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## How Much Fuel to Add to the Fire of Genius? Some Questions About the Repair/ Reconstruction Distinction in Patent Law

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# How Much Fuel to Add to the Fire of Genius? Some Questions About the Repair/Reconstruction Distinction in Patent Law

## **Keywords**

Patent law, Supreme Court Jurisprudence, Federal Circuit Jurisprudence, Congress

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## ARTICLES

# HOW MUCH FUEL TO ADD TO THE FIRE OF GENIUS? SOME QUESTIONS ABOUT THE REPAIR/RECONSTRUCTION DISTINCTION IN PATENT LAW

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### INTRODUCTION

Imagine that you finally buy the red sports car that you have always hoped to own. It comes equipped with a state of the art, patented folding top. The patent covers the combination of components in the folding top; however, it does not cover the individual parts. After several years of using the convertible, you notice that the fabric on the top is worn out and needs to be replaced. When you replace it, the patentee sues you for infringement, claiming that you replaced the heart or the essential part of the invention and, therefore, reconstructed the invention without permission. If this happens in Japan, you may lose and be held liable for infringement.<sup>1</sup> But if this happens to you in the United States, the Supreme Court has held that your actions constitute permissible repair.<sup>2</sup> If, however, the sale of the convertible was conditioned on a promise not to replace any parts of the folding top when they became spent, you would probably lose.<sup>3</sup>

What is going on here? Should you be able to repair something you buy as often as needed and however necessary? Should a patentee be able to restrict your ability to repair your own car?

Thomas Jefferson understood that the new Union had to recognize intellectual property rights to develop a strong economy. Thus, Jefferson sought to incorporate into the U.S. Constitution a provision protecting inventors' rights to exploit their inventions. Securing intellectual property rights must have been of great significance to all of the Founding Fathers because "a brief Constitution of barely 4,486 words, includes a clause guaranteeing the 'right' of inventors . . . to royalties for patents . . . (the single mention of the term *right* in the body of the Constitution)."<sup>4</sup> Specifically, the Constitution, pursuant to Article 1, Section 8, Clause 8, gives Congress the power "To

1. See MASAMI HANABUSA, AN ANALYSIS OF JAPANESE PATENT LAW 207-08 (1992) (explaining that in Japan, impermissible reconstruction of a patented device occurs when an essential part of the invention is replaced).

2. See *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 346 (1961) ("Mere replacement of individual unpatented parts, one at a time, whether of the same part repeatedly or different parts successively, is no more than the lawful right of the owner to repair his property.").

3. See *Mallinckrodt, Inc. v. Medipart, Inc.*, 976 F.2d 700, 708-09, 24 U.S.P.Q.2d (BNA) 1173, 1179 (Fed. Cir. 1992) (holding that a violation of a restriction reasonably within the scope of the patent grant that does not violate state contract law may constitute patent infringement).

4. MICHAEL NOVAK, THE FIRE OF INVENTION, THE FUEL OF INTEREST: ON INTELLECTUAL PROPERTY 1 (1996) (discussing a lecture given by Abraham Lincoln that explained the significance of protecting patents and copyrights).

Promote the Progress of Science . . . by securing for limited Times to . . . Inventors the exclusive Right to their respective . . . Discoveries.”<sup>5</sup>

Abraham Lincoln was also a great champion of the patent system.<sup>6</sup> He stated that:

Before [the patent regime], any man might instantly use what another had invented; so that the inventor had no special advantage from his own invention. The patent system changed this; secured to the inventor, for a limited time, the exclusive use of his invention; and thereby added the *fuel of interest* to the *fire of genius*, in the discovery and production of new and useful things.<sup>7</sup>

Congress provided for this patent right in the Patent Act of 1952, which states that “whoever without authority makes, uses, offers to sell or sells any patented invention, within the United States . . . during the term of the patent therefor, infringes the patent.”<sup>8</sup> The patent right has been interpreted by Congress and the federal courts to grant the inventor only the “right to exclude” others from practicing the invention; the patent right does not give the inventor the “exclusive right” to practice the invention.<sup>9</sup>

Does this right to exclude also give patentees the right to prevent repairs of their inventions? Typically, patentees are considered to have given to the purchasers of their patented devices the authority to *use* the patented devices.<sup>10</sup> Generally, such authority also includes the ability to *repair* the device.<sup>11</sup> This grant of authority, however, does not include an unrestricted license to “make” another device.<sup>12</sup> At some point, repairs may be so extensive that they constitute a reconstruction, or unauthorized “making,” of the patented device.<sup>13</sup> The distinction between minor repairs and extensive repairs that result in an impermissible reconstruction is not always clear.

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5. U.S. CONST. art. I, § 8, cl. 8.

6. In 1859, Lincoln gave a “Lecture on Discoveries and Inventions” in which he explained his views on the six steps in the history of liberty. See NOVAK, *supra* note 4, at 1. In this speech, Lincoln noted that the last great step in the history of liberty was the adoption of the U.S. Constitution with a provision securing intellectual property rights. See *id.* at 6-7.

7. Abraham Lincoln, Lecture on Discoveries and Inventions Jacksonville, Illinois, Feb. 11, 1859, in ABRAHAM LINCOLN: SPEECHES AND WRITINGS, 1859-1865, at 10-11 (Don E. Fehrenbacher ed., 1989).

8. 35 U.S.C. § 271(a) (1994).

9. See Giles Sutherland Rich, *My Favorite Things*, 35 IDEA 1, 3-4 (1994) (providing a brief history of the “exclusivity” of the patent rights).

10. See generally DONALD S. CHISUM, 5 CHISUM ON PATENTS § 16.03[2](a) (1998) (observing that under the “first sale” doctrine, the unconditioned sale of patented products to purchasers gives such purchasers the ability to use, resell, and repair the product).

11. See *id.*

12. See *id.* § 16.03[3].

13. See *id.*

Developing a consistent jurisprudence with respect to what constitutes a permissible repair and what constitutes impermissible reconstruction has posed quite a challenge to the U.S. Court of Appeals for the Federal Circuit and the U.S. Supreme Court.<sup>14</sup> As one commentator has stated, court decisions since the first Supreme Court opinion on the repair/reconstruction distinction and its most recent opinion “have shed little light on the supposed distinction between lawful repair and unlawful reconstruction. Decisions since [the most recent Supreme Court opinion], if anything, have clouded the view.”<sup>15</sup> Given this state of uncertainty in the law, should patentees be able to enforce private contracts that redefine what constitutes impermissible repair? Can patentees in effect “privatize” patent law?

This Article raises issues for discussion with respect to the distinction between permissible repair and impermissible reconstruction. Part I explores the emerging inconsistencies in the repair/reconstruction jurisprudence. Part II discusses problems patentees may face in attempting to redefine what constitutes “impermissible reconstruction” through private contracts with purchasers of their patented goods.

## I. THE DISTINCTION BETWEEN REPAIR AND RECONSTRUCTION

### A. *Supreme Court Jurisprudence*

#### 1. *Permissible repair*

The Supreme Court first dealt with the repair/reconstruction distinction in *Wilson v. Simpson*.<sup>16</sup> In *Wilson*, the Court held that, after several months of use, the replacement of worn out cutting knives from a patented wood planing machine constituted permissible repair.<sup>17</sup> The Court’s reasoning, which is still considered authoritative on this subject, was that:

When the wearing or injury [to the patented device] is partial, then repair is restoration, and not reconstruction. . . . And it is no more than that, though it shall be a replacement of an essential part of a combination. . . . But if, as a whole, [the combination patented device] should happen to be broken, so that its parts could not be

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14. *See id.* (“The line between permissible ‘repair’ and impermissible ‘reconstruction’ is a difficult one to draw and is the subject of numerous cases.”).

15. ROBERT HARMON, PATENTS AND THE FEDERAL CIRCUIT 262 (4th ed. 1998).

16. 50 U.S. 109 (1850).

17. *See id.* at 126.

readjusted, or so much worn out as to be useless, then a purchaser cannot make or replace it by another, but he must buy a new one. . . . But if another constituent part of the combination *is meant* to be only temporary in the use of the whole, and to be frequently replaced, because it will not last as long as the other parts of the combination, its inventor cannot complain [that the purchaser replaces the temporary parts].<sup>18</sup>

Following this precedent, in *Morgan Envelope Co. v. Albany Perforated Wrapping Paper Co.*,<sup>19</sup> the Supreme Court held that replacing toilet paper rolls for use in a patented toilet paper roll and fixture combination was not impermissible reconstruction.<sup>20</sup> It should be noted that the roll of paper was not separately patented.<sup>21</sup> The Court explained that:

the purchaser of the new roll does precisely what the patentee *intended* he should do; he replaces that which is in its nature perishable, and without the replacement of which the remainder of the device is of no value. The replacement is of a product which it is the object of the mechanism to deliver.<sup>22</sup>

The Court also noted that the “distinction between repair and reconstruction becomes of no value [in this case], since the renewal of the paper is in a proper sense, neither one nor the other.”<sup>23</sup>

In a similar case, *Heyer v. Duplicator Manufacturing Co.*,<sup>24</sup> Justice Holmes, writing for the Court, found that the replacement of gelatine bands for use in a patented copying machine was not reconstruction.<sup>25</sup> Holmes explained that:

The owner when he bought one of these machines had a right to suppose that he was free to maintain it in use, without the further consent of the seller, for more than the sixty days in which the present gelatine might be used up. The machine lasts indefinitely, the bands are exhausted after a limited use and manifestly must be replaced. . . . The machine is costly, the bands are a cheap and common article of commerce. . . . We have only to establish the construction of a bargain on principles of common sense applied to the specific facts. We cannot doubt what the fair interpretation is and it would not be affected even if every purchaser knew that the vendor was prepared to furnish new bands.<sup>26</sup>

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18. *Id.* at 123-26 (emphasis added).

19. 152 U.S. 425 (1894).

20. *See id.* at 436.

21. *See id.* at 435.

22. *Id.* at 434 (emphasis added).

23. *Id.* at 433.

24. 263 U.S. 100 (1923).

25. *See id.* at 101-02.

26. *Id.*

In *Aro Manufacturing Co. v. Convertible Top Replacement Co.*,<sup>27</sup> the Supreme Court addressed the issue of whether replacing the spent fabric forming the top of convertible cars constituted infringing reconstruction of a patent that covered the combination of flexible top fabric, supporting structures, and a mechanism for sealing the fabric against the car.<sup>28</sup> This patent covered a combination of unpatentable parts.<sup>29</sup> In determining whether reconstruction or repair had occurred, the Court relied on a “practical test” espoused by Judge Learned Hand: “The [patent] monopolist cannot prevent those to whom he sells from . . . reconditioning articles worn by use, unless they in fact make a new article.”<sup>30</sup> In concluding that replacing the spent fabric was permissible repair, the Court explained that:

No element, not itself separately patented, that constitutes one of the elements of a combination patent is entitled to patent monopoly, however essential it may be to the patented combination and no matter how costly or difficult replacement may be. . . . Mere replacement of individual unpatented parts, one at a time, whether of the same part repeatedly or different parts successively, is no more than the lawful right of the owner to repair his property.<sup>31</sup>

The Court, therefore, rejected the “heart of the invention” test, which analyzes whether the most essential element is being replaced.<sup>32</sup> Similarly, the Court rejected an analysis of the time or expense of the adjustment to determine whether repair or reconstruction had occurred.<sup>33</sup> The Court also held that there would be no impermissible reconstruction by replacing components of a patented device unless the individual component was patented separately or the entire device was rebuilt at one time.<sup>34</sup>

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27. 365 U.S. 336 (1961).

28. *See id.* at 346.

29. *See id.* at 339 (noting that the fabric at issue is “an unpatented element” of the “combination patent”).

30. *Id.* at 343 (quoting *United States v. Aluminum Co. of Am.*, 148 F.2d 416, 425 (2d Cir. 1945)).

31. *Id.* at 345-46.

32. *See id.* at 344 (rejecting the argument that the fabric being replaced constituted the “heart” of the invention, and therefore, the patent must be held to grant a “monopoly” on the fabric). It seems difficult to understand how one would apply the “heart of the invention” test. The heart of the invention could be (1) the part that is non-obvious over the prior art; (2) the most expensive component of the patented device; or (3) the largest element of the patented device.

33. *See id.* (refusing to consider that the replacement of a “relatively durable” or “expensive” element of a patented device constitutes “infringing ‘reconstruction’”).

34. *See id.* at 345 (stating that “[n]o element, not itself separately patented, . . . is entitled to patent monopoly” and explaining that “in order to call the monopoly [which is conferred by the patent grant] into play for a second time . . . [there must be] a second creation of the

Four justices expressed that this “wooden” test was inappropriate.<sup>35</sup> Justice Brennan concurred in the ultimate result, but felt that the appropriate test to determine the distinction between repair and reconstruction was based on numerous factors, including:

the life of the part replaced in relation to the useful life of the whole combination, the importance of the replaced element to the inventive concept, the cost of the component relative to the cost of the combination, the common sense understanding and intention of the patent owner and the buyer of the combination as to its perishable components, whether the purchased component replaces a worn-out part or is brought for some other purpose, and other pertinent factors.<sup>36</sup>

Three justices dissented but agreed with Justice Brennan that numerous factors should be applied to determine whether repair or reconstruction has occurred.<sup>37</sup> Justice Black, who fully supported the majority opinion, wrote separately to criticize the multi-factor approach espoused by the minority.<sup>38</sup> Justice Black warned that such an approach would result in the application of:

a Pandora’s flock of insignificant standards, especially when it is recognized, as it must be upon analysis, that consistent application of the standards suggested would actually change the basic test from “making” to something not satisfactorily defined but indisputably different. And surely the scope of a patent should never depend upon a psychoanalysis of the patentee’s or purchaser’s intentions, a test which can only confound confusion. . . . [The minority is suggesting] loose legal formulas.<sup>39</sup>

In *Wilbur-Ellis Co. v. Kuther*,<sup>40</sup> the Supreme Court again found that no reconstruction occurred when a fish canning machine, which was covered under a patent that also encompassed a combination of

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patented entity”).

35. See *id.* at 362 (Brennan, J., concurring) (stating that the wooden test sets too narrow a standard as to what constitutes impermissible reconstruction); *id.* at 372 (Harlan, J., dissenting) (stating that under the wooden test, the narrow concept of what constitutes impermissible reconstruction contradicts the established principle of applying specific facts of a case to determine if there is a permissible repair or impermissible reconstruction).

36. *Id.* at 363-64 (citing *Heyer v. Duplicator Mfg. Co.*, 263 U.S. 100 (1923); *Leeds & Catliw Co. v. Victor Talking Mach. Co.*, 213 U.S. 325 (1909); *Wilson v. Simpson*, 50 U.S. 109 (1850); *Westinghouse Elec. & Mfg. Co. v. Hesser*, 131 F.2d 406, 410 (6th Cir. 1942)).

37. See *id.* at 372 (Harlan, J., dissenting) (arguing that whether reconstruction has occurred must depend on principles of common sense applied to the specific facts of a given case) (citing *Heyer*, 263 U.S. at 102).

38. See *id.* at 346 (Black, J., concurring) (stating that although he “fully concur[s]” in the judgment, the multi-factor approach espoused by Justice Brennan and in the dissenting opinion of Justice Harlan, “introduce[s] wholly unnecessary and undesirable confusions”).

39. *Id.* at 355-56, 360.

40. 377 U.S. 422 (1964).

unpatented components, was restored.<sup>41</sup> The purchaser of the patented machine retained a repairperson to clean and sandblast his rusted machines and to resize six of the thirty-five elements to enable the machines to pack fish into a different size can.<sup>42</sup> The court reasoned that:

[The] . . . machines were not spent; they had years of usefulness remaining though they needed cleaning and repair . . . . When six of the 35 elements of the combination patent were resized or relocated, no invasion of the patent resulted, for . . . the size of [the] cans serviced by the machine was no part of the invention. . . . Petitioners in adapting the old machines to a related use were doing more than repair in the customary sense; but what they did was kin to repair for it bore on the useful capacity of the old combination, on which the royalty had been paid.<sup>43</sup>

Overall, it appears that the Supreme Court consistently views impermissible reconstruction as occurring only when all the parts of a patented device (comprising a combination of unpatented elements) are replaced simultaneously.<sup>44</sup> The Supreme Court rejected any “heart of the invention” test or “difficulty of replacement” test.<sup>45</sup> Under such jurisprudence, one might think that the Supreme Court would rarely consider a repair to be so extensive as to constitute a reconstruction. The Supreme Court, however, has identified some instances of impermissible reconstruction, as demonstrated in the following cases.

## 2. *Impermissible reconstruction*

In *Cotton-Tie Co. v. Simmons*,<sup>46</sup> the Supreme Court made its first finding that alleged repairs were really reconstructions.<sup>47</sup> The plaintiffs had patents for a metallic cotton-bale tie that was comprised of a metal band and a buckle.<sup>48</sup> The buckle was stamped with the

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41. *See id.* at 425 (concluding that although the modification of the non-patented components of a fish canning machine “improved the usefulness” of the machine, it did not make the adaptation a “reconstruction”).

42. *See id.* at 423.

43. *Id.* at 424-25.

44. *See Leeds & Catlin Co. v. Victor Talking Mach. Co.*, 213 U.S. 325, 332 (1909) (setting out the standard for the difference between mere replacement and reconstruction), *rev'd on other grounds*, *Merico Corp. v. Mid-Continent Inv. Co.*, 320 U.S. 661, 668 (1944) (holding that the *Leeds* rule “must no longer prevail against the defense that a combination patent is being used to protect an unpatented part from competition”).

45. *See Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 344-46 (1961) (rejecting both these tests when evaluating whether a replacement constituted repair or reconstruction).

46. 106 U.S. 89 (1882).

47. *See id.* at 95.

48. *See id.* at 91.

words “Licensed to use once only.”<sup>49</sup> The band would remain around the bale of cotton until it was cut, at which point the tie was discarded.<sup>50</sup> The defendants purchased the buckle and band as scrap-iron, recreated the bands, and sold them as new ties.<sup>51</sup> The Court reasoned that this was reconstruction:

What the defendants did in piecing together the pieces of the old band was not a repair of the band or the tie, in any proper sense. The band was voluntarily severed by the consumer at the cotton-mill because the tie had performed its function of confining the bale of cotton in its transit . . . . Its capacity for use as a tie was voluntarily destroyed. As it left the bale it could not be used again as a tie. As a tie the defendants reconstructed it, although they used the old buckle without repairing that.<sup>52</sup>

It appears that the Court believed the patented device could only be used once and any repair after that first and final use was a reconstruction.<sup>53</sup> In *Aro*, the Supreme Court explained that the fact that the ties were marked “Licensed to use once only” was significant in the finding of impermissible reconstruction.<sup>54</sup> In *Morgan Envelope Co. v. Albany Perforated Wrapping Co.*,<sup>55</sup> the Supreme Court expounded on the “licensed to use one only” language.<sup>56</sup> The Court explained that it was evident that “the use of the tie was intended to be as complete a destruction of [the device] as would be the explosion of a patented torpedo. In either case, the repair of the band or the refilling of the shell would be a practical reconstruction of the device.”<sup>57</sup>

How did the Supreme Court know that replacing the broken band on the cotton bale tie was a “complete destruction” of the device whereas replacing the gelatine bands in the copy machines in *Heyer* were not complete destructions? How did the Supreme Court know

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49. *See id.*

50. *See id.*

51. *See id.*

52. *Id.*

53. *See id.* at 94 (stating that after the tie left the bale, “it could not be used again as a tie,” and that “[a]s a tie the defendants reconstructed it”).

54. *See Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 343 n.9 (1961). The Supreme Court, however, did not explain what role this language played in its analysis. The question remains as to whether it was an enforceable contractual restriction or whether the Supreme Court gave deference to the patentee’s noncontractual intention. Justice Harlan’s dissent noted that nothing turned on the fact that this language was included on the ties. *See id.* at 374 n.3 (Harlan, J., dissenting) (remarking that although the Court, in *Cotton-Tie*, did refer to the language marked on the ties, “it is manifest that nothing really turned on that point”).

55. 152 U.S. 425 (1894).

56. *See id.* at 432-33.

57. *See id.* at 434. This analogy employed by the Court seems tenuous. It is questionable how an exploded patented torpedo could be refilled and therefore, reconstructed.

that refilling the shell of a torpedo would constitute reconstruction, but refilling a roll of toilet paper (as was the case in *Morgan*) would be merely a repair? Is the Court acting in a logically consistent manner when determining if restoring a product is merely repair rather than infringing reconstruction? Is the Supreme Court's "practical" approach nothing more than a "we know a repair when we see it" type of test?

In another case, *Leeds & Catlin Co. v. Victor Talking Machinery Co.*,<sup>58</sup> the Supreme Court held that the sale of phonograph records for use in a patented combination of a stylus and record was impermissible reconstruction.<sup>59</sup> The Court stated that:

It would seem that on principle when deterioration of an element has reached the point of unfitness there is a destruction of the combination and a renewal of the element is a reconstruction of the combination. And it would also seem on principle that there could be no license implied from difference in the durability of the elements or periodicity in their use.<sup>60</sup>

The Court's decision in *Leeds* seems to have been based on four factors. First, the Court noted that the discs were the "distinction of the invention, constituting . . . the advance upon the prior art."<sup>61</sup> Second, the discs were in "active co-operation" with the stylus; the function performed by the patented device was the result of the "joint action of the disc and stylus."<sup>62</sup> Third, the records were not perishable; they remained useful "for an indefinite period . . . usually [lasting] as long as does the vogue of the sounds they record."<sup>63</sup> Fourth, the defendant's records were not being used to replace broken or worn-out records, but merely "to increase the repertory of tunes" of the owner of the patented combination.<sup>64</sup>

It is difficult to reconcile the decision and reasoning of *Leeds* with that of *Wilson* and *Morgan*, which were decided before *Leeds*. *Wilson* stated that replacement of an essential part of a combination would constitute repair and not reconstruction.<sup>65</sup> Was the toilet paper roll and the fixture not in "active cooperation" in *Morgan*? In *Morgan*,

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58. 213 U.S. 325 (1909).

59. *See id.* at 337.

60. *Id.* at 333.

61. *Id.* at 335. As stated previously, this "heart of the invention" test was rejected in *Aro*, the most recent Supreme Court case on the repair/reconstruction distinction. *See supra* note 43-45 and accompanying text.

62. *See Leeds*, 213 U.S. at 335.

63. *See id.* at 335-36.

64. *See id.* at 336.

65. *See Wilson v. Simpson*, 50 U.S. 109, 123 (1850) ("[R]epairing partial injuries, whether they occur from accident or from a wear and tear, is only refitting a machine for use. And it is no more than that, though it shall be a replacement of an essential part of a combination.").

however, “active cooperation” was not considered a factor in the distinction between repair and reconstruction.<sup>66</sup> Can the statement of general principles outlined in *Leeds* be reconciled with any prior or subsequent Supreme Court case?

In addition, why should it matter that the purchasers in *Leeds* were using the allegedly infringing records to “increase their repertory of tunes”?<sup>67</sup> Is this relevant to whether the device is truly being “reconstructed”? Obviously, the device is not being reconstructed because it can do something entirely different with the new records namely, play new tunes. This factor seems to be more relevant with respect to whether the purchasers of the patented device are exceeding the scope of their “implied license” to *use* the device rather than whether they are *reconstructing* the device. In addition, it should be noted that in *Wilbur* the Supreme Court expressly approved adjusting the patented fish-canning machines to enable the machines to perform a different function because the royalty had already been paid for those machines.<sup>68</sup> Why should the result in *Leeds* be any different?

*B. Reconciling Federal Circuit Jurisprudence with Supreme Court Precedent*

*1. The Aro & Aktiebolag decisions*

Although it would be difficult to prove reconstruction under *Aro*, recently the Federal Circuit has identified an example of impermissible reconstruction in *Aktiebolag v. E.J. Co.*<sup>69</sup> In *Aktiebolag*, the patents claimed a drill with a shank portion and a unique carbide tip geometry.<sup>70</sup> Over time, the drill tip would dullen and need resharpening.<sup>71</sup> The drill tip was not patented separately and *Aktiebolag* issued guidelines explaining how to resharpen the tip.<sup>72</sup> *Aktiebolag* did not allege that resharpening the tip was infringement.<sup>73</sup> Rather, *Aktiebolag* alleged that retipping the drill when the tip could no longer be sharpened due to damage constituted reconstruction.<sup>74</sup> In deciding the merits of *Aktiebolag*'s claim, the Federal Circuit stated:

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66. See *Morgan Envelope Co. v. Albany Perforated Wrapping Paper Co.*, 152 U.S. 425, 433 (1894).

67. See *Leeds*, 213 U.S. at 336.

68. See *Wilbur-Ellis Co. v. Kuther*, 377 U.S. 422, 425 (1964).

69. 121 F.3d 669, 674, 43 U.S.P.Q.2d (BNA) 1620, 1624 (Fed. Cir. 1997).

70. See *id.* at 670, 43 U.S.P.Q.2d (BNA) at 1621.

71. See *id.* at 671, 43 U.S.P.Q.2d (BNA) at 1622.

72. See *id.*, 43 U.S.P.Q.2d (BNA) at 1621.

73. See *id.*, 43 U.S.P.Q.2d (BNA) at 1622.

74. See *id.* at 672, 43 U.S.P.Q.2d (BNA) at 1622.

There are a number of factors to consider in determining whether a defendant has made a new article, after the device has become spent, including the nature of the actions by the defendant, the nature of the device and how it is designed (namely, whether one of the components of the patented combination has a shorter useful life than the whole), whether a market has developed to manufacture or service the part at issue and objective evidence of the intent of the patentee.<sup>75</sup>

It should be noted that the court cited to no authority to support its statement. This may have been because no Supreme Court precedent supports such a proposition. *Aktiebolag* seems to resurrect Justice Brennan's minority position advocating the use of a multi-factored test to determine the distinction between repair and reconstruction.<sup>76</sup>

To determine whether replacing the drill tip was reconstruction, the Federal Circuit examined several factors. First, the drill was spent when the drill tip could no longer be resharpened, unless it was retipped.<sup>77</sup> Second, retipping required a complex procedure of breaking the damaged tip and creating a completely new tip.<sup>78</sup> Third, the drill tip was not an easily detachable part, such as the knives in *Wilson*, and was not intended to have a shorter life than the drill shank.<sup>79</sup> Fourth, there is no evidence of a substantial drill retipping market, which would tend to show there would be a reasonable expectation that the tip would require frequent replacement.<sup>80</sup> Fifth,

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75. *Id.* at 673, 43 U.S.P.Q.2d (BNA) at 1623.

76. *See Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 362 (1961) (Brennan, J., concurring) (stating that the difference between repair and reconstruction is based on numerous factors).

77. *See Aktiebolag*, 121 F.3d at 673, 43 U.S.P.Q.2d (BNA) at 1622 (noting that some customers who elect not to have the drills retipped would discard them instead).

78. *See id.*, 43 U.S.P.Q.2d (BNA) at 1622. The court stated that:

[T]he nature of the work done by E.J. shows that retipping is more like reconstruction than repair. E.J. does not just attach a new part for a worn part, but rather must go through several steps to replace, configure and integrate the tip into the shank. It has to break the worn or damaged tip from the shank by heating it to 1300 degrees Fahrenheit. It brazes to the shank a new rectangular block of carbide and grinds and machines it to the proper diameter and creates the point. Thereafter, the tip is honed and sharpened, grinding the rake surfaces and the center of the point and honing the edges. These actions are effectively a re-creation of the patented invention after it is spent.

*Id.*, 43 U.S.P.Q.2d (BNA) at 1623.

79. The Federal Circuit cited *Aro* to support the proposition that examining the expected life of the replaced part is a relevant factor. *See id.*, 43 U.S.P.Q.2d (BNA) at 1623. The *Aro* court, however, merely recounted the fact that the fabric was expected to have a shorter life than the convertible car top in its recitation of the facts of the case. *See Aro*, 365 U.S. at 336, 337-38. The *Aro* decision did not discuss the expected life of the fabric as a factor to be considered during its analysis of the distinction between repair and reconstruction. *See id.*

80. Again, the *Aktiebolag* court cited *Aro* to support its assertion that the existence of a replacement industry is a factor to be considered. *See Aktiebolag*, 121 F.3d at 674, 43 U.S.P.Q.2d

the patentee did not intend its drills to be retipped.<sup>81</sup>

This case raises numerous interesting questions. With regard to the second factor noted by the *Aktiebolag* court, *Aro* seemed to indicate that replacing an essential element at high cost and with difficulty was not the test to determine whether repair or reconstruction had occurred.<sup>82</sup> Specifically, *Aro* stated that:

The Court of Appeals found that the fabric “is not a minor or relatively inexpensive component” of the patented combination, or an element that would expectedly wear out after a very short period of use—although its “expectable life span” is shorter than that of the other components—and for these reasons concluded that “an owner would [not] rationally believe that he was making only a minor repair” . . . . We think that test was erroneous.<sup>83</sup>

The *Aro* court then explicitly rejected the proposal that “when an element of a patented machine or combination is relatively durable . . . relatively expensive, relatively difficult to replace, and is an ‘essential’ or ‘distinguishing’ part of the patented combination, any replacement of that element, when it wears out or is otherwise spent, constitutes infringing ‘reconstruction.’”<sup>84</sup> How can *Aktiebolag*’s analysis of these factors be reconciled with *Aro*’s explicit rejection of these factors? Did *Aktiebolag* implicitly resurrect the “heart of the invention” test that was rejected by *Aro*? Did *Aktiebolag* in effect resurrect the reasoning in *Leeds* regarding the “essential” feature of the replacement part and its necessity in performing the function of the patented device? Should the repair/reconstruction distinction hinge on whether the part being replaced is easily detachable? The records in *Leeds* were easily detachable and yet replacement of such records was found to constitute reconstruction of the device.<sup>85</sup>

With regard to the third factor, can this case be distinguished from the reconfiguration that occurred in *Wilbur*, where the Supreme Court found permissible repair?<sup>86</sup> In addition, was not the fifth factor

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(BNA) at 1624. The Court in *Aro*, however, did not discuss this as a factor to be considered. The Court merely stated the fact that a fabric replacement industry existed in the factual background of the opinion. See *Aro*, 365 U.S. at 338 (noting that *Aro* Manufacturing is a national leader in the production of replacement fabrics for convertible tops). The Court did not advocate using this as a factor to determine whether a repair is really a reconstruction. See *id.* at 345-46 (discussing the factors to consider in a patent infringement case).

81. See *Aktiebolag*, 121 F.3d at 674, 43 U.S.P.Q.2d (BNA) at 1622.

82. See *Aro*, 365 U.S. at 344.

83. *Id.* at 343-44 (quoting *Aro Mfg. Co. v. Convertible Top Replacement*, 270 F.2d 200, 205 (1st Cir. 1959)).

84. *Id.* at 344.

85. See generally *Leeds & Catlin Co. v. Victor Talking Mach. Co.*, 213 U.S. 325 (1909).

86. See *Wilbur-Ellis Co. v. Kuther*, 377 U.S. 422, 424 (1964) (determining that the machines had been renovated in such a way as to constitute “repair” rather than “reconstruction”).

explicitly held to be irrelevant a week after *Aktiebolag*, when *Hewlett-Packard Co. v. Repeat-O-Type Stencil Manufacturing, Corp.*<sup>87</sup> was decided? In *Hewlett-Packard*, the Federal Circuit stated “[t]he question is not whether the patentee at the time of sale intended to limit a purchaser’s right to modify the product. . . . A noncontractual intention is simply the seller’s hope or wish, rather than an enforceable restriction.”<sup>88</sup> Why should the patentee’s noncontractual intention be given any weight in the repair/reconstruction analysis? May *Aktiebolag* be distinguished from prior case law based on the fact that both parties agreed that the drill would be spent when the tip could no longer be resharpened?<sup>89</sup> But using this logic, was not the entire convertible top spent in *Aro* when the fabric was spent?<sup>90</sup> How are lawyers advising clients to determine when patented products are spent like an “exploded patented torpedo”?

## 2. *The American Cotton-Tie & Sage Products decisions*

Can *Sage Products, Inc. v. Devon Industries, Inc.*<sup>91</sup> be reconciled with *American Cotton-Tie Co. v. Simmons*?<sup>92</sup> Sage’s patented device was a system for disposing of contaminated items that was comprised of an outer enclosure and a removable inner container.<sup>93</sup> The inner container, which was an unpatented element of the device, was marked “BIOHAZARD—SINGLE USE ONLY.”<sup>94</sup> Sage stated in the patent specification that users should remove and discard the inner container when it was full.<sup>95</sup> Sage also sold replacement inner

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87. See 123 F.3d 1445, 1453, 43 U.S.P.Q.2d (BNA) 1650, 1657-58 (Fed. Cir. 1997) (rejecting Hewlett Packard’s argument that the “intent-of-the-patentee” must be considered when evaluating the difference between permissible repair and impermissible reconstruction).

88. *Id.*, 43 U.S.P.Q.2d (BNA) at 1658. In this case, the Federal Circuit held that modification of unused patented ink jet cartridges to make them refillable constituted repair. See *id.* at 1454, 43 U.S.P.Q.2d (BNA) at 1658. The court found this situation similar to the facts in *Wilbur-Ellis* in which the repairperson modified resized elements of a patented fish-canning machine so that the machine would pack fish into smaller cans. See *id.* at 1452, 43 U.S.P.Q.2d (BNA) at 1656-57 (citing *Wilbur-Ellis*, 377 U.S. at 422-25). Although both cases presented modifications that did not constitute conventional repairs, the modifications were found to be permissible. See *Wilbur-Ellis*, 377 U.S. at 425; *Hewlett-Packard*, 123 F.3d at 1455, 43 U.S.P.Q.2d (BNA) at 1657.

89. See *Aktiebolag v. E.J. Co.*, 121 F.3d 669, 673, 43 U.S.P.Q.2d (BNA) 1620, 1623 (Fed. Cir. 1997) (distinguishing this case from *Wilson v. Simpson*, 50 U.S. 109 (1850)). In *Wilson*, the Supreme Court found that if the part in question was meant to be temporary, there is no patent infringement when the part is replaced. See *Wilson*, 50 U.S. at 126.

90. See *Aro Mfg. Co. v. Convertible Top Co.*, 365 U.S. 336, 338 (1961).

91. 45 F.3d 1575, 33 U.S.P.Q.2d (BNA) 1765 (Fed. Cir. 1995) (holding that use of a competitor’s removable inner container with a patented disposal system does not constitute patent infringement).

92. 106 U.S. 89 (1882).

93. See *Sage Prods.*, 45 F.3d at 1576, 33 U.S.P.Q.2d (BNA) at 1766.

94. See *id.* at 1577, 33 U.S.P.Q.2d (BNA) at 1766.

95. See *id.*, 33 U.S.P.Q.2d (BNA) at 1766.

containers.<sup>96</sup>

The defendant in *Sage Products*, Devon, manufactured inner containers that could be used with the Sage system.<sup>97</sup> Sage argued that, when the inner containers were replaced, Sage's disposals system was impermissibly reconstructed.<sup>98</sup> More specifically, Sage argued that, because it was physically possible to reuse the inner containers after their first use, there was a disputed material fact as to whether the inner containers were spent; therefore, the grant of summary judgment was inappropriate.<sup>99</sup> The Federal Circuit dismissed this argument in light of Sage's own warnings to customers to use the inner container only once.<sup>100</sup> Ultimately, the Federal Circuit held that replacing the inner containers was permissible and summary judgment had been properly granted in favor of Devon.<sup>101</sup>

Given the holding in *American Cotton-Tie*, why was replacing the damaged inner container not viewed as reconstruction in the same way that replacing the band in the cotton tie was held to be reconstruction? In both cases, the patentees expressed their intent that the replaced part was to be used only once.<sup>102</sup> In both cases, the entire patented device could not be used without having one element of the device completely replaced.<sup>103</sup> Is a distinguishing factor between *American Cotton-Tie* and *Sage* that in *American Cotton-Tie* the purchasers of the original patented products were discarding their products whereas in *Sage*, the purchasers wanted to repair the containers for their own future use? Are the courts merely balancing the equities between the patentee and the purchasers and therefore, because no purchaser was involved in *American Cotton-Tie*, the patentee won? Should the repair/reconstruction distinction turn on whether the purchasers believe they can, or should be able, to replace a part of the patented invention?

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96. *See id.*, 33 U.S.P.Q.2d (BNA) at 1766.

97. *See id.*, 33 U.S.P.Q.2d (BNA) at 1766.

98. *See id.* at 1578, 33 U.S.P.Q.2d (BNA) at 1767.

99. *See id.*, 33 U.S.P.Q.2d (BNA) at 1767.

100. *See id.*, 33 U.S.P.Q.2d (BNA) at 1766.

101. *See id.* at 1578-79, 33 U.S.P.Q.2d (BNA) at 1767-68 (noting that the inner containers are effectively spent when they are filled, allowing the user to replace them without infringing on Sage's patent).

102. *See American Cotton-Tie Co. v. Simmons*, 106 U.S. 89, 91 (1882) (noting that the patentee marketed these replacement parts as a one-use-only product); *Sage Prods.*, 45 F.3d at 1576, 33 U.S.P.Q.2d (BNA) at 1766 (noting Sage's specification and warning containers that mandate a single use only and Sage's refusal to sell to buyers who reuse the inner container).

103. *See American Cotton-Tie*, 106 U.S. at 91 (noting that when the bale reaches the cotton-mill the band is cut, separating the band and the buckle); *Sage Prods.*, 45 F.3d at 1577, 33 U.S.P.Q.2d (BNA) at 1766 (noting that the inner container of the 413 combination was intended to be discarded when full so that in order to reuse the 413 combination, the inner container must be replaced).

This leads to the question of whose *noncontractual* intention, if any, should count—the patentee’s intent or the purchaser’s? The patentee’s noncontractual intent seems to be a “one way street.” If she believes that a certain part will need to be replaced often, then she cannot complain later when the purchaser replaces that part.<sup>104</sup> Generally, the patentee’s noncontractual intent that her device not be repaired is, however, given little weight,<sup>105</sup> although the *Aktiebolag* court did consider the patentee’s noncontractual intent to be a persuasive factor in finding reconstruction.<sup>106</sup> The role of the purchaser’s intent is unclear. Some cases focus on what a reasonable consumer would think she could do with the patented device,<sup>107</sup> but other cases give the consumer’s actual intent more weight.<sup>108</sup> The leading and most recent Supreme Court case, however, does not hold anyone’s intent to be relevant to the analysis.<sup>109</sup>

### 3. *The Aro Manufacturing & Lummus Industries decisions*

In *Lummus Industries, Inc. v. D.M. & E. Corp.*,<sup>110</sup> the Federal Circuit addressed the issue of “whether the [jury] instruction was so plainly contrary to law that, although not objected to [at trial], a new trial must nevertheless be had.”<sup>111</sup> The disputed jury instructions stated:

The Court instructs you that the purchaser of a patented machine

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104. See *Morgan Envelope Co. v. Albany Perforated Wrapping Paper Co.*, 152 U.S. 425, 434 (1894) (“[T]he purchaser . . . does precisely what the patentee intended that he should do: he replaces that which is in its nature perishable, and without the replacement of which the remainder of the device is of no value.”); *Wilson v. Simpson*, 50 U.S. 109, 126 (1850) (“[I]f another constituent part of the combination is meant to be only temporary in the use of the whole and to be frequently replaced, because it will not last as long as the other parts of the combination, its inventor cannot complain [that the purchaser replaces the temporary parts].”).

105. See *Hewlett-Packard Co. v. Repeat-O-Type Stencil Mfg. Co., Inc.*, 123 F.3d 1445, 1453, 43 U.S.P.Q.2d (BNA) 1650, 1657 (Fed. Cir. 1997) (ruling that the patentee misread *Wilson* in interpreting that intention of the inventor carried much weight).

106. See *Aktiebolag v. E.J. Co.*, 121 F.3d 669, 674, 43 U.S.P.Q.2d (BNA) 1620, 1624 (Fed. Cir. 1997) (concluding that “[a]lthough the repair or reconstruction issue does not turn on the intention of the patentee alone, the fact that no replacement drill tips have ever been made or sold by the patentee is consistent with the conclusion that replacement of the carbide tip is not a permissible repair”).

107. See *Heyer v. Duplicator Mfg. Co.*, 263 U.S. 100, 102 (1923) (“We have only to establish the construction of a bargain on principles of common sense applied to specific facts. We cannot doubt what the fair interpretation is and it would not be affected even if every purchaser knew that the vendor was prepared to furnish new bands.”).

108. See *American Cotton-Tie*, 106 U.S. at 93 (appearing to use the consumer’s decision to throw away the cotton tie after the band was broken as evidence that the combination was spent after one use).

109. See *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 345-46 (1961) (dismissing the idea that the replacement of any one part that is not itself separately patented would constitute patent infringement—in any case).

110. 862 F.2d 267, 8 U.S.P.Q.2d (BNA) 1983 (Fed. Cir. 1988).

111. See *id.* at 272, 8 U.S.P.Q.2d (BNA) at 1986.

which includes a number of components not separately covered by the patent has a right to repair the machine but does not have the right to reconstruct the machine.

Repair of the machine is permissible when one component of the patented machine *wears out* prior to the entire machine wearing out. In this situation replacement of that *worn out* component is permitted and does not constitute infringement of the patent on that machine. However *the replacement of a component which is not worn out with an accessory component which is a material part of the invention constitutes patent infringement, because it is reconstruction of the patented machine.*

[\* \* \*]

The Court instructs you that you should consider all the evidence presented by the parties as to the useful life of the [parts of the combination], the relative cost, and *all other evidence offered on that subject* in an effort to determine whether or not this is a repair or a reconstruction.

[\* \* \*]

Now the plaintiff contends, as I pointed out to you, that this is the heart of the invention and that to make the reel, manufacture it and to sell it new violates the very heart of the patent. The defendants say and contend that it's repair, that they bought the overall machine, and that this is only a part and that to make [it] new and to replace it is nothing more than repair.

Now you must determine from this evidence which of these contentions is correct.<sup>112</sup>

The jury instructions seem to direct the jury to focus on a "heart of the invention" test and authorize the jury to consider numerous factors (i.e., "all the evidence offered on that subject") in determining whether a repair or a reconstruction had occurred.<sup>113</sup> This seems contrary to the clear mandate of *Aro*.<sup>114</sup> The Federal Circuit, however, affirmed the lower court decision, finding no clear error in the jury instructions.<sup>115</sup> It should also be noted that several

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112. *Id.* at 269-71, 8 U.S.P.Q.2d (BNA) at 1985-86 (emphasis added).

113. *See id.* at 270-71, 8 U.S.P.Q.2d (BNA) at 1985-86.

114. *See infra* note 31 and accompanying text (developing the bright-line rule that unless all of the unpatented elements of a patented combination are replaced simultaneously there is no reconstruction).

115. It should be noted that the case may have turned on weak arguments that were made too late to an appellate court. *See generally Lummus Indus.*, 862 F.2d at 270-71, 8 U.S.P.Q.2d (BNA) at 1985-86. The appellants argued to the Federal Circuit that the instruction should have included "the question of 'whether the nature of the reels is such that their repeated replacement is, and is expected to be, necessary to maintain the usefulness of the apparatus as a whole during its anticipated useful life.'" *Id.* at 270, 8 U.S.P.Q.2d (BNA) at 1985. This seems to have been included in the general instruction to consider all the evidence. *See id.* at 270,

years after this case was decided, the Federal Circuit explicitly rejected the argument that “pre-mature” repair (i.e., the replacement of a part before it is worn out) could constitute reconstruction,<sup>116</sup> although it approved of the jury instruction in *Lummus* regarding the requirement that a part be worn out before it can be repaired.<sup>117</sup>

### C. Summary

Overall, many questions remain unanswered regarding the evolution of the repair/reconstruction doctrine. Are judges acting in a logically consistent manner by determining that restoration of a product is merely a repair rather than an infringing reconstruction, or is the “practical test” advocated by the Supreme Court merely a “we know a reconstruction when we see it” test? Is the balancing of numerous factors a useful framework, or would a bright-line test be better? If *Aro* announced a bright-line test for assessing the distinction between repair and reconstruction (i.e., unless all the unpatented elements of a patented combination are simultaneously replaced, there can be no reconstruction),<sup>118</sup> why has the Federal Circuit rejected the notion that a bright-line test could work in this area?<sup>119</sup> Does the current framework provide adequate public notice

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8 U.S.P.Q.2d (BNA) at 1985. The appellants also argued that the instructions “misinformed the jury that manufacture and sale of the [component] cannot be ‘repair’ if the component is sufficiently important element of the combination.” *Id.* at 271, 8 U.S.P.Q.2d (BNA) at 1986. Although this seems to be a strong argument in light of *Aro*, the panel viewed the appellants’ theory of the case as generally flawed. *See id.*, 8 U.S.P.Q.2d (BNA) at 1986.

116. *See Kendall Co. v. Progressive Med. Tech., Inc.*, 85 F.3d 1570, 1575, 38 U.S.P.Q.2d (BNA) 1917, 1921 (Fed. Cir. 1996). The court held that:

[A]s long as reconstruction does not occur or a contract is not violated, nothing in the law prevents a purchaser of a device from prematurely repairing it or replacing an unpatented component. Premature repair is the business of the purchaser of the product, who owns it, rather than the patentee, who sold it.

*Id.*, 38 U.S.P.Q.2d (BNA) at 1921.

117. *See Lummus Indus.*, 862 F.2d at 269-70, 8 U.S.P.Q.2d (BNA) at 1985.

118. *See Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 346 (1961).

119. In 1994, the Federal Circuit stated:

It is impracticable, as well as unwise, to attempt to lay down any rule on this subject [the repair/reconstruction distinction], owing to the number and indefinite variety of patented inventions. Each case, as it arises, must be decided in light of all the facts and circumstances presented, and with an intelligent comprehension of the scope, nature, and purpose of the patented invention, and the fair and reasonable intention of the parties. . . . [The question of whether restoration is repair] should be determined less by definitions or technical rules than by the exercise of sound common sense and intelligent judgment.

*FMC Corp. v. Up-Right, Inc.*, 21 F.3d 1073, 1079 (Fed. Cir. 1994) (citing *Goodyear Shoe Mach. Co. v. Jackson*, 112 F. 146, 150 (1st Cir. 1901)). In *FMC*, the patentee argued that “although each individual servicing of the . . . [unpatented elements in the patented combinations] may have constituted repair, a majority of the elements of the claimed combination were replaced . . . [over time] and that such replacement was tantamount to reconstruction.” *Id.* at 1077. The Federal Circuit held that *Aro* directed that sequential replacement of unpatented elements in a patented combination could not constitute impermissible reconstruction. *See id.*

of defining permissible repairs? In light of the evolving jurisprudence, what is a reasonable course of action for those in replacement part industries to pursue?

In response to these ambiguities, many patent owners have tried to contract out of this inconsistent public law regime through private contracts with purchasers of their patented products.<sup>120</sup> The next section of this Article explores whether patentees should be able to contract out of patent law as a matter of public policy. The section addresses whether patent law is binding as part of the “social contract,” or merely is a source of default rules that individuals can alter by “private contract.”

## II. THE PRIVATIZATION OF THE REPAIR/RECONSTRUCTION DISTINCTION

Whenever a legal doctrine generates the type of controversy and uncertainty that currently surrounds the repair/reconstruction doctrine, it is either clarified by the courts and the legislature, or by clever attorneys who design private contractual alternatives to avoid the public legal regime. As discussed previously, in the long history of the repair/reconstruction doctrine, the question has virtually always been whether a particular modification of the patented product amounts to a repair or a reconstruction in the absence of any type of contractual restriction.<sup>121</sup> In other words, the issue is whether there has been a violation of the property (patent) right. As more recent case law demonstrates, parties are beginning to determine by contract what constitutes an impermissible reconstruction.<sup>122</sup> Increasingly, the Federal Circuit is faced with the question of whether parties should be able to contract out of the public law regime with respect to the repair/reconstruction doctrine.<sup>123</sup>

The Federal Circuit was presented with such an issue in

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at 1077. Although FMC complained that the repair/reconstruction distinction was amorphous and requested clarification for “both patent owners and potential infringers,” the Federal Circuit refused to issue a bright-line test “for determining whether reconstruction has taken place in those cases where all of the replacement under investigation has taken place *at the same time*” because that case was not before the court. *See id.* at 1078 (emphasis added).

120. *See infra* notes 135-44 and accompanying text (discussing the patentees’ use of contract to limit the uses to which a patented product can be put by the purchaser and to avoid the repair/reconstruction doctrine).

121. *See supra* Part I.

122. *See infra* notes 135-44 and accompanying text (discussing recent cases wherein patentees contract with purchasers as to what parts can be replaced and what can be used to replace them).

123. The issue of *how* parties can form valid contracts restricting repairs under state contract law is beyond the scope of this Article. This Article focuses instead on whether courts should *enforce* such contracts.

*Mallinckrodt, Inc. v. Medipart, Inc.*<sup>124</sup> In *Mallinckrodt*, the patentee brought both a patent infringement and inducement to infringe claim against a hospital and an aftermarket restoration company.<sup>125</sup> The hospitals purchased Mallinckrodt's patented medical devices, which were accompanied by "single use only" notice. After the devices had initially been used, the hospitals contracted with another private company (Medipart) to service the devices returning them to operable condition.

The district court did not consider whether the "single use only" notice was legally sufficient to constitute a valid contract.<sup>126</sup> Rather, the district court held that as a matter of patent law, the "single use only" restriction was not enforceable as a violation of the first sale doctrine, which gives purchasers the right to use the patented products they have purchased.<sup>127</sup> The district court's decision not to enforce the contract was primarily based on public policy grounds.<sup>128</sup>

On appeal, the Federal Circuit reversed, holding that there was no precedent to support the district court's reasoning that a patent holder could not restrict the initial purchaser's use of the patented product.<sup>129</sup> The court stated the "single use only" restriction "does not *per se* violate the doctrine of patent misuse or the antitrust law. Use in violation of a valid restriction may be remedied *under the patent law*, provided that no other law prevents enforcement of the patent."<sup>130</sup> The court remanded for a determination of whether the sale of the medical device was "validly conditioned under the applicable law such as the law governing sales and licenses and [whether] the restriction on reuse was *within the scope of the patent grant* or *otherwise justified* . . ."<sup>131</sup> If the district court found the sale validly conditioned and within the scope of the patent or otherwise justified, then violation of the restriction could be remedied by an *action for patent infringement*.<sup>132</sup> The court also explained that "if reuse

124. 976 F.2d 700, 24 U.S.P.Q.2d (BNA) 1173 (Fed. Cir. 1992).

125. *See id.* at 701, 24 U.S.P.Q.2d (BNA) at 1174.

126. *See id.*, 24 U.S.P.Q.2d (BNA) at 1173 (stating that the lower court did not determine whether "single use only" notion was legally sufficient to constitute a license or condition of sale from the patentee to the purchaser).

127. *See id.*, 24 U.S.P.Q.2d (BNA) at 1174.

128. *See id.* at 708, 24 U.S.P.Q.2d (BNA) at 1179 (discussing district court's public policy argument against allowing conditions to be placed on the sale of a patented good for fear of price fixing).

129. *See id.* at 701, 24 U.S.P.Q.2d (BNA) at 1174.

130. *Id.*, 24 U.S.P.Q.2d (BNA) at 1174 (emphasis added).

131. *Id.* at 709, 24 U.S.P.Q.2d (BNA) at 1180 (emphasis added).

132. *See id.* at 701, 24 U.S.P.Q.2d (BNA) at 1174 (stating that Mallinckrodt would have a valid patent infringement case against Medipart, or any other medical device reprocessor, who reprocesses the Ultra-Vent if the "single use only" designation is properly within the scope of Mallinckrodt's patent).

is established to have been validly restricted, then even repair may constitute patent infringement.”<sup>133</sup> In other words, if a patented device is licensed for single use only, any reuse is unlicensed and is a patent infringement and there is no reason to choose between repair and reconstruction; the contract determines what is impermissible reconstruction not the public law.<sup>134</sup>

The court’s holding that the first sale doctrine can be limited contractually has been endorsed in several subsequent cases. In *The Kendall Co. v. Progressive Medical Technology, Inc.*,<sup>135</sup> the Federal Circuit affirmed *Mallinckrodt*, holding that a contractual limitation on the right to use a patented article is valid notwithstanding the first sale doctrine.<sup>136</sup> The court stated: “[t]hus, in *Mallinckrodt*, we recognized that *breach* of an enforceable condition of sale or license may leave the breaching party open to a claim for patent infringement.”<sup>137</sup> In addition, the *Hewlett-Packard* court noted at several points throughout the opinion that a contractual limitation may serve as a valid limit on a party’s right to use a patented device once purchased.<sup>138</sup> “[A]bsent a restriction having contractual significance, a purchase carries with it the right to modify as long as reconstruction of a spent product does not occur.”<sup>139</sup> In *B. Braun Medical, Inc. v. Abbott Laboratories*,<sup>140</sup> the Federal Circuit again echoed this sentiment:

[the] exhaustion doctrine, however, does not apply to an expressly conditional sale or license. In such a transaction, 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. As a result, express conditions accompanying the sale or license of a patented product are generally upheld.<sup>141</sup>

Thus, after *Mallinckrodt*, it appears that, by contractually limiting the number of times a patented product may be used by an initial purchaser, a patentee may be able to contract out of the

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133. *Id.*, 24 U.S.P.Q.2d (BNA) at 1174.

134. *See id.* at 709, 24 U.S.P.Q.2d (BNA) at 1180.

135. 85 F.3d 1570, 38 U.S.P.Q.2d (BNA) 1917 (Fed. Cir. 1996).

136. *See id.* at 1576, 38 U.S.P.Q.2d (BNA) at 1922 (reaffirming that the holding in *Mallinckrodt* would be a contract violation if the “single use only” labeling restriction would be deemed an enforceable contract restriction).

137. *Id.*, 38 U.S.P.Q.2d (BNA) at 1922 (emphasis added).

138. *See Hewlett-Packard Co. v. Repeat-O-Type Stencil Mfg. Co., Inc.*, 123 F.3d 1445, 1453-55, 43 U.S.P.Q.2d (BNA) 1650, 1657-59 (Fed. Cir. 1997).

139. *Id.* at 1453, 43 U.S.P.Q.2d (BNA) at 1657 (citing *Mallinckrodt*, 976 F.2d at 708, 38 U.S.P.Q.2d (BNA) at 1173).

140. 124 F.3d 1419, 43 U.S.P.Q.2d (BNA) 1896 (Fed. Cir. 1997).

141. *Id.* at 1426, 43 U.S.P.Q.2d (BNA) at 1901 (citing *General Talking Pictures Corp. v. Western Elec. Co.*, 305 U.S. 124, 127 (1938)); *Mallinckrodt*, 976 F.2d at 708, 38 U.S.P.Q.2d (BNA) at 1179.

repair/reconstruction doctrine.<sup>142</sup> *Mallinckrodt*, however, also raises several interesting questions regarding the enforceability of use restrictions on patented products.

#### A. *Single Use Only Restrictions as Patent Misuse*

The *Mallinckrodt* court considered the issue of the enforceability of the single use restriction to be an issue of patent misuse.<sup>143</sup> Some commentators have stated that *Mallinckrodt* essentially conflated the patent misuse analysis with an antitrust analysis.<sup>144</sup> *Mallinckrodt*, however, seems to have held that the single use only restriction was not *per se* patent misuse.<sup>145</sup> The Federal Circuit also directed the district court to determine whether “the restriction on reuse was *within the scope of the patent grant* or *otherwise justified*.”<sup>146</sup> Certainly, it is unclear what it means for a restriction to be within the “scope of the patent grant” or “otherwise justified.”

Should it be patent misuse to contract out of the public law regime? If patent rights are granted for limited times to stimulate innovations in order to promote public welfare, should a use restriction that upsets this delicate balance between the inventor’s incentives and the public welfare be struck down by the courts as patent misuse?<sup>147</sup> Are courts capable of determining whether such

142. As one commentator has stated, “[b]y using *Mallinckrodt*, patentees can control and suppress undesired kinds of parts repair and replacement, supply replenishment, and equipment modifications. . . . [T]he *Mallinckrodt* doctrine will result in increased revenue for patent owners.” Richard Stern, *Post-Sale Patent Restrictions After Mallinckrodt—An Idea in Search of Definition*, 5 ALB. L.J. SCI. & TECH. 1, 51 (1994).

143. See *Mallinckrodt*, 976 F.2d at 708-09, 24 U.S.P.Q.2d (BNA) at 1180.

144. See Note, *Is the Patent Misuse Doctrine Obsolete?*, 110 HARV. L. REV. 1922, 1928 (1997) (“[I]n *Mallinckrodt, Inc. v. Medipart, Inc.* the Federal Circuit moved toward eliminating patent misuse as a distinct doctrine. . . . *Mallinckrodt* confirms that . . . the Federal Circuit will decide allegations of patent misuse by looking solely to antitrust principles.”).

145. See *Mallinckrodt*, 976 F.2d at 708-09, 24 U.S.P.Q.2d (BNA) at 1180.

146. *Id.* at 709, 24 U.S.P.Q.2d (BNA) at 1180 (emphasis added).

147. In one of the first misuse cases, the Supreme Court turned to such patent policy issues rather than antitrust issues to find patent misuse. In *Morton Salt Co. v. G.S. Suppiger Co.*, 314 U.S. 488 (1942), the Court stated that:

The grant to the inventor of the special privilege of a patent monopoly carries out a public policy adopted by the Constitution and the laws of the United States, “to promote the progress of science and useful arts, by securing for limited times to . . .

Inventors the exclusive right . . .” to their “new and useful” inventions.

*Id.* at 492 (citation omitted); see also *B.B. Chem. Co. v. Ellis*, 314 U.S. 495, 498 (1942) (affirming dismissal of suit after finding that maintaining it to restrain any form of infringement would be contrary to public policy); *Motion Pictures Patents Co. v. Universal Film Mfg. Co.*, 243 U.S. 502, 510-11 (1917) (“[T]his court has consistently held that the primary purpose of our patent laws is not the creation of private fortunes for the owners but is ‘to promote the progress of science and useful arts’ . . .”). Refusing to enforce otherwise valid contractual restrictions on public policy grounds certainly is not new in other contexts. For example, covenants not to compete must be reasonable in order to be enforceable. See *Vencor, Inc. v. Webb*, 33 F.3d 840, 844, 845 (7th Cir. 1994). Similarly, “trailer clauses,” which require employees to assign their inventions

restrictions inhibit or promote innovation?

The issue of contracting out of public intellectual property law is being hotly debated in scholarly journals and the press with respect to “shrinkwrap” or “click wrap” licenses in the copyright context.<sup>148</sup> One of the issues is the enforceability of agreements that require the purchasers of copyrighted materials to give up their fair use rights.<sup>149</sup> Another issue focuses on whether parties can decide what is a “work of authorship” by contract, thereby securing copyright rights where federal law normally would not grant them.<sup>150</sup> The concern is whether such agreements will “upset the federal copyright bargain.”<sup>151</sup> It should be noted that the issue of whether such “shrinkwrap” licenses are a form of copyright misuse is still an open question.<sup>152</sup>

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to their respective employers for a period of time after they leave their jobs, are also subject to a “reasonableness” requirement. See *Gillette Co. v. Williams*, 360 F. Supp. 1171, 1176-77 (D. Conn. 1973) (permitting restriction for two years after employment terminated as reasonable); *Armorlite Lens Co. v. Campbell*, 340 F. Supp. 273, 275 (S.D. Cal. 1972) (rejecting a similar provision as too broad and therefore was an unreasonable restraint).

148. “Click wrap” licenses are agreements whereby an Internet user must “click” on an icon and agree to the terms specified therein to access a particular web site. “Shrinkwrap” licenses are agreements that become effective when the consumer opens the plastic “shrinkwrap” on the software package. See generally *ProCD, Inc. v. Zeidenberg*, 86 F.3d 1447, 1449 (7th Cir. 1996) (discussing “shrinkwrap” licenses in general, and holding that these licenses are enforceable unless they violate contract law), *rev’g* 908 F. Supp. 640 (W.D. Wis. 1996).

149. See Maureen A. O’Rourke, *Proprietary Rights in Digital Data: The Future of Copyright and Contract Law in a Networked World*, 41 FED. B. NEWS & J. 511, 512 (1994) (maintaining that Internet providers protect data through copyright protection and contracts, and as a result, Congress will be forced to decide the enforceability of contract’s between internet users and providers that effectively nullify the Copyright Act’s fair use provisions); Ramona L. Paetzold, Comment, *Contracts Enlarging a Copyright Owners Rights: A Framework for Determining Unenforceability*, 68 NEB. L. REV. 816, 831-32 (1989) (arguing that a copyright owners’ attempts to eliminate fair use rights through contractual agreements should be evaluated for enforcement under a rule of reason standard).

150. See *ProCD*, 86 F.3d at 1453-54 (discussing whether shrinkwrap licenses that are treated as contracts should be enforceable under the Copyright Act because 17 U.S.C. § 301(a) preempts any “legal or equitable rights [under state law] that are equivalent to any of the exclusive rights within the general scope of copyright as specified by section 106 in works of authorship that are fixed in a tangible medium of expression and come within the subject matter of copyright as specified by sections 102 and 103”).

151. Charles R. McManis, *The Privatization (or “Shrink-Wrapping”) of American Copyright Law*, 87 CAL. L. REV. 173, 176 (1999) (explaining that with the shrink-wrap licenses and click-here contracts, the copyright industry can mass-distribute copyrighted works and require users to relinquish federally created users’ privileges, which is inconsistent with federal copyright law, which establishes certain protections for copyright owners, and certain copy rights for users). As another commentator has stated:

Users are arguably always subject to restrictions when they use a copyrighted work. But restrictions imposed by copyright law are limited and reflect the balance between the need to induce creation and the need to guarantee public access to information. If copyright owners are free to use contractual arrangements to restrict use, and are then able to use copyright to prevent any use that is not subject to these restrictions, owners are gaining an absolute monopoly over their works.

Niva Elkin-Koren, *Copyright Policy and the Limits of Freedom of Contract*, 12 BERKELEY TECH. L.J. 93, 109-10 (1997).

152. See William E. Thomson & Margaret Y. Chu, *Overstepping the Bounds: Copyright Misuse*, 15 COMPUTER LAW 1, 5 (1998).

In both the copyright and patent contexts, the issue is whether freedom of contract concerns should prevail or whether public intellectual property law represents an immutable legislative balance to promote innovation through incentives that are limited by the need to disseminate these intellectual goods.<sup>153</sup> Another interesting issue raised by contractual agreements on infringement is the extent to which state contract law will influence what is and what is not infringing use rather than relying on a uniform body of federal law.<sup>154</sup> One concern is that this use of state contract law undermines federal preemption in the context of patents and copyrights.

The issue of contracting out of the public intellectual law regime also arises in the trade secret context.<sup>155</sup> Can the owner of a trade secret contractually restrict a purchaser from discovering the trade secret through reverse engineering? Typically, trade secret laws provide that, if someone (who is under no duty of confidentiality) can reverse engineer a lawfully obtained product embodying a trade secret, the trade secret owner cannot prevent that person from practicing the invention.<sup>156</sup> The rationale for refusing to enforce these contracts centers on the argument that the trade secret owner is attempting by contract to gain protection not afforded by trade secret law.<sup>157</sup> The trade secret owner may even be attempting to gain patent-like protection for its trade secret through contracts extending its exclusive use of the trade secret without giving the public any of the benefits of patent law (i.e., public disclosure of the invention).<sup>158</sup>

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153. For a discussion of the "freedom of contract model" and the "public domain model," see Maureen A. O'Rourke, *Copyright Preemption After the ProCD Case: A Market-Based Approach*, 12 BERKELEY TECH. L. J. 53, 77-79 (1997).

154. See *Schoenberg v. Shapolsky Publishers, Inc.*, 916 F. Supp. 333, 335 (S.D.N.Y. 1996) (holding that the author's copyright infringement claim was only incidental to the author's contractual claim so that the claim did not occur under the Copyright Act thus giving federal jurisdiction, but rather resolution occurs for breach of contract under questions of fact and state contract law); *Franklin v. Cannon Films, Inc.*, 654 F. Supp. 133, 135 (C.D. Cal. 1987) (holding that the dispute revolved around an interpretation of the contract, not an examination of the works for copyright infringement, and this was a matter of state contract law over which federal courts do not have jurisdiction).

155. See Jay Simon, *Antitrust Aspects of Trade Secrets*, 269 PLI/P 309, 322 (1989) (stating that contracts that involve licensing trade secrets are governed by state contract law).

156. See David A. Rice, *Public Goods, Private Contract and Public Policy: Federal Preemption of Software License Prohibitions Against Reverse Engineering*, 53 U. PITT. L. REV. 543, 570 (1992) (noting that trade secret law does not offer protection against discovery by fair and honest means, such as independent invention, accidental disclosure, and reverse engineering).

157. See *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 142 (1989) (holding that reverse engineering is one of the rights granted to the federal patent holder, but not to a trade secret holder).

158. See *id.* The Court wrote that:

[T]he threat of reverse engineering of unpatented articles creates a significant spur to the achievement of the rigorous standards of patentability established by Congress. By substantially altering this competitive reality, [statutes restricting reverse

Not surprisingly, the courts are split on whether such contracts that “opt out” of the public law are enforceable.<sup>159</sup>

Perhaps it is too stark to pose the issue as to whether public intellectual property law is merely a set of default rules parties can contract around or whether such public law is an immutable, legislative balance of competing interests.<sup>160</sup> Instead, it is possible that public intellectual property law is a hybrid, where certain portions of the public law represent “immutable” rules and other portions are default rules.<sup>161</sup> For example, the Supreme Court has held that a patentee’s attempt to secure royalties beyond the grant of its patent was void as the patentee was trying to achieve through contract what the patentee could not obtain under the patent law.<sup>162</sup>

Similarly, a patentee’s attempt to contract out of the repair/reconstruction doctrine could be seen as an attempt to secure, by contract, what is not permitted by law, or it could fall into a category of patent doctrines that one could limit by contract.<sup>163</sup>

### *B. The Conceptual Collapse of Contract Law and Property Law*

The previous section reviews the issue of whether single use contractual restrictions should be enforced against the initial

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engineering] may erect themselves as substantial competitors to the federal patent scheme. Such a result would contravene the congressional intent to create a uniform system for determining the boundaries of public and private right in utilitarian and design ideas.

*Id.*

159. Compare *K & G Oil Tool & Serv. Co. v. G&G Fishing Too Serv.*, 314 S.W.2d 782, 782 (Tex. 1958) (finding that the opt-out was provision enforceable), with *Vault Corp. v. Quaid Software, Ltd.*, 847 F.2d 255, 269 (5th Cir. 1988) (finding that the opt-out provision was void for public policy because touched upon federal law).

160. See Mark A. Lemley, *Intellectual Property and Shrinkwrap Licenses*, 68 S. CAL. L. REV. 1239, 1274-75 (1995) (contemplating whether, in the intellectual property law context, federal statutes were intended as default rules or whether there is a public interest in enforcing licensing agreements); see also O’Rourke, *supra* note 153, at 90 (arguing that Congress should provide more guidance to the judiciary as to which copyright rules are immutable and which are subject to change by private agreement).

161. See Lemley, *supra* note 160, at 1274-75 (explaining that public and private interests should only be overridden when there is an affirmative governmental policy benefit).

162. See *Brulotte v. Thys Co.*, 379 U.S. 29, 33-34 (1964) (holding that an attempt to “project [the expiration of patents] into another term by continuation of the licensing agreement is unenforceable”).

163. See *General TW King Pictures Corp. v. Western Elec. Co.*, 305 U.S. 124, 127 (1938) (holding that it seems clear that a restrictive license is legal); *Mallinckrodt, Inc. v. Medipart, Inc.*, 976 F.2d 700, 708, 28 U.S.P.Q.2d (BNA) 1173, 1180 (Fed. Cir. 1992) (determining that express conditions accompanying the sale or license of a patented product are generally upheld); see also Richard Stern, *Post-Sale Patent Restrictions After Mallinckrodt – An Idea in Search of Definition*, 5 ALB. L.J. SCI. & TECH. 1, 51 (1994) (concluding that post-*Mallinckrodt* jurisprudence would benefit patentees by eliminating the exhaustion doctrine in contracts, which previously had defeated patentees’ remedies).

purchasers, i.e., those in contractual privity with the patentee.<sup>164</sup> This section raises the potential difficulty with enforcing contractual single use restrictions with regard to subsequent buyers and users, that is, those who are not in contractual privity with the patentee.

Why did the Federal Circuit judge Medipart's actions based on a contract to which it was not a party?<sup>165</sup> Has *Mallinckrodt* in effect collapsed the analysis of contract law issues with property (patent) law issues? Should not Medipart's actions be judged solely by property (patent) law? Or do contractual restrictions on use "run" with the patented product? Is notice the touchstone for use restrictions applying against third parties?

In *Mallinckrodt*, it was undisputed that Medipart had notice of the single use restriction, but it is unclear what significance the court assigned to this admission. Consider the following hypothetical: A hospital (the "initial purchaser") buys and uses a patented medical device from the patentee/manufacturer ("X") with a contractually valid single use restriction, uses the device, and then sells it to another hospital (the "subsequent purchaser") without giving notice of the restriction. The subsequent purchaser has a repair shop recondition the device and then reuses it. Clearly, X could sue the initial purchaser for breach of the single use restriction. But could X sue the subsequent purchaser and the repair shop for patent infringement? Under patent law, X has the right to exclude others from "making" its patented devices even if they are not in contractual privity with it.<sup>166</sup> Thus, X could sue under the public law regime and invoke the repair/reconstruction doctrine.<sup>167</sup> Could X enforce its contractual single use restriction against parties with whom it is not in contractual privity or, at least, those parties who had no notice of the contractual restriction?<sup>168</sup> In this hypothetical, X may have some

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164. See *infra* Part II.A.

165. It is undisputed that Medipart was not a party to the sales agreement between *Mallinckrodt* and the hospitals. See *Mallinckrodt*, 976 F.2d at 701-02, 24 U.S.P.Q.2d (BNA) at 1179.

166. See 35 U.S.C. § 271(a) (1994) ("[W]hoever without authority makes, uses, offers to sell or sells any patented invention, with the United States during the term of the patent therefore, infringes the patent.").

167. See 5 CHISUM, *supra* note 10, § 1603[2](a) (explaining that purchaser has the right to repair but not to reconstruct new product).

168. For an interesting discussion of ways patent holders can restrict use by future purchasers of their patented products, see generally Thomas Arno, *Use Restrictions and the Retention of Property Interests in Chattels through Intellectual Property Rights*, 31 SAN DIEGO L. REV. 279 (1994). Arno compares *Mallinckrodt's* murky treatment of infringement by parties who are not in a contractual relationship with the patent holder with the Third Circuit's treatment of a similar issue in the copyright context. See *id.* at 286-87. In *Independent News Co. v. Williams*, 293 F.2d 510, 516-17 (3d Cir. 1961), the court held that a restriction on the use of a copyrighted work did not bind subsequent purchasers of the work, whether or not they had notice of the

difficulty in enforcing single use restrictions against subsequent purchasers and users.

It would be useful for the courts and the Bar to maintain an interstitial separation between the concepts of property rights and contract rights. Otherwise, we may be entering a development phase of intellectual property law that erodes the balance imposed by the constitutionally-mandated statutory scheme. By creating a contractual limitation on patent use, we may be imposing burdens on third parties and judging them on contract terms to which they are not parties and to which they have no notice.<sup>169</sup>

#### CONCLUSION

The repair/reconstruction doctrine raises numerous issues for consideration by both scholars and the Bar. Yet there appears to be a stark lack of commentary on these issues. The current state of the public law distinction between permissible repair and impermissible reconstruction appears to be rather uncertain. The attempt by patentees to contract out of this public law regime also appears uncertain because of two types of enforceability problems. First, contracting out of the public law regime may, in certain cases, be against public policy and raise issues of patent misuse. Second, patentees may have difficulty enforcing these restrictions against subsequent purchasers and users. Patentees appear to be walking on a tight rope and may *incidis in Scyllan cupiem vitare Charybdin* (fall into Scylla in seeking to avoid Charybdis).

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restriction. *See id.* at 516-17. Thus, the copyright holder could not sue the subsequent purchaser for copyright infringement under the term of its agreement with the initial purchaser or licensee. *See id.* at 517 (holding that once lawful ownership is transferred to a first purchaser, the copyright holders' power of control in the sale of the copy ceases).

169. It is also useful to separate analytically the concepts of property rights and contract rights in other contexts, such as the "parallel importation" of patented goods. Parallel importation issues arise in the following circumstances: A patentee sells her patented product in the United States for \$100, and she sells her product to a distributor in a developing country ("X") for \$30 with the provision that the distributor only sell her product in that country. The distributor abides by the contract. Subsequent purchasers, however, eventually try to import these same devices into the United States for a retail price of \$70. Can the patentee prevent the importation of these devices under patent law, or have her property rights with regard to resale of those devices been exhausted, restricting her recovery to a contractual remedy?