them illegal.” *Id.* at 30. This made clear that the Court in *A.B. Dick* considered the specific license restriction in question—the tying of patented machines to supplies necessary for their operation—to be within the broad leeway granted by patent law.

42. *See* 229 U.S. 1 (1913).

patented invention,<sup>43</sup> while *Bauer* involved the right to vend the patented invention.<sup>44</sup> In stark contrast to its holding in *A.B. Dick*, the Court in *Bauer* held that the patentee's attempt must fail because the right to vend as conferred by the patent statute did not include a "grant of privilege to keep up prices and prevent competition by notices restricting the price at which the article may be resold."<sup>45</sup>

Four years later, the Supreme Court explicitly overruled *A.B. Dick*.<sup>46</sup> In *Motion Picture Patents Co. v. Universal Film Manufacturing Co.*, the owner of certain patents for a motion picture projector attempted to enforce a patent restriction requiring the patented projectors to be used solely for projecting a specific kind of film manufactured by the patentee.<sup>47</sup> The Supreme Court ruled for the defendants on the ground that the restriction sought by the patentee was outside the scope of its patent grant, which, according to the Court, was limited to "the mechanism described in the patent as necessary to produce the described results" and "[was] not concerned with and [had] nothing to do with the materials with which or on which the machine operate[d]."<sup>48</sup> Rejecting the patentee's bid to tie the use of the patented projectors to the use of the unpatented films, the Court stated that "[i]t is obvious that the conclusions arrived at in this opinion are such that the decision in *Henry v. A.B. Dick Co.* . . . must be regarded as overruled."<sup>49</sup>

In 1940, in *Ethyl Gasoline Corp. v. United States*, the Supreme Court used patent exhaustion to strike down a patentee's licensing scheme aimed at con-

43. *Id.* at 15 ("It was under the right to use that the license notice in question [in *A.B. Dick*] was sustained, and it is obvious that the notice in that case dealt with the use of the machine and limited it to use only with the paper, ink, and supplies of the manufacture of the patentee.")

44. *Id.* at 16 ("The real question is whether, in the exclusive right secured by statute to 'vend' a patented article there is included the right, by notice, to dictate the price at which subsequent sales of the article may be made."). The Court considered it to be "a perversion of terms" to call the transaction in *Bauer* a license to use the invention. *Id.*

45. *Id.* at 17. The Court's stance in *Bauer* was consistent with its skepticism toward resale-price-maintenance practices and reflected the prevailing view at the time that such practices violated antitrust law and public policy. In a landmark case decided two years before *Bauer*, the Supreme Court affirmed a lower court's holding that a minimum resale-price-maintenance scheme instituted by a manufacturer violated Section 1 of the Sherman Act. *See Dr. Miles Med. Co. v. John D. Park & Sons Co.*, 220 U.S. 373 (1911).

46. *See Motion Picture Patents Co. v. Universal Film Mfg. Co.*, 243 U.S. 502 (1917).

47. *Id.* at 506. The patentee brought an infringement action against a third-party manufacturer who sold noncompliant films to a user of the patented projector and against the user for using the noncompliant films. *Id.* at 508.

48. *Id.* at 512.

49. *Id.* at 518. It is not clear, however, whether the Court in *Motion Picture Patents* considered all restrictions to be per se unlawful, or only meant to say that the specific restriction at dispute (tying) was unlawful. All of the Court's analysis was specific to tying, and the Court cited *Bauer* for the proposition that "the right to vend is exhausted by a single, unconditional sale," suggesting that the patentee may impose otherwise lawful restrictions through a conditional sale. *Id.* at 516 (emphasis added).

trolling the resale prices of the patented articles.<sup>50</sup> *Ethyl Gasoline* involved a patentee who held multiple patents including a patent for a fluid that could increase fuel efficiency, a patent for a motor fuel produced by mixing gasoline with the patented fluid, and a patent for a method of using fuel containing the patented fluid in combustion motors.<sup>51</sup> The patentee sold only the patented fluid, but required refiners who purchased the fluid to sell finished gasoline products containing the fluid only to jobbers licensed by the patentee.<sup>52</sup> In deciding who were to be granted licenses, the patentee had a long-standing practice of excluding jobbers who cut prices or refused to conform to the marking policies or posted prices of the major refineries.<sup>53</sup> The U.S. government challenged the patentee's licensing scheme as an unlawful restraint of interstate commerce.<sup>54</sup> The Supreme Court agreed with the government, holding that the patentee could not, by virtue of its patent, condition its license "so as to control conduct by the licensee not embraced in the patent monopoly, . . . or upon the maintenance of resale prices by the purchaser of the patented article."<sup>55</sup> The authorized sale of the fuel by refiners to jobbers, said the Court, exhausted the patent monopoly over the fuel and the patentee could not rely on its patent to control the price at which the fuel could be resold.<sup>56</sup>

In 1942, in *United States v. Univis Lens Co.*, the Supreme Court again used patent exhaustion to block a patentee's efforts to enforce a patent restriction on the resale prices of the patented articles.<sup>57</sup> In *Univis*, the holder of certain patents for multifocal lenses licensed a manufacturing licensee to manufacture and sell lens blanks to designated wholesalers and retailers for finishing and resale, at prices specified by the patentee, for use in eyeglasses.<sup>58</sup> The U.S. government sued the patentee for unlawful restraints of trade under the Sherman Act.<sup>59</sup> The Court held that although the lens blanks sold to the wholesalers and retailers were not themselves patented, the sale nonetheless exhausted the patentee's patents on the finished lenses because the lens blanks "embodi[ed] essential features of the patented device and [were] without utility until . . . ground and polished as the

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50. 309 U.S. 436 (1940).

51. *Id.* at 446.

52. *Id.* at 459. A jobber is an individual or company that buys gasoline from refiners for resale to retailers and consumers. *See United States v. Ethyl Gasoline Corp.*, 27 F. Supp. 959, 961 (S.D.N.Y. 1939).

53. 309 U.S. at 450.

54. *Id.*

55. *Id.* at 456–57.

56. *Id.* at 457. The Court also held that the sale of the fluid additive to the refiners exhausted the patentee's exclusive right to use the patented fluid. *Id.*

57. 316 U.S. 241 (1942).

58. *Id.* at 243–44.

59. *Id.* at 241.

finished lens of the patent.”<sup>60</sup> Because the patent law did not protect the price-fixing features of the patentee’s licensing system, the Court held, those features violated the Sherman Act by eliminating competition in interstate commerce.<sup>61</sup>

Finally, in 2008, in *Quanta Computer, Inc. v. LG Electronics, Inc.*, the Supreme Court reaffirmed the principle of patent exhaustion and extended it to method patents.<sup>62</sup> In *Quanta*, LG Electronics (LGE) licensed Intel to make, use, and sell microprocessors and chipsets practicing several of LGE’s method patents relating to computer memory processing.<sup>63</sup> However, LGE required computer makers who purchased Intel’s microprocessors and chipsets practicing LGE’s patents to have separate licenses from LGE.<sup>64</sup> LGE brought a patent infringement suit against Quanta, who purchased microprocessors and chipsets from Intel and assembled them into computers without a license.<sup>65</sup> After recounting the long history of patent exhaustion, the Supreme Court rejected LGE’s argument that patent exhaustion did not apply to method claims an argument the Court characterized as an end run around patent exhaustion.<sup>66</sup> The Court further held that Intel’s sale of the microprocessors and chipsets triggered patent exhaustion because those products substantially embodied LGE’s patents.<sup>67</sup>

## B. The Default Rule

The Supreme Court’s embrace of the mandatory rule of exhaustion has not been consistent, however. Not counting *A.B. Dick*, which was overruled by *Motion Picture Patents*,<sup>68</sup> the Supreme Court has broken away from the manda-

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60. *Id.* at 249. In so holding, the Court assumed that the patents in question were practiced in part by the wholesalers and retailers who ground the blanks into lenses. *See id.* at 248–49.

61. *Id.* at 252.

62. 553 U.S. 617 (2008). A method patent, or a process patent, is a patent that outlines a procedure for producing a physical result independent of the producing mechanism. *Thomson Machinery Co. v. Larose*, 197 F. Supp. 636, 641 (E.D. La. 1961).

63. *Quanta*, 553 U.S. at 622–23.

64. In its license agreement with Intel, LGE made clear that its license did not grant the right for third parties to combine the microprocessors and chipsets with non-Intel products. *Id.* at 624. In a separate agreement, Intel agreed to give written notice to its customers informing them that they did not have LGE’s permission to combine the microprocessors and chipsets with non-Intel components. *Id.* at 623–24.

65. *Id.*

66. *Id.* at 624–25.

67. *Id.* at 631 (“We agree with *Quanta* that *Univis* governs this case. As the Court there explained, exhaustion was triggered by the sale of the lens blanks because their only reasonable and intended use was to practice the patent and because they ‘embodie[d] essential features of [the] patented invention.’ Each of those attributes is shared by the microprocessors and chipsets Intel sold to *Quanta* under the Licensing Agreement.”) (alterations in original) (citation omitted).

68. *See supra* notes 46–49 and accompanying text.

tory rule and upheld patentees' rights under patent law to enforce patent restrictions against purchasers on two separate occasions. Taking advantage of this inconsistency, the Federal Circuit has interpreted patent exhaustion as a default rule that applies only in unconditional sales.

The first occasion on which the Supreme Court upheld a patent restriction on purchasers was the 1872 case of *Mitchell v. Hawley*.<sup>69</sup> In *Mitchell*, the owner of a patent covering a machine for making felt hats granted a licensee the exclusive right "to make and use, and to license to others the right to use the said machines in the States of Massachusetts and New Hampshire, . . . during the remainder of the original term of said letters-patent."<sup>70</sup> Unlike the license in *Bloomer*, the license in *Mitchell* explicitly stated that it conferred no rights beyond the expiration of the patent's original term.<sup>71</sup> But when the licensee manufactured four patented machines and sold them to the defendant purchasers, the license granted by the licensee to the defendants omitted any references to the time limitation in the original license.<sup>72</sup> The patent term was subsequently extended, and the patentee's assignee for the extended term brought an infringement suit against the defendants who were continuing to use, during the extended term, the machines they purchased during the original term.<sup>73</sup>

In an about-face from the outcome in *Bloomer*, the Supreme Court in *Mitchell* held that the defendants' continued use of the patented machines during the patent's extended term constituted infringement.<sup>74</sup> The Court stated that the purchaser of a patented machine for the purpose of using it in the ordinary pursuits of life acquires a "complete title" to the machine, unburdened by the limits of the patent monopoly.<sup>75</sup> This rule was "well settled," when "the sale is absolute, and without any conditions."<sup>76</sup> But since the patentee in this case expressly

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69. 83 U.S. (16 Wall.) 544 (1872).

70. *Id.* at 545.

71. *Id.* ("Provided, that the said [licensee] shall not in any way or form dispose of, sell, or grant any license to use the said machines beyond the 3d day of May, A.D. 1867.").

72. The license to the defendant only provided that it would allow the defendant to use the machines in the town of Haverhill, Massachusetts, under the patentee's patent bearing the date of May 3, 1864. *See id.* at 546.

73. *Id.* at 549.

74. *Id.* at 550–51.

75. *Id.* at 548 ("Complete title to the implement or machine purchased becomes vested in the vendee by the sale and purchase, but he acquires no portion of the franchise, as the machine, when it rightfully passes from the patentee to the purchaser, ceases to be within the limits of the monopoly.").

76. *Id.* ("Sales of the kind may be made by the patentee with or without conditions, as in other cases, but where the sale is absolute, and *without any conditions*, the rule is well settled that the purchaser may continue to use the implement or machine purchased until it is worn out, or he may repair it or

restricted the rights being granted to the licensee to those for the remainder of the patent's original term, the Court held that the patentee did not forego its rights for the extended term.<sup>77</sup> The purchaser did not need to have notice of the patent restriction, because "no one can convey . . . any better title than he owns" (*nemo dat quod non habet*) and "the law imposes the risk upon the purchaser, as against the real owner, whether the title of the seller is such that he can make a valid conveyance."<sup>78</sup>

The second occasion on which the Supreme Court upheld a patent restriction on purchasers was the 1937 case of *General Talking Pictures Corp. v. Western Electric Co.*<sup>79</sup> In that case, the owner of patents covering an amplifier used in telephones, radios, and other public address systems licensed its patents to different licensees to manufacture and sell the patented amplifiers in different fields.<sup>80</sup> One licensee, who was only licensed to manufacture and sell the amplifiers for private use, knowingly sold some of them to the defendant for commercial use while the defendant had actual knowledge of the fact that the licensee had no license to make such sales.<sup>81</sup> The patentee sued the defendant for using the amplifiers for commercial purposes, alleging patent infringement.<sup>82</sup> In defense, the defendant resorted to the mandatory rule of exhaustion, arguing that "[t]he owner of a patent cannot, by means of the patent, restrict the use made of a device manufactured under the patent after the device has passed into the hands of a purchaser in the ordinary channels of trade and full consideration paid therefor."<sup>83</sup> The Court rejected this argument. Citing *Mitchell*, the Court stated that the licensee "could not convey to [the purchaser] what both knew it was not authorized to sell."<sup>84</sup> The Court held that because the sale made by the licensee to the

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improve upon it as he pleases, in same manner as if dealing with property of any other kind.") (emphasis added).

77. *Id.* at 549–51. The Court emphasized that it was expressly stipulated in the instrument of conveyance that the licensee "shall not, in any way, or form, dispose of, sell, or grant any license to use the said machines beyond the expiration of the original term." *Id.* at 549.

78. *Id.* at 550 ("Persons . . . who buy goods from one not the owner, and who does not lawfully represent the owner, however innocent they may be, obtain no property whatever in the goods, as no one can convey in such a case any better title than he owns, unless the sale is made in market overt, or under circumstances which show that the seller lawfully represented the owner.").

79. 304 U.S. 175 (1937), *reh'g granted*, 304 U.S. 587, *aff'd on reh'g*, 305 U.S. 124 (1938).

80. *Id.* at 179.

81. *Id.* at 179–80. Pursuant to a license requirement, the licensee affixed a notice to all amplifiers it manufactured and sold, stating that the amplifiers were to be used for private use only. *Id.* at 180.

82. *Id.* at 179.

83. *Id.* at 180.

84. *Id.* at 181 (citing *Mitchell v. Hawley*, 83 U.S. (16 Wall.) 544 (1872)). This characterization of *Mitchell*, however, was not accurate, as *Mitchell* did not attach any significance to the purchaser's knowledge of limitations on the rights of use it acquired. See *supra* note 79 and accompanying text.

defendant was outside the scope of the licensee's license and both parties knew that fact, the defendant was not a "purchaser in the ordinary channels of trade."<sup>85</sup>

In 1992, in *Mallinckrodt, Inc. v. Medipart, Inc.*, the Federal Circuit substantially broadened the rule in *General Talking Pictures* and explicitly declared patent exhaustion as a default rule applying to unconditional sales only.<sup>86</sup> The plaintiff in *Mallinckrodt* attempted to enforce a "single use only" restriction inscribed on a patented medical device against a servicer who retrofitted the devices for multiple uses by hospitals.<sup>87</sup> Adopting the mandatory rule of exhaustion, the court below held that the plaintiff's attempt must fail because "no restriction whatsoever could be imposed under the patent law."<sup>88</sup> On appeal to the Federal Circuit, the plaintiff characterized the "single use only" restriction it was trying to enforce as a field-of-use restriction, in an apparent effort to invoke the permissive rule for field-of-use restrictions under *General Talking Pictures*.<sup>89</sup>

The Federal Circuit, however, went beyond *General Talking Pictures* in ruling for the plaintiff. It held that *General Talking Pictures* did not address the specific situation involved in the instant case, where "the patentee was the manufacturer and the device reached a purchaser in ordinary channels of trade."<sup>90</sup> It instead cited earlier Supreme Court cases on patent exhaustion to support the plaintiff's infringement claim. After summarizing the Supreme Court's rulings in *Bloomer*, *Mitchell*, *Adams*, and *Keeler*, the Federal Circuit concluded that those earlier cases "do not stand for the proposition that no restriction or condition may be placed upon the sale of a patented article."<sup>91</sup> Rather, in the view of the Federal Circuit, the Supreme Court in those cases "simply applied, to a variety of factual situations, the rule of contract law that sale may be conditioned."<sup>92</sup> The Federal Circuit reasoned that since the patent law grants a patentee the right to exclude others from making, selling, or using the invention altogether, a patentee can choose to waive the right of exclusion "in whole or in part."<sup>93</sup> In other words, a patentee has the freedom of alienating less than full property interests in its patent rights, as long as it makes explicit the scope of the property interests being alienated. The Federal Circuit finally held that if the "single use only" notice inscribed on the devices constituted a valid condition of sale, then violation of the

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85. *Id.* at 180–81.

86. 976 F.2d 700 (Fed. Cir. 1992).

87. *Id.* at 701.

88. *Id.*

89. *Id.* at 703. The permitted field-of-use here, the plaintiff argued, was single or disposable use. *Id.*

90. *Id.* at 705.

91. *Id.* at 708.

92. *Id.*

93. *Id.* at 703.



restriction may be remedied by action for patent infringement as long as such restriction was within the scope of the patent grant or otherwise justified.<sup>94</sup>

The Supreme Court's 2008 decision in *Quanta* has cast doubt on the continued validity of the default rule articulated in *Mallinckrodt*. In *Quanta*, the Supreme Court held that LGE's method patents were exhausted upon the sale of microprocessors and chipsets substantially embodying the patents despite the fact that LGE made it clear in its license agreement with Intel that its license did not grant the right for third parties to combine the microprocessors and chipsets with non-Intel products.<sup>95</sup> The *Quanta* case, however, did not explicitly address the broader question of whether patentees could ever bypass patent exhaustion through a conditional sale,<sup>96</sup> leaving ample room for disagreements as to whether the *Mallinckrodt* default rule is still good law.<sup>97</sup>

94. *Id.* at 709. The Federal Circuit did not decide whether the "single use only" notice was legally sufficient to constitute a license or condition of sale, because it was reviewing an appeal of the district court's ruling on a motion for summary judgment and the district court did not address that question in its ruling. *See id.* at 701. The district court only held that no restrictions could be imposed under patent law whether or not the notice was sufficient. *Id.*

95. *See supra* note 4 and accompanying text.

96. Austin, *supra* note 24, at 2953. The *Quanta* case could be read narrowly as only holding that the sale in question in *Quanta* was not a conditional sale. *Id.* at 2967.

97. Some commentators argue that *Quanta* effectively overruled *Mallinckrodt*. *See, e.g.*, Herbert Hovenkamp, *Post-Sale Restraints and Competitive Harm: The First Sale Doctrine in Perspective*, 66 N.Y.U. ANN. SURV. AM. L. 487, 502 (2011) ("In its 2008 *Quanta* decision the Supreme Court unanimously rejected the Federal Circuit's approach [in *Mallinckrodt*] and restored the first sale rule to its original broad scope."); Thomas G. Hungar, *Observations Regarding the Supreme Court's Decision in Quanta Computer, Inc. v. LG Electronics, Inc.*, 49 IDEA 517, 529-530 (2009) ("A careful examination of the manner in which the *Quanta* case was litigated and decided . . . indicates that there is no longer any room for continued adherence to the *Mallinckrodt* line of cases."); Chris Holman, *Quanta and Its Impact on Biotechnology*, HOLMAN'S BIOTECH IP BLOG (June 11, 2008, 2:57 PM), <http://holmansbiotechblog.blogspot.com/2008/06/quanta-andits-impact-on-biotechnology.html> [<http://perma.cc/F2K7-4WY2>] ("[I]t appears to me that *Quanta* implicitly overrules *Mallinckrodt* . . ."). But some commentators are of the view that *Quanta* left the default rule intact. *See, e.g.*, Robert W. Gomulkiewicz, *The Federal Circuit's Licensing Law Jurisprudence: Its Nature and Influence*, 84 WASH. L. REV. 199, 236 (2009) ("[T]he Supreme Court's reversal in *Quanta Computer* . . . amounts to an affirmation of the Federal Circuit's basic approach to patent exhaustion in the *Mallinckrodt* line of cases."); William LaFuze et al., *The Conditional Sale Doctrine in a Post-Quanta World and Its Implications on Modern Licensing Agreements*, 11 J. MARSHALL REV. INTELL. PROP. L. 295, 317 (2011) ("In failing to mention the *Mallinckrodt* case and the conditional sale doctrine in the *Quanta* opinion, the Supreme Court left the status of the conditional sale doctrine unclear. Several ways of reconciling the opinion with the doctrine exist . . . . Ultimately, leaving the scope of the conditional sale doctrine intact is the best way for courts to 'promote the [p]rogress of [s]cience and the useful [a]rts.'" (alterations in original); *see also* JAY DRATLER, JR., LICENSING OF INTELLECTUAL PROPERTY § 7.05 ("[W]hether *Mallinckrodt* survives [*Quanta*] is an open question.").

## II. PATENT EXHAUSTION AS A DEFAULT-PLUS RULE

The previous Part recounts two starkly different approaches to patent exhaustion: The mandatory rule of exhaustion would extinguish all patent restrictions on the purchaser, including those explicitly imposed by the patentee as a condition of sale, while the default rule of exhaustion would only extinguish patent restrictions that are not a condition of sale. Both rules have support in case law, which is growing increasingly inconsistent as courts struggle with the two conflicting notions of patent exhaustion.

This Article departs from the current literature by moving beyond the present state of the law and exploring what the patent exhaustion rule should be. This Article puts forward an alternative rule—a “default-plus” rule—that combines the default rule with a patent misuse test independent of the exhaustion analysis. Following discussions of how this default-plus rule differs from the mandatory rule and the default rule in this Part, the next Part lays out the arguments for why the default-plus rule is the correct rule from a normative point of view.

To start, it is instructive to note that patent exhaustion is a doctrine that invalidates patent restrictions imposed on purchasers. By extinguishing all patent restrictions upon sale, the mandatory rule of exhaustion essentially treats all patent restrictions on purchasers as per se unlawful. Under this approach, it is not necessary to assess the lawfulness of a specific patent restriction on purchasers on its own merit that inquiry is avoided by a blanket prohibition of all patent restrictions on purchasers. But the primary reason why a court may want to employ the mandatory rule is still based on a judgment that the specific patent restriction at issue violates public policy. In *Bauer*, for example, the Supreme Court used patent exhaustion to pass judgment on the lawfulness of resale price maintenance.<sup>98</sup> In *Motion Picture Patents*, the Court used patent exhaustion to reject the patentee’s tying of patented motion picture projectors to unpatented films.<sup>99</sup> In both cases, the Court appeared to be motivated by what it saw as the inconsistency of the specific patent restriction in question with public policy and resorted to patent exhaustion as a way of disapproving the restriction.<sup>100</sup>

But mandatory patent exhaustion is not the only way to reject a patent restriction as against public policy. Instead of declaring all patent restrictions on

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98. See *supra* notes 42–45 and accompanying text.

99. See *supra* notes 46–49 and accompanying text.

100. Similarly, the Federal Circuit in *Mallinckrodt* argued that the district court’s holding in that case that the “single use only” restriction in question was unenforceable was based on “policy considerations.” See *Mallinckrodt, Inc. v. Medipart, Inc.*, 976 F.2d 700, 703 (Fed. Cir. 1992).

purchasers as per se unlawful under the name of patent exhaustion, an alternative approach would be to evaluate the specific restriction in a separate inquiry to determine whether it comports with public policy on its own merits. To the extent that such a stand-alone public policy analysis is informed by the same policy considerations as those evaluated under the mandatory exhaustion rule, it would produce the same outcomes in specific cases. In *Bauer*, for example, the restriction at issue minimum resale price maintenance was considered a per se violation of public policy as reflected in antitrust law under the legal standard prevailing at the time.<sup>101</sup> The Supreme Court could have limited its holding in *Bauer* to one declaring that minimum resale price maintenance for patented articles violates antitrust law, without resorting to a blanket prohibition of all patent restrictions on purchasers.<sup>102</sup> In *Motion Picture Patents*, the patented motion picture projectors were the only type with which the unpatented films could be used successfully,<sup>103</sup> meaning that the patentee had a virtual monopoly in the market for motion picture projectors. The patentee's tying of patented projectors to unpatented films, therefore, would have violated the prohibition of anticompetitive tying under antitrust law.<sup>104</sup> Conversely, the Supreme Court's refusal in *A.B. Dicks* to apply patent exhaustion appears to have been motivated by its belief that the patented machine in question was just one of many similar products on the market and the

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101. *Bauer & Cie. v. O'Donnell*, 229 U.S. 1, 11–12 (1913) (citing *Dr. Miles Med. Co. v. John D. Park & Sons Co.*, 220 U.S. 373 (1911)). The legal treatment of minimum resale price maintenance has since evolved. Today, the practice is subject to a rule of reason analysis. See *Leegin Creative Leather Prods., Inc. v. PSKS, Inc.*, 551 U.S. 877 (2007).

102. The Federal Circuit in *Mallinckrodt* argued that the Supreme Court's holding in *Bauer* was indeed limited to minimum resale price maintenance. See *Mallinckrodt*, 976 F.2d at 704 (“These cases established that price-fixing and tying restrictions accompanying the sale of goods were *per se* illegal. These cases did not hold, and it did not follow, that all restrictions accompanying the sale of patented goods were deemed illegal.”). To the extent that the Supreme Court did limit its holding in such a fashion, it certainly did not do so explicitly.

103. *Motion Picture Patents Co. v. Universal Film Mfg. Co.*, 243 U.S. 502, 508 (1917).

104. Under antitrust law, a tying arrangement is considered per se illegal under Section 1 of the Sherman Act or Section 3 of the Clayton Act if the following conditions are met: 1) There are separate tying and tied products; 2) there is evidence of actual coercion by the seller that in fact forced the buyer to accept the tied product; 3) the seller possesses sufficient economic power in the tying product market to coerce purchaser acceptance of the tied product; 4) there are anticompetitive effects in the tied market; and, 5) there is involvement of a not insubstantial amount of interstate commerce in the tied product market. See HERBERT HOVENKAMP, *FEDERAL ANTITRUST POLICY: THE LAW OF COMPETITION AND ITS PRACTICE* 397 (3d ed. 2005). The market power requirement for a finding of illegal tying would have been easily met in *Motion Picture Patents* as the patentee had a monopoly in the market for the tying product (projectors).

patentee's practice of tying its use to the use of unpatented inks would cause no harm to the public.<sup>105</sup>

One historical factor that led the Supreme Court to use mandatory patent exhaustion to reject patent restrictions that would have been unlawful under antitrust law was the perceived conflict between patent law and antitrust law.<sup>106</sup> Because of the notion that the patent monopoly authorized by the Constitution required "absolute freedom" in the use or sale of patent rights, courts struggled in defining the boundary between the permissible patent monopoly and the monopoly that would be condemned by antitrust law.<sup>107</sup> One convenient way of resolving the perceived conflict between patent law and antitrust law was to declare the patent monopoly to have been exhausted so that there would be no impediments to the full application of antitrust law. In *Univis*, for example, the Supreme Court declared the patentee's patent rights to have been exhausted upon the sale of the lens blanks before it held that the patentee's attempt to control the resale prices of the finished lenses violated the Sherman Act.<sup>108</sup>

Yet there are no principled reasons why antitrust law should be applied in these cases only after patent rights have been exhausted. In *Motion Picture Patents*, the appeals court below relied solely on the Clayton Act, which prohibits anticompetitive tying even when it involves patented articles,<sup>109</sup> in striking down

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105. See *Henry v. A.B. Dick Co.*, 224 U.S. 1, 34 (1912) ("[T]he public is always free to take or refuse the patented article on the terms imposed. If they be too onerous or not in keeping with the benefits, the patented article will not find a market.").

106. In the first twenty years after the 1890 enactment of the Sherman Act, courts tended to defer to the prerogatives of intellectual property right holders when their licensing restrictions were challenged under the Sherman Act. See Willard K. Tom & Joshua A. Newberg, *Antitrust and Intellectual Property: From Separate Spheres to Unified Field*, 66 ANTITRUST L.J. 167, 168–70 (1997). Between 1912 and the mid-1970s, however, courts generally perceived patent law and antitrust law as rigidly separate spheres of law. See *id.* at 170–73.

107. *Id.* The Court in *A.B. Dick*, for example, justified its approval of the patent restriction at issue by referring to this "absolute freedom" in the use or sale of patent rights. See *A.B. Dick*, 224 U.S. at 29–30 ("[T]he general rule is absolute freedom in the use or sale of rights under the patent laws of the United States. The very object of these laws is monopoly, and the rule is, with few exceptions, that any conditions which are not in their very nature illegal with regard to this kind of property, imposed by the patentee and agreed to by the licensee for the right to manufacture or use or sell the article, will be upheld by the courts.") (quoting *E. Bement & Sons v. Nat'l Harrow Co.*, 186 U.S. 70, 91 (1902)).

108. See *United States v. Univis Lens Co.*, 316 U.S. 241, 252 (1942) ("The price fixing features of appellees' licensing system, which are not within the protection of the patent law, violate the Sherman Act . . .").

109. Section 3 of the Clayton Act provides that:

It shall be unlawful for any person engaged in commerce, in the course of such commerce, to lease or make a sale or contract for sale of goods, wares, merchandise, machinery, supplies, or other commodities, *whether patented or unpatented*, for use, consumption or resale within the United States or any Territory thereof . . . on the condition, agreement or understanding that the lessee or purchaser thereof shall not

the patentee's tying restriction.<sup>110</sup> The Supreme Court in *Motion Picture Patents* pointed out that its reliance on patent exhaustion made it unnecessary to apply the Clayton Act,<sup>111</sup> but the Court did not rule that it would have been inappropriate to rely on the Clayton Act directly.<sup>112</sup> Even when there are no statutes like the Clayton Act on point, courts could still interpret the patent monopoly in a manner that does not give patentees the power to use their patents in violation of public policy goals reflected in antitrust law. This principle has long been recognized by modern antitrust jurisprudence, which treats intellectual property as essentially comparable to any other form of property for antitrust purposes.<sup>113</sup>

If one takes the view that a patent restriction may violate public policy even if it does not violate antitrust law,<sup>114</sup> it is also clear that a rejection of a patent restriction on public policy grounds does not require the application of mandatory patent exhaustion. Courts could conduct a public policy test for the patent restriction even when the patentee is still theoretically protected by its patent rights. Such public policy tests are routinely conducted under the patent misuse doctrine, an equitable doctrine that holds a patent unenforceable, but not void, if it is being used in violation of the public policy behind the patent monopoly.<sup>115</sup>

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use or deal in the goods, wares, merchandise, machinery, supplies or other commodities of a competitor or competitors of the lessor or seller, where the effect of such lease, sale, or contract for sale or such condition, agreement or understanding may be to substantially lessen competition or tend to create a monopoly in any line of commerce.

Clayton Act, ch. 323, § 3, 38 Stat. 731 (1914) (current version at 15 U.S.C. § 14 (2012)) (emphasis added).

110. *Motion Picture Patents Co. v. Universal Film Mfg. Co.*, 235 F. 398, 400 (2d Cir. 1916) ("If the prohibitions of the Clayton Act mean anything at all, this case falls within them, and the restrictions as to use of films other than complainant's with the projecting machines are therefore void.").
111. *Motion Picture Patents Co. v. Universal Film Mfg. Co.*, 243 U.S. 502, 517 (1917) ("Our conclusion renders it unnecessary to make the application of this statute to the case at bar which the Circuit Court of Appeals made of it . . .").
112. Indeed, the Supreme Court acknowledged that that the Clayton Act was "a most persuasive expression of the public policy of our country with respect to the question before us," hinting that its decision to apply patent exhaustion was informed by the same public policy underlying the Clayton Act. *Id.* at 517–18.
113. This view is one of the principles underlying the 1995 Guidelines for the Licensing of Intellectual Property issued by the U.S. Department of Justice and Federal Trade Commission. *See* Tom & Newberg, *supra* note 106, at 173.
114. *See, e.g., Transitron Elec. Corp. v. Hughes Aircraft Co.*, 487 F. Supp. 885, 892–93 (D. Mass. 1980), *aff'd*, 649 F.2d 871 (1st Cir. 1981) (stating that less evidence of an anticompetitive effect is required to show patent misuse than to show an antitrust violation).
115. *See, e.g., U.S. Gypsum Co. v. Nat'l Gypsum Co.*, 352 U.S. 457, 465 (1957) ("[C]ourts will not aid a patent owner who has misused his patents to recover any of their emoluments accruing during the period of misuse or thereafter until the effects of such misuse have been dissipated, or 'purged' as the conventional saying goes.").

Indeed, in the very first case that laid out the patent misuse doctrine, *Morton Salt Co. v. G.S. Suppiger Co.*, the Supreme Court rejected a tying restriction on public policy grounds without even discussing patent exhaustion.<sup>116</sup>

In sum, mandatory patent exhaustion is not the only way to reject a patent restriction as violating public policy. This Article proposes a modified rule of exhaustion that, like in *Morton Salt*, conducts a patent misuse test independent of the exhaustion analysis. This modified rule of exhaustion would preserve patent exhaustion as a default rule, requiring exhaustion only when the patentee has not subjected the sale to express patent restrictions. When an express patent restriction survives a sale under the default rule, a separate patent misuse test will be conducted to determine whether the patentee could enforce the specific patent restriction in light of public policy considerations. This Article refers to this modified rule of exhaustion as the “default-plus” rule, with the word “plus” reflecting the addition of the stand-alone patent misuse test. If the mandatory rule of exhaustion could be described as a per se rule that automatically rejects all patent restrictions on purchasers, the proposed default-plus rule would be a “rule of reason” that evaluates patent restrictions in explicitly conditional sales on a case-by-case basis. The stand-alone patent misuse test provides a vehicle through which to conduct this case-by-case inquiry.

It bears noting that the patent misuse test as currently applied is not without ambiguities. Under current case law, it is unclear what public policy factors go into the patent misuse analysis. When the Supreme Court developed the patent misuse doctrine in *Morton Salt*, the Court made clear that a patent restriction did not have to violate antitrust law to violate broader public policy.<sup>117</sup> But the Court did not specify the content of that broader public policy. Since the 1980s, the Federal Circuit has tried to put some rationality into the patent misuse doctrine by limiting its use to situations where a patent restriction raises antitrust concerns.<sup>118</sup>

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116. See *Morton Salt Co. v. G.S. Suppiger Co.*, 314 U.S. 488, 494 (1942). *Morton Salt* involved a patentee leasing its patented salt-depositing machines on the condition that such machines be used only with salt tablets sold by the patentee. *Id.* at 491. The case did not involve patent exhaustion because there were no sales of patented articles. But that did not prevent the Supreme Court from holding that the patentee’s tying restriction violated public policy and constituted patent misuse. See *id.* at 494 (“It is the adverse effect upon the public interest of a successful infringement suit, in conjunction with the patentee’s course of conduct, which disqualifies him to maintain the suit . . .”).

117. See *Morton Salt*, 314 U.S. at 494 (“It is unnecessary to decide whether respondent has violated the Clayton Act, for we conclude that in any event the maintenance of the present suit to restrain petitioner’s manufacture or sale of the alleged infringing machines is contrary to public policy . . .”).

118. In 1986, in *Windsurfing Int’l, Inc. v. AMF, Inc.*, the Federal Circuit required a patent restriction to cause an “anticompetitive effect” for it to constitute patent misuse. 782 F.2d 995, 1001 (1986) (“The doctrine of patent misuse is an affirmative defense to a suit for patent infringement . . . and requires that the alleged infringer show that the patentee has impermissibly broadened the ‘physical or temporal scope’ of the patent grant with anticompetitive effect.”) (citation omitted) (citing

This narrowing of the patent misuse doctrine, however, is at odds with the Supreme Court's expansive formulation of the doctrine.<sup>119</sup>

Without clear guidance on what public policy factors should be considered under the patent misuse doctrine, the doctrine is at the risk of becoming a circular exercise.<sup>120</sup> Such circularity is on vivid display when courts hold that a patent restriction violates public policy and therefore is unenforceable when the patent owner knows it is unenforceable.<sup>121</sup> In the patent exhaustion context, an open-ended patent misuse test would deprive the default-plus rule of the clarity it otherwise would bring to the patent exhaustion jurisprudence. Under an open-ended patent misuse test, while patentees would be able to predict whether a patent restriction would survive exhaustion, they would not be able to predict whether it would survive the subsequent public policy test.

For the sake of legal certainty, therefore, a complete overhaul of the patent exhaustion doctrine requires the narrowing of the patent misuse test to one informed by predictable logic. One potential way to find such predictable logic is to look to antitrust law, whose large body of case law offers relatively coherent principles. Scholars have advocated that to the extent that public policy concerns about a patent restriction are motivated by its anticompetitive effects, such concerns should be addressed under antitrust principles.<sup>122</sup> Restricting the patent misuse test to antitrust considerations, in cases where the alleged misuse stems from anticompetitive effects of a patent restriction, would enable both patentees and licensees to develop informed expectations—with guidance from antitrust case law—as to whether the patent restriction would be legal. In the meantime, the patent misuse test may protect other values that are not fully captured by

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Blonder-Tongue Laboratories, Inc. v. Univ. of Ill. Found., 402 U.S. 313, 343 (1971)). This requirement continued to be imposed in subsequent cases. See Robert J. Hoerner, *The Decline (and Fall?) of the Patent Misuse Doctrine in the Federal Circuit*, 69 ANTITRUST L.J. 669, 679–82 (2001).

119. See Hoerner, *supra* note 118, at 684–85.

120. See Mark R. Patterson, *Leveraging Information About Patents: Settlements, Portfolios, and Holdups*, 50 HOUS. L. REV. 483, 500 (2012) (“[T]he scope argument in this context is entirely circular. If the patent is valid, an agreement that delays entry of a competitor that uses the patented technology is within the scope of the patent, but validity is exactly the issue on which legality of the agreement turns, so relying on scope is assuming the result of the argument.”) (emphasis in original).

121. See, e.g., A.G. Design & Assocs., LLC v. Trainman Lantern Co., 630 F. Supp. 2d 1275, 1279 (W.D. Wash. 2008) (“A patent is unenforceable for misuse when its owner attempts to use it to exclude competition knowing that the patent is invalid or unenforceable. For a patent to become unenforceable, the patent owner must both have an unenforceable patent and know the patent is unenforceable.”) (citations omitted).

122. See, e.g., Hovenkamp, *supra* note 104, at 242–45. Hovenkamp rejects the notion that there are two standards for identifying anticompetitive acts, one embodied in the antitrust laws and another embodied in the Patent Act. *Id.*

competition concerns.<sup>123</sup> In such cases, the need for predictable logic counsels for clearly spelling out what those values are. An example of what not to do in such cases is provided in *Quanta*, where the Supreme Court's rejection of the defendant's patent restriction appears to have been motivated by the Court's disapproval of the defendant's licensing practice.<sup>124</sup> Instead of articulating the public policy objection to the defendant's licensing practice, the Court disposed of the matter under the name of mandatory patent exhaustion with no clear guidance for commentators and future litigants.<sup>125</sup>

Regardless of the specifics of the public policy test under a default-plus regime, the larger point this Article attempts to make is that any evaluations of the public policy implications of patent restrictions on purchasers ought to be conducted on a case-by-case basis outside of the patent exhaustion analysis. In other words, the sale of a patented article does not per se exhaust patent rights with respect to the sold article. This essentially reconceptualizes patent exhaustion from a per se rule to a rule of reason. For normative reasons discussed in Part III, the proper role of the patent exhaustion doctrine itself ought to be limited to exhausting a patentee's rights with respect to a sold patented article when, and only when, the patentee did not exercise its rights through express restrictions imposed at the time of the sale.

In fairness, the default rule envisioned by the Federal Circuit in *Mallinckrodt* includes a public policy test. The Federal Circuit in *Mallinckrodt* stated that violations of a patent restriction may be remedied by action for patent infringement as long as such restriction was "within the scope of the patent grant or otherwise justified."<sup>126</sup> Courts, however, often pay lip service to this public policy test. In *Quanta*, for example, the patentee—LGE—was trying to enforce a patent restriction precluding third-party computer makers from using the microprocessors and chipsets sold by Intel.<sup>127</sup> In so doing, LGE was essentially trying to exact a second royalty payment from third-party computer makers when it had already

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123. *Id.*; see also Robin C. Feldman, *The Insufficiency of Antitrust Analysis for Patent Misuse*, 55 HASTINGS L.J. 399, 400 (2003) (arguing that antitrust analysis is insufficient for patent misuse); Elizabeth A. Rowe, *Patents, Genetically Modified Foods, and IP Overreaching*, 64 SMUL. REV. 859, 888–90 (2011) (proposing a patent overreach doctrine to protect researchers' access to patented genetically modified products).

124. See F. Scott Kieff, *Quanta v. LG Electronics: Frustrating Patent Deals by Taking Contracting Options Off the Table?*, 2008 CATO SUP. CT. REV. 315, 316 (2008) ("[T]he true import of the case is the way it speaks about what patent contracting can be done as a matter of Court-created policy for federal patent law.").

125. See *supra* note 97 and accompanying text.

126. *Mallinckrodt, Inc. v. Medipart, Inc.*, 976 F.2d 700, 709 (Fed. Cir. 1992).

127. See *supra* notes 62–67 and accompanying text for discussions of *Quanta*.



received a royalty payment from Intel.<sup>128</sup> Applying the *Mallinckrodt* default rule, the Federal Circuit in *Quanta* held that LGE should be allowed to enforce its license restriction because patent exhaustion did not apply to an expressly conditional sale.<sup>129</sup> At no point did the Federal Circuit discuss whether LGE's license restriction violated public policy.<sup>130</sup>

Applying the default-plus rule proposed in this Article to the Broadcom-Qualcomm dispute discussed above will help illuminate the differences between the proposed rule and the existing mandatory and default rules. Under the default-plus rule, Qualcomm's double royalty scheme would not be per se illegal like it was under the mandatory rule of exhaustion. Nor would Qualcomm's scheme be per se legal like it was under the default rule. The resolution of the Broadcom-Qualcomm dispute would depend on whether a court considers Qualcomm's double royalty scheme to be in violation of public policy. Under the default-plus rule, this public policy analysis will be an inquiry separate from, not part of, the patent exhaustion doctrine. If this public policy analysis is to be further limited to the impact of Qualcomm's practice on competition, the legal analysis of the Broadcom-Qualcomm dispute would boil down to a much more predictable analysis of the legality of Qualcomm's double royalty scheme under antitrust law. In 1998, a federal court held that a double royalty scheme similar to Qualcomm's constituted patent misuse because it imposed an unreasonable restraint on competition.<sup>131</sup> Under this standard, Qualcomm's double royalty scheme might be rejected as being anticompetitive. Qualcomm's likely defeat under this analysis, however, would be because its double royalty scheme failed the public policy test, not because its patent rights were automatically cut off upon the authorized sale of the patented chipsets. A holding that Qualcomm's double royalty scheme is illegal, therefore, would not necessarily jeopardize patent licensing practices that involve patent restrictions on purchasers but do not involve the collection of double royalties.<sup>132</sup>

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128. See Gomulkiewicz, *supra* note 97 (noting that LGE's license restriction in *Quanta* served as a notice to third-party computer makers that they needed to purchase a license from LGE).

129. *LG Elec., Inc. v. Bizcom Elec., Inc.*, 453 F.3d 1364, 1370 (Fed. Cir. 2006) ("The 'exhaustion doctrine . . . does not apply to an expressly conditional sale or license,' . . . so LGE's rights in asserting infringement of its system claims were not exhausted.") (citing *B. Braun Med., Inc. v. Abbott Labs.*, 124 F.3d 1419, 1426 (Fed. Cir. 1997)).

130. See *id.* at 1369–70.

131. See *PSC Inc. v. Symbol Techs., Inc.*, 26 F. Supp. 2d 505, 510–11 (W.D.N.Y. 1998) (holding that a licensor misused its patents by charging royalties for laser scan engines used in laser detectors, and charging a second royalty to another licensee when engines were installed in detection services).

132. For one example of such licensing practices, see the licensing structure employed by MPEG-2. See *infra* notes 200–04 and accompanying text.

### III. THE NORMATIVE CASE FOR THE DEFAULT-PLUS RULE

The main thrust of the default-plus rule developed in Part II is two-fold. First, patent exhaustion should be treated as a default rule. Namely, it should only invalidate a patent restriction that is not expressly imposed on the purchaser at the time of the sale. Second, the default rule should be coupled with a patent misuse test that is separate from the exhaustion analysis. Unlike the mandatory rule of exhaustion, this default-plus rule of exhaustion allows patentees to reserve patent rights against purchasers through express restrictions, provided that such restrictions pass the patent misuse test.

This Part presents the normative case for why the default-plus rule is superior to the mandatory rule of exhaustion. The normative case revolves around three arguments: Compared to the mandatory rule, the default-plus rule (i) stands on a firmer theoretical foundation, (ii) is more malleable in giving effects to socially beneficial patent restrictions, and (iii) creates fewer incentives for wasteful circumvention efforts.

#### A. Theoretical Foundation

Although patent exhaustion has been routinely described as a mandatory rule, no satisfactory explanations exist as to why there should be an across-the-board prohibition of patent restrictions on purchasers from the standpoint of legal theory. By contrast, a strong argument could be made that patent exhaustion has its purpose in protecting and enabling fair bargaining between the seller and the buyer over the value of the patented article. This rationale only requires patent exhaustion to be a default rule, not a mandatory rule.

##### 1. The Mandatory Rule

Despite the Supreme Court's frequent invocation of the mandatory rule of exhaustion,<sup>133</sup> the theoretical justification for the mandatory rule has been unclear at best. The only rationale offered by the Supreme Court for patent exhaustion first articulated in *Mitchell v. Hawley* in 1873 and dutifully repeated thereafter is the idea that a patentee is entitled to only one reward that has to be realized in the form of the sale price of the patented article when it is first sold.<sup>134</sup> Under this

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133. See *supra* Part I.A.

134. See *Mitchell v. Hawley*, 83 U.S. (16 Wall.) 544, 547 (1873) (“[W]hen [patentees] have made one or more of the things patented, and have vended the same to others to be used, they have parted to that extent with their exclusive right, as they are never entitled to but one royalty for a patented machine . . . .”); see, e.g., *Adams v. Burke*, 84 U.S. (17 Wall.) 453, 456 (1873) (“[T]he patentee or

“single reward” theory, a patentee loses its patent rights with respect to a sold article after it has collected its rewards from the sale of the article.

As Glen Robinson has pointed out, however, this single reward theory begs the question of why a patentee should be required to collect its rewards all at once when the patented article is first sold.<sup>135</sup> According to Robinson, the single reward theory calls for a constraint not just on the total amount of the rewards from a patent, but also on how the rewards are structured.<sup>136</sup> Robinson argued that even under the assumption that a patent represents a monopoly and therefore the total amount of the rewards to the patentee needs to be capped at no greater than is necessary to fulfill the special purposes of the patent grant, the single reward theory still cannot be justified because “the patent law does not prescribe a fixed schedule of allowable returns from the patent or the form in which they can be received.”<sup>137</sup>

The single reward theory becomes somewhat more sensible when the theory is viewed in light of common law’s traditional hostility to servitudes on chattels.<sup>138</sup> Scholars including Robinson and Molly Van Houweling have discussed patent exhaustion in the context of common law’s refusal to recognize chattel servitudes, suggesting a link between the two.<sup>139</sup> If the courts were reluctant to enforce servitudes on chattels as a matter of general property law, the logic goes, it seems natural for them to take a skeptical stance towards servitudes on chattels embodying patents and other intellectual property rights.<sup>140</sup>

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his assignee having in the act of sale received all the royalty or consideration which he claims for the use of his invention in that particular machine or instrument, it is open to the use of the purchaser without further restriction on account of the monopoly of the patentees.”); *see also* *United States v. Univis Lens Co.*, 316 U.S. 241, 251 (1942) (“[T]he purpose of the patent law is fulfilled with respect to any particular article when the patentee has received his reward for the use of his invention by the sale of the article, and that once that purpose is realized the patent law affords no basis for restraining the use and enjoyment of the thing sold.”).

135. Robinson, *supra* note 17, at 1465.

136. *Id.* at 1496.

137. *Id.* Note that modern antitrust law does not take the view that a patent necessarily represents a monopoly. *See, e.g.*, *Asahi Glass Co. v. Pentech Pharms., Inc.*, 289 F. Supp. 2d 986, 995 (N.D. Ill. 2003) (“A patent confers a monopoly in the sense of a right to exclude others from selling the patented product. But if there are close substitutes for the patented product, the patent ‘monopoly’ is not a monopoly in a sense relevant to antitrust law.”).

138. In the early 1900s, the English Court of Chancery generally disfavored the imposition of equitable servitudes on the use or resale of chattels after the first sale, and the United States generally endorsed this approach. *See* Thomas W. Merrill & Henry E. Smith, *Optimal Standardization in the Law of Property: The Numerus Clausus Principle*, 110 YALE L.J. 1, 18 nn. 67 & 68 (2000); Van Houweling, *supra* note 17, at 907–10.

139. *See* Robinson, *supra* note 17, at 1464–69; Van Houweling, *supra* note 17, at 910–14.

140. Adam Mossoff argues that linking the exhaustion doctrine to traditional judicial hostility to use restrictions on chattels is anachronistic given that patents were historically treated as sharing attributes of both real estate and chattels and it was not until modern times that patents were

However, a simple juxtaposition of the doctrine of patent exhaustion and the common law rules on chattel servitudes can only explain where the courts might have derived the idea of mandatory exhaustion. This juxtaposition does not offer an operative theory about why mandatory exhaustion ought to be the rule. Such a theory has to come from an explanation about the potential rationales behind the common law rules on chattel servitudes themselves. One such rationale, as suggested by Judge Lurton, is that common law's objection to chattel servitudes serves the purpose of promoting the free transfer of property rights in chattels.<sup>141</sup> But given that common law has been much more receptive to servitudes on real property,<sup>142</sup> the ultimate question is what, if any, makes the free transfer of property rights so much more important for chattels than for real property.

In an influential article from the 1920s, Zechariah Chafee pondered the question of what might justify common law's hostility toward chattel servitudes.<sup>143</sup> Chafee acknowledged that judicially enforcing equitable servitudes on chattels would require balancing the interests of manufacturers against those of consumers and distributors and would also require taking into account the cost of such judicial enforcement.<sup>144</sup> Despite this difficult balancing task, Chafee expressed optimism that "the complexities and variety of modern business may eventually present opportunities for restrictions on personalty which are free from the disadvantages of restraint of trade and when that time comes the appropriate equitable machinery is ready for use."<sup>145</sup> Decades later, Chafee had a second

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redefined as personal property. See Mossoff, *supra* note 17, at 719 nn. 84 & 85. This argument, however, fails to recognize that regardless of whether patents are characterized as real or personal property, the exhaustion doctrine only concerns restrictions imposed on personal property. So even though patents were once considered to possess certain characteristics of real property, that, in and of itself, does not make the analogy between the exhaustion doctrine and common law rules on chattel servitudes out of sync with the historical period in which the exhaustion doctrine was born.

141. *John D. Park & Sons Co. v. Hartman*, 153 F. 24, 39 (6th Cir. 1907) ("A prime objection to the enforceability of such a system of restraint upon sales and prices is that they offend against the ordinary and usual freedom of traffic in chattels or articles which pass by mere delivery. The right of alienation is one of the essential incidents of a right of general property in movables, and restraints upon alienation have been generally regarded as obnoxious to public policy, which is best subserved by great freedom of traffic in such things as pass from hand to hand.")

142. See Robinson, *supra* note 17, at 1449 ("Anglo-American property law has recognized contractually created servitudes on real property for over four centuries."); Van Houweling, *supra* note 17, at 891–906 (discussing the common law jurisprudence of land servitudes).

143. See Zechariah Chafee, Jr., *Equitable Servitudes on Chattels*, 41 HARV. L. REV. 945 (1928).

144. *Id.* at 1013 ("Against the persuasive effect of analogous property interests and the advantages of such restrictions to manufacturers and to the marketing process must be offset not only the economic claims of consumers and independent wholesalers and retailers, but also the immense judicial labor required for a satisfactory development of the operation and limits of the proposed device.")

145. *Id.*

thought on the issue and became less convinced of the reasonableness of chattel servitudes.<sup>146</sup> But Chafee's newly found objection to chattel servitudes was not an objection to chattel servitudes per se, but an objection to courts enforcing chattel servitudes without taking into account whether they were consistent with public policy.<sup>147</sup> Chafee still favored the weighing of the public policy implications of specific chattel servitudes on a case-by-case basis<sup>148</sup> rather than an across-the-board prohibition of all chattel servitudes, as is the case under the mandatory rule of patent exhaustion.

Unlike Chafee, Robinson was unreserved in his objection to common law's reluctance to recognize use and resale restraints on personal property.<sup>149</sup> Robinson argued that the common law policy against restraints on alienation "makes for a very flimsy argument" against allowing such restraints in the case of personal property.<sup>150</sup> "To the extent that such restraints are valid for real property," Robinson argued, "they should be valid, *pari passu*, for personal property."<sup>151</sup> Robinson further argued that "such restraints in principle ought to be equally valid for intellectual property" insofar as patent exhaustion is grounded on this policy.<sup>152</sup>

Not everyone, however, is skeptical about the common law rule on chattel servitudes. Van Houweling contended that common law's reluctance to enforce chattel servitudes can be explained by the high costs of identifying and verifying information related to such servitudes.<sup>153</sup> Van Houweling argued that given the relatively low value of chattels and the rapidity with which chattels are ordinarily sold, refusals to enforce chattel servitudes serve a socially desirable function, by

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146. See Zechariah Chafee, Jr., *The Music Goes Round and Round: Equitable Servitudes and Chattels*, 69 HARV. L. REV. 1250, 1250–63 (1956) (criticizing a New Hampshire Supreme Court ruling for enforcing restrictions on the use of a jukebox installed on the premise of a luncheonette).

147. See *id.* at 1258 ("The big point is that the imposition of a novel burden, either on land or a chattel or both, ought not to depend solely on the will of the parties. The validity or invalidity of the burden they want to create ought to depend on considerations of public policy.").

148. Chafee's preference for case-by-case deliberations on the public policy implications of chattel servitudes is clear since the inquiries he argued were necessary for such deliberations were all tailored to the specific servitude in question. See *id.* ("Do business needs make it desirable to create this novel burden? Does its enforcement involve such grave possibilities of annoyance, inconvenience, and useless expenditure of money that it should not be allowed?").

149. See Robinson, *supra* note 17, at 1449 ("This Article argues that the traditional hostility to use and resale restraints on personal property is misguided in both the common law and intellectual property contexts.").

150. *Id.* at 1453.

151. *Id.*

152. *Id.* Robinson included the first sale doctrine in his discussion. The first sale doctrine is the counterpart of patent exhaustion in copyright and trademark laws. See *id.* at 1452 n.13.

153. Van Houweling, *supra* note 17, at 914–16. Guy Rub also proposed a similar theory to justify the first sale doctrine in copyright law. See Guy A. Rub, *Rebalancing Copyright Exhaustion*, 64 EMORY L.J. 741 (2015).

avoiding the addition of “an extra level of informational complexity to what might otherwise be relatively simple and fluid commerce.”<sup>154</sup> By contrast, Van Houweling explained, courts have been more willing to enforce patent restrictions on manufacturing licensees because “[a] manufacturer who produces patented articles can reasonably be expected to pay attention to the terms of his manufacturing license, considering that the essence of the license is the permission it grants the licensee to do that which would otherwise be forbidden by the Patent Act.”<sup>155</sup>

Van Houweling’s information cost theory, however, does not provide a justification for patent exhaustion being a mandatory rule. As a threshold matter, although it might be accurate to characterize personal property in day-to-day use as having relatively low values, the same may not hold true for patented articles purchased as production inputs or inventory, whose value could be quite significant over time.<sup>156</sup> But even assuming that patented articles are generally of low value, Van Houweling’s information cost theory could only explain why patentees should not be allowed to impose patent restrictions through notices affixed to patented articles: Purchasers may overlook such notices,<sup>157</sup> and more importantly, they would have to “take the time and energy to understand and take account of” the patent restrictions specified in the notices a socially undesirable investment when the value of the patented articles is low.<sup>158</sup> The theory does not explain why patent restrictions should not be enforceable when purchasers have actual knowledge, as opposed to mere notice, of such restrictions. Indeed, Van Houweling conceded that when a purchaser could not plausibly claim that “it could have been confused by, inattentive to, or otherwise cognitively burdened by” the existence of a patent restriction, enforcing the restriction appears to be

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154. Van Houweling, *supra* note 17, at 915.

155. *Id.* at 919. Like Molly Van Houweling, Jay Dratler also justified patent exhaustion on information cost concerns. See JAY DRATLER, JR., LICENSING OF INTELLECTUAL PROPERTY § 7.05 (2014) (“The doctrine avoids burdening purchasers of protected chattels with the inconvenience, increased transaction costs and general inefficiency that would attend requiring them to trace the patent pedigree of every object in their possession and comply with various restrictions upon their use or resale to which the purchasers had never agreed.”).

156. One example of the purchases of patented articles as inputs was the purchases of microprocessors and chipsets by Quanta from Intel in the *Quanta* case. Quanta combined those microprocessors and chipsets with other components to assemble computers. See *supra* notes 62–67 and accompanying text.

157. See Van Houweling, *supra* note 17, at 915 (“[I]t must be recognized that not one purchaser in many would read such a notice, and that not one in a much greater number, if he did read it, could understand its involved and intricate phraseology.”) (quoting *Straus v. Victor Talking Mach. Co.*, 243 U.S. 490, 501 (1917)).

158. *Id.*

the correct outcome.<sup>159</sup> This concession runs diametrically opposed to the notion of mandatory exhaustion, which rejects all patent restrictions on purchasers, including those the purchasers have actual knowledge of.

## 2. The Default-Plus Rule

While the mandatory rule of exhaustion lacks a clear theoretical basis, the theoretical justification for the default-plus rule of exhaustion is strong. As discussed below, such a justification lies in the role of patent exhaustion in protecting and enabling fair bargaining over the value of the patented articles. This role simply requires patent exhaustion to be a default rule, not a mandatory rule.

To appreciate the purpose of patent exhaustion, one has to start with the extremely broad rights granted to patentees under the Patent Act. The Patent Act specifies that patentees enjoy exclusive rights to make, use, offer to sell, sell, or import a patented invention, with no explicit limitations on when patentees could exercise these rights.<sup>160</sup> Without a judicial construct limiting the timing of the exercise of these rights, a patentee could impose a patent restriction pursuant to its patent rights at any point in time, including after a patented article has been sold when the restriction in question is not a condition of the sale.

Such after-the-fact restrictions would pose fundamental problems for the sale of patented articles, or, for that matter, the sale of any articles of merchandise. A principle underlying all property sales is that the value of the property to the buyer necessarily depends on the uses to which the property could be put.<sup>161</sup> When the sale of an article of merchandise is not subject to express restrictions on the possible uses of the article (including its resale), the price the buyer will be willing to pay for the article supposedly reflects the article's unrestrained uses. In such cases, the imposition of after-the-fact restrictions on the uses of the article

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159. *Id.* at 920 (discussing the Supreme Court's holding in *General Talking Picture Corp. v. Western Electric Co.* and its relevance to the information-cost theory). Van Houweling argued, however, that this situation was a special instance to which her information-cost theory did not apply. *See id.* at 920–21.

160. *See* 35 U.S.C. § 271(a) (2012) (“Except as otherwise provided in this title, 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.”).

161. *See, e.g.,* United States *ex rel.* Tenn. Valley Auth. v. Indian Creek Marble Co., 40 F. Supp. 811, 816–17 (1941) (“They will consider all the elements of value inherent in the property, including the uses to which it was being put as well as the uses it was reasonably susceptible to, which would add to its market value.”); *W. Jefferson Levee Dist. v. Coast Quality Const. Corp.*, 640 So. 2d 1258, 1273 (La. 1994) (“The jurisprudence has always held in takings cases that the fair market value is the price a buyer is willing to pay after he has considered all of the uses to which the property may be put . . .”).

(including its resale) would cause diminution in the market value of the article, upsetting the bargain the purchaser and the seller struck over the value of the article at the time of its sale.

Protecting fair bargaining over the value of the patented article, therefore, could provide one explanation for the courts' refusals to enforce after-the-fact patent restrictions. Arguably this factor was at work in some of the earlier Supreme Court cases on patent exhaustion. In *Adams v. Burke*, for example, while the patentee imposed geographical restrictions on the licensee's rights to make, use, and sell the patented coffin lids, no such restrictions were imposed on the purchaser when it purchased the coffin lids from the licensee.<sup>162</sup> The purchaser therefore supposedly paid a price for the coffin lids based on its belief that their uses would be unrestricted.<sup>163</sup> Allowing the patentee to enforce the geographical restrictions on the uses of the coffin lids against the purchaser after the sale had been consummated would unwind the bargain between the purchaser and the seller, an outcome the Supreme Court refused to judicially sanction. Similarly, the outcome in *Keeler v. Standard Folding Beds Co.* could be explained by the fact that the sale of the patented articles to the purchaser in that case was not, at the time of the sale, subject to the geographical restriction the plaintiff imposed on the manufacturing licensee.<sup>164</sup> Again, allowing such after-the-fact restrictions would be

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162. *Adams v. Burke*, 84 U.S. (17 Wall.) 453, 454–55 (1873) (“[The purchaser] has used in his business . . . no coffin containing the invention secured by said letters-patent, except such coffins containing said invention as have been manufactured by [the licensee], within a circle, whose radius is ten miles, having city of Boston as its centre, and sold within said circle by [the licensee], without condition or restriction.”).

163. There is no indication that the purchaser in *Adams* was even aware of the geographical limitations on the rights of the licensee from whom it purchased the coffin lids. *Id.* at 457.

164. The majority in *Keeler* emphasized that:

[W]hen [a patentee] has himself constructed a machine and sold it without any conditions, or authorized another to construct, sell, and deliver it, or to construct, use, and operate it, without any conditions, and the consideration has been paid to him for the thing patented, the rule is well established that the patentee must be understood to have parted to that extent with all his exclusive right, and that he ceases to have any interest whatever in the patented machine so sold and delivered or authorized to be constructed and operated.

*Keeler v. Standard Folding Bed Co.*, 157 U.S. 659, 663 (1895) (quoting *Mitchell v. Hawley*, 83 U.S. (16 Wall.) 544, 546–47 (1872)). The dissent in *Keeler* hinted that the defendant purchaser was fully informed of the rights of the plaintiff assignee in Massachusetts. *Id.* at 672 (Brown, J., dissenting) (“Yet we are asked to hold in this case that one who is fully informed of the rights of territorial assignee may deal in the patented articles in defiance of such assignee, upon the ground that he has once submitted to the exactions of the patentee by purchasing the article of one who had a right to sell it.”). But merely informing the purchaser of the conflicting rights of another assignee is not the same as placing express restrictions on the rights conferred upon the purchaser, which does not appear to be the case in *Keeler*.



unfair to the purchaser, who presumably based its bargaining over the value of the patented articles on the assumption of unrestricted uses.

Prohibiting after-the-fact restrictions not only protects fair bargaining over the value of the patented article it enables it in the first place. To see this point, imagine a world in which there is not a rule of patent exhaustion, namely, a world in which a patentee is allowed to impose restrictions on the use or resale of a patented article without being required to inform the purchaser of the restrictions at the time of the sale of the patented article.<sup>165</sup> In such a world, the purchaser faces an enormous amount of uncertainty as to what restrictions might be imposed by the patentee in the future it could be a minor restriction that will not substantially hinder the purchaser's use of the patented article, or it could be a major restriction rendering the patented article entirely useless. This uncertainty makes it very difficult, if not impossible, for the purchaser to assess the value of the patented article.<sup>166</sup> It is conceivable that if the uncertainty surrounding the rights that come with a purchase proves to be too much to bear, some risk-averse purchasers may forego the purchase altogether. Seen in this light, the doctrine of patent exhaustion could be understood as a way of preventing the seller from imposing after-the-fact restrictions so as to force the purchaser and the seller to bargain over the value of the patented article based on specific patent restrictions known to the purchaser at the time of the purchase.

Conversely, when the patentee has expressly laid out a patent restriction at the time of the sale of a patented article, it is no longer necessary to rely on patent exhaustion to protect and enable fair bargaining between the purchaser and the seller over the value of the patented article. As long as the patent restriction is an express condition of the sale, the purchaser will take the restriction into account in arriving at the price it will be willing to pay for the patented article. As the

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165. This is not a purely hypothetical scenario. The patentee in *Motion Picture Patents* attempted to impose after the fact restrictions through a notice that stated:

The sale and purchase of this machine gives only the right to use it solely with moving pictures containing the invention of reissued patent No. 12,192, leased by a licensee of the Motion Picture Patents Company, the owner of the above patents and reissued patent, while it owns said patents, and *upon other terms to be fixed* by the Motion Picture Patents Company and complied with by the user while it is in use and while the Motion Picture Patents Company owns said patents.

*Motion Picture Patents Co. v. Universal Film Mfg. Co.*, 243 U.S. 502, 506–07 (1917) (emphasis added).

166. To put a value on the patented article in such circumstances, the purchaser would need to estimate the types of patent restrictions that might be imposed by the patentee in the future and the probability of each type of restrictions being imposed. The final value of the patented article to the purchaser will be the weighted average of the value of the article under each possible restriction. This evaluation process requires a large amount of information to which the purchaser may not have access. See, e.g., Van Houweling, *supra* note 17, at 887–88.

Federal Circuit noted in *B. Braun Medical Inc. v. Abbot Laboratories*, in an expressly conditional sale, “it is more reasonable to infer that the parties negotiated a price that reflects only the value of the ‘use’ rights conferred by the patentee.”<sup>167</sup> This does not mean that the patentee has complete freedom to impose whatever patent restrictions it wants to, as it is still not allowed to impose patent restrictions that violate public policy and constitute patent misuse.<sup>168</sup> The rule of patent exhaustion itself, however, only serves the public policy of protecting and enabling fair bargaining over the value of the patented article.

In sum, patent exhaustion could be best understood as a judicial construct that injects a time dimension into the otherwise timeless grant of patent rights under the patent statute. It forces the patentee to exercise its patent rights with respect to a patented article at the time of its sale so as to facilitate the sale. This purpose only requires patent exhaustion to be a default rule that kicks in when the patentee does not exercise its patent rights at the time of the sale. A broader conceptualization of patent exhaustion as a mandatory rule a rule that applies regardless of whether the patentee exercises its patent rights at the time of the sale finds no support in this fair bargaining rationale.<sup>169</sup>

## B. Malleability

Not only does the mandatory rule of patent exhaustion stand on weaker theoretical ground than the default-plus rule, it is also less malleable than the default-plus rule in accommodating socially beneficial patent restrictions. As

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167. *B. Braun Med., Inc. v. Abbott Labs.*, 124 F.3d 1419, 1426 (Fed. Cir. 1997).

168. That is the “plus” part of the default-plus rule of patent exhaustion. *See supra* Part II.

169. It is worth noting, however, that although this fair bargaining rationale provides a solid theoretical justification for allowing a patentee to retain its patent rights with respect to a sold patented article through a patent restriction imposed as an express condition of the sale, it does not address the question of what actions would be required to make a patent restriction an express condition of the sale. One recurring question that courts have wrestled with is whether a patentee could enforce a patent restriction under patent law by merely affixing a notice to the patented article. This kind of label notice was involved in a number of leading Supreme Court cases on patent exhaustion. *See* *Henry v. A.B. Dick Co.*, 224 U.S. 1, 11 (1912) (attaching a notice to patented stencil-duplicating machines requiring the machines to be used only with supplies made by the patentee); *Bauer & Cie. v. O'Donnell*, 229 U.S. 1, 8–9 (1913) (attaching a label to patented chemical products requiring the products to be resold at a price not less than one dollar); *Motion Picture Patents Co. v. Universal Film Mfg. Co.*, 243 U.S. 502, 506–07 (1917) (attaching a label to patented motion picture projectors requiring the projectors to project a specific kind of motion picture films made by the patentee); *Gen. Talking Pictures Corp. v. W. Elec. Co.*, 304 U.S. 175, 180 (1938) (attaching a label to patented amplifiers requiring the amplifiers to be used for private use only). The answer to this question would depend on whether the notice would be considered to constitute a valid condition of the sale under the law governing sales and licenses. This is an important question, but is not within the scope of this Article.

detailed below, the mandatory rule could only recognize socially beneficial patent restrictions through ad hoc carve-outs, while the default-plus rule could evaluate patent restrictions in a more flexible manner.

### 1. The Mandatory Rule

The mandatory rule of patent exhaustion is supposedly mandatory, cutting off the patentee's rights after a patented article has been sold. But occasionally, courts see compelling reasons for enforcing a patent restriction against a purchaser. In such cases, courts would have to create special carve-outs from mandatory patent exhaustion in order to rule for the patentee. Yet there are only so many ways in which such special carve-outs could be created, and socially beneficial patent restrictions that do not fit any of them are thrown into legal limbo.

The first time a court attempted to bypass patent exhaustion was in the 1872 case of *Mitchell v. Hawley*, where a patentee tried to prevent a purchaser from using, during the patent's extended term, patented machines constructed during the patent's original term.<sup>170</sup> Apparently motivated by the fact that the patentee expressly stipulated in the license to the manufacturing licensee that no rights were conferred beyond the expiration of the patent's original term,<sup>171</sup> the Supreme Court held that the patentee could still enforce the patent restriction even after the patented machines had been sold to the purchaser.<sup>172</sup> To get around patent exhaustion, the Court relied on *nemo dat quod non habet*, the legal doctrine that denies a purchaser rights that the seller does not have even if the purchaser is innocent.<sup>173</sup>

The principle of *nemo dat quod non habet*, however, is an exception that threatens to swallow the rule of patent exhaustion. When a patentee imposes a patent restriction on a manufacturing licensee, the point in contention is whether the restriction will be enforceable against a downstream purchaser who purchases from the manufacturing licensee. *Nemo dat quod non habet* automatically turns a patent restriction on the manufacturing licensee into a patent restriction on the purchaser, regardless of whether the purchaser has knowledge of the restriction.<sup>174</sup>

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170. *Mitchell v. Hawley*, 83 U.S. (16 Wall.) 544, 545 (1872).

171. *Id.* at 544.

172. *Id.* at 550–51.

173. *Id.* at 550 (“Persons . . . who buy goods from one not the owner, and who does not lawfully represent the owner, however innocent they may be, obtain no property whatever in the goods, as no one can convey in such a case any better title than he owns, unless the sale is made in market overt, or under circumstances which show that the seller lawfully represented the owner.”).

174. Recall that the Supreme Court in *Mitchell* held that the purchaser did not need to have notice of a patent restriction for it to be enforceable against the purchaser, because “the law imposes the risk

Under this principle, the sale of a patented article will never exhaust the patentee's rights with respect to the article, as long as the patentee imposes a valid restriction on the manufacturing licensee that manufactures the article.

As if realizing this grave implication, the Supreme Court quickly turned away from *nemo dat quod non habet* the next time it addressed patent exhaustion. In *Adams v. Burke*, which involved a patentee enforcing against a purchaser a geographical restriction originally imposed on a manufacturing licensee,<sup>175</sup> the Court stuck to the rhetoric initially used in *Bloomer v. McQuewan*, proclaiming that when a patentee sells a patented article, “[t]he article, in the language of the court, passes without the limit of the monopoly.”<sup>176</sup> The difference in the Court's handling of essentially the same factual situation in *Adams* and *Mitchell* is striking. In *Adams*, instead of holding that the patent restriction imposed on the manufacturing licensee automatically applied to the purchaser under the principle of *nemo dat quod non habet*, the Court opted for the contrary rule, treating the first sale of a patented article as an event extinguishing the patentee's rights with respect to the sold article.<sup>177</sup>

After its brief dabble in *nemo dat quod non habet*, the Supreme Court needed new ways of bypassing patent exhaustion when necessary without gutting the doctrine altogether. The Court found one in *General Talking Pictures Corp. v. Western Electric Co.*, where it allowed a patentee to enforce a “private use only” patent restriction against a purchaser when the patentee only imposed the restriction on the manufacturing licensee.<sup>178</sup> Although it did not explicitly explain the public policy reason for upholding a field-of-use restriction like the “private use only” restriction at issue, the Court in *General Talking Picture* appeared to be motivated by the fact that field-of-use restrictions were widely used and were always legal.<sup>179</sup> Indeed, field-of-use restrictions are generally considered pro-competitive, as “the ability to provide different licensing terms for different users

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upon the purchaser, as against the real owner, whether the title of the seller is such that he can make a valid conveyance.” *Id.*

175. 84 U.S. (17 Wall.) 453–54 (1873). The patentee in *Adams* was trying to prevent a purchaser from using patented coffin lids in a town outside of the area assigned to the manufacturing licensee that manufactured the coffin lids. *See id.*

176. *Id.* at 456.

177. *Id.* at 456, n.2.

178. *See* *Gen. Talking Pictures Corp. v. W. Elec. Corp.*, 304 U.S. 175, 179 (1938).

179. *Gen. Talking Pictures Corp. v. W. Elec. Corp.*, 305 U.S. 124, 127 (1938) (“The practice of granting licenses for a restricted use is an old one . . . . So far as appears, its legality has never been questioned. The parties stipulated that ‘it is common practice where a patented invention is applicable to different uses, to grant written licenses to manufacture under United States Letters Patents restricted to one or more of the several fields of use permitting the exclusive or non-exclusive use of the invention by the licensee in one field and excluding it in another field.’”) (citations omitted).

can encourage broader licensing of inventions.”<sup>180</sup> Specifically, the licensing arrangement in *General Talking Pictures* “allowed the patentees to reserve the right to manufacture for commercial use, which was apparently more profitable, while still allowing the technologies to be used broadly for home applications.”<sup>181</sup> To extend a field-of-use restriction to a purchaser, however, the Court needed to override patent exhaustion, which, under the case law thus far, conferred an “absolute property” on the purchaser.<sup>182</sup> The Court was able to do that in *General Talking Pictures* by taking advantage of the fact that the sale from the manufacturing licensee to the purchaser was outside the scope of the licensee’s license. Patent exhaustion did not apply here, the Court reasoned, because the patentee did not authorize the licensee to sell the patented machines for commercial use and the purchaser was not a “purchaser in the ordinary channels of trade.”<sup>183</sup>

This method of bypassing patent exhaustion, however, is very idiosyncratic and arbitrary. The patentee in *General Talking Pictures* was able to enforce its “private use only” restriction against the purchaser only because the restriction happened to limit the sales that could be made by the manufacturing licensee since the sale itself was not authorized by the patentee, patent exhaustion did not apply and the patentee still retained its rights against the purchaser. Essentially, this creates an ad hoc carve-out from patent exhaustion for a particular type of field-of-use restrictions imposed on a particular group of licensees—manufacturing licensees. This ad hoc carve-out would not be available to enforce patent restrictions that do not limit the sales of a manufacturing licensee.<sup>184</sup> Nor would it be available to a patentee who sells the patented articles itself, in which case the sales are, by definition, authorized.<sup>185</sup> These artificial dis-

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180. Mark R. Patterson, *Contractual Expansion of the Scope of Patent Infringement Through Field-of-Use Licensing*, 49 WM. & MARY L. REV. 157, 159 (2007).

181. *Id.*

182. See *Keeler v. Standard Folding Bed Co.*, 157 U.S. 659, 666 (1895).

183. *Gen. Talking Pictures Corp.*, 304 U.S. at 181. This statement is now routinely interpreted as requiring a sale to be authorized by the patentee before it can exhaust the patentee’s rights with respect to the sold article. See, e.g., *Server & Casey*, *supra* note 24, at 573 (“[T]he Court confirmed that only a first sale that is authorized by the holder of the patent right (as opposed to an infringing sale) triggers exhaustion that renders a post-sale restriction on the buyer of the patented product unenforceable through a patent infringement remedy.”).

184. Had the patentee in *General Talking Pictures* only required the patented amplifiers to be used for private purposes only and not required the manufacturing licensee to only sell the patented amplifiers for private purposes, the sale to the purchaser would have been an authorized sale and the patentee would not have been able to enforce the “private use only” restriction against the purchaser. *Gen. Talking Pictures Corp.*, 304 U.S. at 180–81.

185. See *Hungar*, *supra* note 97, at 538 n.108 (“To be sure, the patent holder by definition cannot make an unauthorized sale . . .”). Had the patentee in *General Talking Pictures* manufactured and sold the patented amplifiers itself and imposed the same “private use only” restriction on the purchaser,

tinctions, based on the form of the patent restriction and the identity of the seller, are irrelevant to the policy considerations underlying patent exhaustion and lead to “formalistic line-drawing.”<sup>186</sup> Yet under the mandatory rule of exhaustion, they have become the decisive factors in deciding whether a patent restriction is enforceable against purchasers.<sup>187</sup> This outcome is “anomalous” and “make[s] little economic sense.”<sup>188</sup>

After *General Talking Pictures*, the next occasion on which the Supreme Court found it necessary to bend the mandatory rule of exhaustion to accommodate a socially beneficial patent restriction against purchasers arose in the 2013 case of *Bowman v. Monsanto Co.*<sup>189</sup> In *Monsanto*, the plaintiff owned certain patents for a genetically modified soybean seed that allowed soybean plants to survive exposure to glyphosate, the active ingredient in many herbicides.<sup>190</sup> The plaintiff sold, and allowed other companies to sell, the patented seeds under a special licensing agreement that permitted a grower to plant the seeds in one growing season only.<sup>191</sup> Knowing about the licensing restriction, the defendant farmer purchased soybeans intended for human or animal consumption from other local farmers and planted them in his fields, with the anticipation that many of them contained the plaintiff’s patented technology.<sup>192</sup> The defendant then applied a glyphosate-based herbicide to the plants, and the plants that survived the herbicide produced a crop of soybeans with the patented anti-glyphosate trait. The defendant saved the seeds from that crop to use in his late-season planting next year and repeated this practice for eight growing seasons.<sup>193</sup>

When sued for violating the “one season only” licensing restriction for the use of the seeds, the defendant invoked patent exhaustion and argued that the plaintiff could not control the use of the seeds after they were sold.<sup>194</sup> The

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the patentee would not have been able to prevent the purchaser from using the amplifiers for commercial purposes under the mandatory rule of patent exhaustion.

186. See *Server & Casey*, *supra* note 24, at 581.

187. See *Holman*, *supra* note 97 (“In *Quanta*, the Supreme Court cited *Talking Pictures* with approval, apparently clearing the way for a patent owner to restrict the use of a product by sales through a licensee in a manner that would not be permitted if the patent owner sold the product directly.”).

188. *Id.* (“This is clearly an anomalous outcome, and seems to make little economic sense. If this sort of restriction is permissible when accomplished through a licensee, why not let the patent owner achieve the same result directly?”).

189. 133 S. Ct. 1761 (2013).

190. *Id.* at 1764.

191. *Id.*

192. *Id.* at 1764–65. The defendant had actual knowledge of the licensing restriction because he complied with it for his first crop of each growing season. He engaged in the challenged practice only for the riskier second crop of each season. *Id.* at 1766.

193. See *id.* at 1765.

194. See *id.* at 1764.

Supreme Court disagreed. The Court saw a compelling reason for Monsanto's "one season only" license restriction: Without the restriction, "Monsanto's patent would provide scant benefit."<sup>195</sup> That is because "[t]he grower could multiply his initial purchase, and then multiply that new creation, *ad infinitum* each time profiting from the patented seed without compensating its inventor."<sup>196</sup> Public policy, therefore, requires Monsanto's patent rights with respect to the seeds to not be exhausted upon the sale of the seeds. The Court was able to effectuate this public policy consideration by holding that "the [patent exhaustion] doctrine restricts a patentee's rights only as to the 'particular article' sold; it leaves untouched the patentee's ability to prevent a buyer from making new copies of the patented item."<sup>197</sup> Since the defendant planted the soybeans he purchased and harvested many more of them than he started with, the Court explained, he engaged in making new copies of the patented seeds and therefore was not protected by the exhaustion doctrine.<sup>198</sup> In so holding, the Court essentially created an ad hoc carve-out from patent exhaustion for a particular type of self-replicating products,<sup>199</sup> much like it created an ad hoc carve-out from patent exhaustion for a particular type of field-of-use restrictions in *General Talking Pictures*.

These ad hoc carve-outs are capable of saving the patentees from the strictures of patent exhaustion in circumstances where courts believe that deviation from patent exhaustion is warranted from the standpoint of public policy. The problem, however, is that such carve-outs are idiosyncratic and cannot save patent restrictions that are not covered under them, yet may be just as socially beneficial. To exempt those patent restrictions, new carve-outs would have to be created. But there are only so many ways to create such ad hoc carve-outs, severely limiting the scope of patent restrictions that could escape patent exhaustion. Even if courts could get very creative in making new carve-outs available, the lack of inherent logic in current carve-outs gives patentees no reasonable guidance as to what the next carve-outs would be.

As a result, some patent restrictions that are arguably socially beneficial are thrown into legal limbo under the mandatory rule of exhaustion. One example of

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195. *Id.* at 1767.

196. *Id.*

197. *Id.* at 1766 (citation omitted).

198. *Id.* at 1766–67. The Court cited the definition of "make" from Webster's Third New International Dictionary: "[M]ake' means 'cause to exist, occur, or appear,' or more specifically, 'plant and raise (a crop).'" *Id.* at 1767 (citing WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY 1363 (1961)).

199. The Court emphasized that it was not granting a blanket exemption from patent exhaustion for all self-replicating products. *See id.* at 1769 ("Our holding today is limited—addressing the situation before us, rather than every one involving a self-replicating product.").

such a patent restriction, for illustrative purposes, is the licensing structure utilized by the MPEG-2 patent pool,<sup>200</sup> whose administrator filed an amicus curiae brief in *Quanta* in support of the patentee in that case, LGE.<sup>201</sup> The MPEG-2 patent pool licenses hundreds of patents essential to the MPEG-2 technology in single packages to manufacturers wishing to make MPEG-2 products.<sup>202</sup> The patents covered by the MPEG-2 pool are implemented at various levels of the production and distribution process, “from the fabrication of a chip, to its incorporation in a circuit board, to the manufacture, sale, and use of a finished product.”<sup>203</sup> To encourage individual patentees to enter into the patent pool arrangement, the MPEG-2 patent pool, like many other patent pools, grant royalty-free licenses to component manufacturers while reserving the right to charge royalties at the final stage of the production process, namely, to manufacturers that produce finished products to be used by consumers.<sup>204</sup> This license structure, if challenged, might not pass muster under the mandatory rule of exhaustion, as royalties are assessed at a time after the patented articles have already been sold.<sup>205</sup> If a court concluded that the MPEG-2 license structure is indeed socially beneficial,<sup>206</sup> it does not appear that the court would be able to exempt the license structure from mandatory patent exhaustion under either of the carve-outs currently available under *General Talking Pictures* and *Monsanto*:

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200. A patent pool is an agreement between two or more patent owners to license one or more of their patents to one another or to third parties. Patent pools are often associated with complex technologies that require complementary patents in order to provide efficient technical solutions. WORLD INTELLECTUAL PROP. ORG., PATENT POOLS AND ANTITRUST – A COMPARATIVE ANALYSIS 3 (Mar. 2014), [http://www.wipo.int/export/sites/www/ip-competition/en/studies/patent\\_pools\\_report.pdf](http://www.wipo.int/export/sites/www/ip-competition/en/studies/patent_pools_report.pdf) [<http://perma.cc/JN4X-E2PL>].
201. See Brief of MPEG LA LLC as Amicus Curiae in Support of Respondent, *Quanta Computer, Inc. v. LG Elec., Inc.*, 553 U.S. 617 (2008) (No. 06–937) [hereinafter MPEG-2 *Quanta* Brief].
202. *Id.* at 2. MPEG-2 is a core platform technology used in every DVD player, DVD-enabled personal computer, DVD movie disc, digital cable box, and satellite television receiver sold in the United States and in certain other regions, as well as in all HDTV television sets. *Id.* at 1.
203. *Id.* at 4–5.
204. *Id.* at 5. The administrator of the MPEG-2 pool did not explain why this arrangement would provide greater incentives for individual patentees to join the patent pool. But presumably, this arrangement would yield a greater amount of royalties than otherwise because the value of the finished products—on the basis of which royalties are assessed—is greater than those of the intermediate products. *Id.*
205. The administrator of the MPEG-2 patent pool filed its amicus curiae brief in *Quanta* in support of the respondent precisely out of concerns that a ruling for the petitioner would have negative implications for its own licensing structure. See MPEG-2 *Quanta* Brief, *supra* note 201, at 5–6 (“An automatic exhaustion rule such as that advocated by Petitioners would needlessly hinder the ability of patentees to provide patent pools and the procompetitive benefits they offer.”).
206. It is not within the scope of this Article to assess whether the MPEG-2 license structure, or for that matter, any license structure, is indeed socially beneficial. The point to be made here is that the mandatory rule of exhaustion is not malleable enough to accommodate the MPEG-2 license structure if it is found to be socially beneficial.



The sale encompassed under the MPEG-2 patent pool are all authorized sales, and the products in question are not self-replicating products. Unless the court could create an entirely new carve-out, it would be difficult to accommodate the MPEG-2 license structure under the mandatory exhaustion rule.

## 2. The Default-Plus Rule

In contrast to the inflexibility of the mandatory rule of exhaustion, the default-plus rule of exhaustion could give legal effects to socially beneficial patent restrictions without resorting to ad hoc carve-outs. As discussed above, the default-plus rule of exhaustion allows patentees to enforce all patent restrictions that are an express condition of the sale, provided that the restrictions pass a separate patent misuse test.<sup>207</sup> This rule is not unique to a particular type of patent restrictions or a particular type of products; instead, it is capable of accommodating all patent restrictions regardless of factual circumstances.

Under the default-plus rule of exhaustion, a court could have given effect to the patent restrictions at issue in *General Talking Pictures* and *Monsanto* without having to jump through the legal hoops necessary to create an ad hoc carve-out from classic patent exhaustion. In *General Talking Pictures*, both the manufacturing licensee who sold the patented amplifiers and the purchaser who purchased them had actual knowledge of the “private use only” patent restriction.<sup>208</sup> Despite knowing about the patent restriction and presumably having bargained for a price commensurate with that patent restriction, the purchaser in that case nonetheless violated the patent restriction and used the patented amplifiers for commercial purposes. The default-plus rule of exhaustion would require the nonapplication of patent exhaustion, provided that the “private use only” restriction does not constitute a patent misuse. A ruling condoning the “private use only” restriction under the default-plus rule would no longer need to rely on the artificial distinction between sales made by a manufacturing licensee and sales made by a patentee as the ruling in *General Talking Pictures* did. The patentee in *Monsanto*, too, made the “one season only” patent restriction at issue in that case an express condition of the sale, which was known to the defendant purchaser.<sup>209</sup> As long as the “one season only” restriction is not considered a violation of public policy, it would be exempted from patent exhaustion under the default-plus rule, again with no need to create a special carve-out from patent exhaustion for self-replicating products.

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207. See Hoerner, *supra* note 118, at 684–85.

208. See *Gen. Talking Pictures Corp. v. Western Elec. Co.*, 304 U.S. 175, 179 (1937).

209. See *Bowman v. Monsanto*, 133 S. Ct. 1761, 1766 (2013).

Similarly, the default-plus rule allows courts more flexibility in handling patent restrictions that do not easily fit any of the ad hoc carve-outs under the mandatory rule. It would be much easier, for example, for courts to evaluate the MPEG-2 license structure discussed above under the default-plus rule. To the extent that courts do not view the collection of royalties in the final stage of the production and distribution process as a violation of public policy,<sup>210</sup> the default-plus rule would provide a ready way to recognize the MPEG-2 license structure as lawful, provided that the limited licenses granted to component manufacturers are an express condition of the sale to those manufacturers. Again, under the default-plus rule, giving effects to these socially beneficial patent restrictions would only require the application of the same principle as in any other factual circumstances.<sup>211</sup>

### C. Circumvention

The default-plus rule of exhaustion is superior to the mandatory rule of exhaustion in yet another respect: circumvention. As will be discussed below, not only is the mandatory rule inflexible, it is also formalistic in the sense that patent exhaustion applies only to sales transactions. This encourages patentees who wish to enforce patent restrictions on purchasers under patent law to engage in circumvention efforts by adopting alternative transaction forms or product designs, resulting in social wastes in the process. These social wastes could be avoided under the default-plus rule, which provides patentees with a viable way of enforcing patent restrictions with respect to sold patented articles as long as those restrictions do not constitute patent misuse.

#### 1. The Mandatory Rule

Patentees started making efforts to circumvent patent exhaustion as soon as it became clear that the Supreme Court was going to stick to the mandatory rule of exhaustion. In 1917, four years after the Supreme Court declined to apply the

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210. Courts have yet to have an opportunity to evaluate the public policy implications of the MPEG-2 license structure. The Supreme Court in *Quanta* rejected LGE's efforts to collect double royalties, and another court expressed concerns about such double royalties on antitrust and patent misuse grounds. See *PSC Inc. v. Symbol Techs., Inc.*, 26 F. Supp. 2d 505, 510–11 (W.D.N.Y. 1998). The MPEG-2 license structure, however, does not impose double royalties. See MPEG-2 *Quanta* Brief, *supra* note 201, at 5 (“MPEG LA collects only a single royalty for each product.”).

211. Consistent with this view, Herbert Hovenkamp argued that “[i]n its current form, the [patent exhaustion] doctrine is far too draconian—a ham-handed attempt to provide IP-law constraints that would be much better evaluated under the law of antitrust or misuse.” Hovenkamp, *supra* note 17, at 2155.

*Henry v. A.B. Dick Co.* default rule in *Bauer & Cie. v. O'Donnell*,<sup>212</sup> the Court was confronted in *Strauss v. Victor Talking Machine Co.*, with the question of how to deal with a patent restriction imposed in a transaction form designed to circumvent the mandatory rule of exhaustion.<sup>213</sup> In *Victor Talking Machine*, a patentee took great pains to label the sales of patented machines as mere “licenses,” substituting the term “license” for the term “sale” and the term “royalty” for the term “sale price” in the relevant transaction documents.<sup>214</sup> This deliberate choice of words was apparently used for the purpose of enforcing a resale price maintenance clause in the sale contract that required the machines to be resold for not less than a certain amount.<sup>215</sup> The Supreme Court saw through the disguise and held that the patentee’s license scheme was an attempt to control the prices of the machines after they had been sold.<sup>216</sup> Such an attempt must be brought within the purview of patent exhaustion, said the Court, despite the patentee’s efforts to characterize the transactions as a license.<sup>217</sup>

The Supreme Court’s holding in *Victor Talking Machine* certainly makes sense after all, the applicability of patent exhaustion should not depend on the language used by the patentee to describe a transaction. But the Court’s holding in *Victor Talking Machine* created a perverse incentive for patentees to go even farther in their quest to evade patent exhaustion. Under *Victor Talking Machine*, it was not enough to merely make nominal changes to the form of the transaction. Transactions must be made substantively different from a sales transaction in order to escape patent exhaustion. Patentees started doing just that making substantive changes to the forms of transactions in order to avoid patent exhaustion. In *Morton Salt Co. v. G.S. Suppiger Co.*, for example, the patentee leased its patented salt-depositing machines on the condition that the machines were to be used only with salt tablets sold by the patentee.<sup>218</sup> While the patentee could have had other motivations in its decision to lease its machines,<sup>219</sup> it appears that at

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212. See *Bauer & Cie v. O'Donnell*, 229 U.S. 1, 15 (1913).

213. *Straus v. Victor Talking Mach. Co.*, 243 U.S. 490, 493 (1917).

214. *Id.* at 494–95. In a document entitled “License Notice,” the patentee declared, among others, that the machines covered by the notice were manufactured under patents, that authorized distributors may assign a right to use the machines to the public or retailers, and that the distributors may convey the license to use the machines only when a royalty of a certain amount was paid. *Id.*

215. *Id.* at 500 (“There remains for this ‘License Notice,’ so far as we can discover, the function only, of fixing and maintaining the price of plaintiff’s machines to its agents and to the public, and this we cannot doubt is the purpose for which it really was designed.”).

216. *Id.* at 501.

217. *Id.*

218. See *Morton Salt Co. v. G.S. Suppiger Co.*, 314 U.S. 488, 491 (1942).

219. There are other explanations as to why a firm may want to lease, rather than sell, its products. Ronald Coase argued that the lease-only policy of a durable-goods monopolist may be designed to overcome the time-inconsistency problem in charging a monopolist price for the goods. See

least part of the calculus was to structure the transaction as a non-sale so as to bypass mandatory patent exhaustion—given that the Supreme Court had recently struck down a similar sales-based tying restriction in *Motion Picture Patents* on exhaustion grounds.<sup>220</sup>

Such circumvention efforts reveal a fatal defect of the mandatory rule of exhaustion: The rule is so formalistic that it can be easily evaded. As discussed earlier, the mandatory rule of exhaustion invalidates all patent restrictions on purchasers as per se unlawful, so that it is unnecessary to evaluate specific patent restrictions on their own merits.<sup>221</sup> But since patent exhaustion only applies to sales of patented articles, it cannot block patent restrictions imposed in a transaction that is genuinely different from a sale. Had the Supreme Court in *Morton Salt* relied on the mandatory rule of exhaustion, it would not have been able to call a stop to the patentee's tying restriction because of the patentee's use of leasing as the transaction form. The Court did not fall for the trap it rejected the tying restriction on its own merits, in a stand-alone patent misuse test that was not tied to patent exhaustion.<sup>222</sup>

The use of the lease transaction did not help the patentee in *Morton Salt* because the Supreme Court found issues with the defendant's tying restriction.<sup>223</sup> But when a patentee wishes to enforce a patent restriction that is not considered to pose public policy problems, it may be beneficial for the patentee to go extra lengths to structure the transaction as a non-sale. Unless the patent restriction could fit in one of the ad hoc carve-outs from mandatory patent exhaustion, which is unlikely given the idiosyncratic nature of such carve-outs,<sup>224</sup> there would be no other ways to escape mandatory exhaustion. In such circumstances, the mandatory rule creates incentives for patentees to adopt inefficient transaction forms—transaction forms that they otherwise would not adopt.

Patentees may also attempt to evade mandatory exhaustion by making changes to the design of their products. For example, if a patentee were prevented by mandatory patent exhaustion from enforcing a "single use only" restriction the type of restriction at issue in *Mallinckrodt* one option for the

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Ronald H. Coase, *Durability and Monopoly*, 15 J.L. & ECON. 143, 149 (1972). Michael Waldman demonstrated that a durable-goods monopolist sometimes has an incentive to eliminate the secondhand market, and leasing is one method to achieve that goal. See Michael Waldman, *Eliminating the Market for Secondhand Goods: An Alternative Explanation for Leasing*, 40 J.L. & ECON. 61 (1997).

220. See *Motion Picture Patents Co. v. Universal Film Mfg. Co.*, 243 U.S. 502, 516 (1917).

221. See Dufresne, *supra* note 24, at 12.

222. See *Morton Salt Co.*, 314 U.S. at 491.

223. Recall that the Supreme Court in *Morton Salt* adopted a broad patent misuse test that went beyond antitrust considerations. See *id.*

224. See Holman, *supra* note 97, at 3.

patentee would be to design the product in a way that makes it impossible for the product to be used more than once.<sup>225</sup> The patentee would no longer need to impose a legal restriction on the use of the product, rendering irrelevant the question of patent exhaustion. Of course, the ability to enforce a patent restriction under patent law may not be the sole reason for changing the design of a product,<sup>226</sup> but all things being equal, having a formalistic rule like the mandatory rule of exhaustion can only add to the incentives for patentees to do so.

## 2. The Default-Plus Rule

Compared to the mandatory rule of exhaustion, the default-plus rule of exhaustion is better equipped to mollify patentees' circumvention incentives. As discussed earlier, the default-plus rule exhausts patent rights with respect to sold patented articles only in unconditional sales.<sup>227</sup> Under the default-plus rule, patentees who wish to enforce a patent restriction against purchasers only need to make that patent restriction an express condition of the sale. The patent restriction may fail the separate patent misuse test under the default-plus rule, but if so, that would be the case regardless of the form of the transaction.<sup>228</sup> In other words, patentees would gain no advantages under the default-plus rule by adopting alternative transaction forms.

Similarly, under the default-plus rule, patentees would have fewer incentives to opt for alternative product designs solely for purposes of enforcing a patent restriction, as they would be able to enforce the restriction through a conditional sale provided that the restriction is considered legitimate from a public policy point of view. The sale of a patented article, in and of itself, would not bar the enforceability of patent restrictions on purchasers.

## CONCLUSION

The puzzle of patent exhaustion demands a solution. This Article advocates that a default-plus rule is one possible answer to the patent exhaustion

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225. Whether this is a realistic option will depend on a lot of factors, including the type of use restriction the patentee wishes to impose, the availability of technology, and cost considerations.

226. Firms may also design their products in a way that excludes rivals who make interoperable complementary products from the market or extracts overcharges from customers in the complementary product market. See John M. Newman, *Anticompetitive Product Design in the New Economy*, 39 FLA. ST. U. L. REV., 681, 683 (2012).

227. See *Mallinckrodt, Inc. v. Medipart, Inc.*, 976 F.2d 700, 701 (Fed. Cir. 1992).

228. As discussed earlier, one advantage of the default-plus rule is that the "plus" part of the rule is not tied to a specific transaction form as is the mandatory rule of exhaustion. See *Straus v. Victor Talking Mach. Co.*, 243 U.S. 490, 493 (1917).

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doctrine problem. A default-plus rule is better grounded in theory, more malleable, and creates fewer circumvention incentives. Essentially, the default-plus rule could achieve the goals of patent exhaustion with a minimum amount of legal impediments to socially beneficial patent restrictions and maximum flexibility in accommodating new technologies and licensing practices yet to come. The sensibility and clarity of the default-plus rule will go a long way toward guiding and facilitating patent licensing in the modern innovative economy.