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## INTELLIGENT DESIGN

CHRISTOPHER BUCCAFUSCO,<sup>†</sup> MARK A. LEMLEY,<sup>††</sup> & JONATHAN  
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### ABSTRACT

*When designers obtain exclusive intellectual property (IP) rights in the functional aspects of their creations, they can wield these rights to increase both the costs to their competitors and the prices that consumers must pay for their goods. IP rights and the costs they entail are justified when they create incentives for designers to invest in new, socially valuable designs. But the law must be wary of allowing rights to be misused. Accordingly, IP law has employed a series of doctrinal and costly screens to channel designs into the appropriate regime—copyright law, design patent law, or utility patent law—depending upon the type of design. Unfortunately, those screens are no longer working. Designers are able to obtain powerful IP protection over the utilitarian aspects of their creations without demonstrating that they have made socially valuable contributions. They are also able to do so without paying substantial fees that might weed out weaker, socially costly designs. This is bad for competition and bad for consumers.*

*In this Article, we integrate theories of doctrinal and costly screens and explore their roles in channeling IP rights. We explain the inefficiencies that have arisen through the misapplication of these screens in copyright and design patent laws. Finally, we propose a variety of solutions that would move design protection toward a*

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*successful channeling regime, balancing the law's needs for incentives and competition. These proposals include improving doctrinal screens to weed out functionality, making design protection more costly, and preventing designers from obtaining multiple forms of protection for the same design.*

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#### INTRODUCTION

When designers obtain exclusive intellectual property (IP) rights in the functional aspects of their creations, they can wield these rights to increase both the costs to their competitors and the prices that consumers must pay for their goods. IP rights and the costs they entail are justified when they create incentives for designers to invest in new socially valuable designs. But the law must be wary of allowing rights to be misused. Accordingly, IP law has employed a series of doctrinal

and costly screens to channel designs into the appropriate regime—copyright law, design patent law, or utility patent law—depending upon the type of design. In doing so, it seeks to strike a balance between under- and over-protection and to ensure that stronger rights over functional elements are limited to those who satisfy the higher threshold of utility patents. The objective is to prevent designers from obtaining “backdoor patents” through another IP regime.<sup>1</sup>

IP law in the U.S. has two primary regimes for promoting creativity in the aesthetic or ornamental aspects of product design: copyright law and design patent law.<sup>2</sup> In theory, these separate regimes exist to handle different sorts of products, with different sorts of costs and benefits arising from IP protection.<sup>3</sup> Copyright protection is available for any works that are at least trivially original, it arises without registration or substantial examination, and it lasts for about a century.<sup>4</sup> Design patent protection, by contrast, is only available for ornamental inventions that are novel and nonobvious, it requires an application and pre-grant examination to commence, and it lasts for only fifteen years.<sup>5</sup> Based on these differences alone, any rational designer would clearly prefer copyright protection over design patent protection.

Traditionally, however, copyright law’s useful articles doctrine has prevented many designers from taking advantage of its lower threshold and longer duration.<sup>6</sup> The useful articles doctrine channeled functional designs into the design and utility patent regimes rather than the copyright regime.<sup>7</sup> Only works that had significant, independent aesthetic content—and only that aesthetic content—could receive copyright protection. Any aspect of a design that was partly functional could not be protected under copyright.<sup>8</sup>

While copyright law typically screened out functional aspects of

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1. Two of us have discussed the social value of screening out functionality elsewhere. See generally Christopher Buccafusco & Mark A. Lemley, *Functionality Screens*, 103 VA. L. REV. 1293 (2017). We won’t repeat that discussion here.

2. See *infra* Part II.C. A third regime—trademark law—is also sometimes used to protect designs. We treat trademark law separately in this Article.

3. By “product design” we refer to a wide variety of products in the fields of applied art and industrial design, including consumer electronics, clothing, bicycles, furniture, and automobiles.

4. See *infra* notes 84–96 and accompanying text.

5. See *infra* notes 122–26, 152 and accompanying text.

6. See 17 U.S.C. § 101 (2012) (“A ‘useful article’ is an article having an intrinsic utilitarian function that is not merely to portray the appearance of the article or to convey information.”).

7. Buccafusco & Lemley, *supra* note 1, at 1327–32.

8. *Id.* at 1328.

works from protection, design patent law made it easier to protect functional creations. Design patent protection is supposed to extend only to the ornamental aspects of a work, but design patent law—unlike copyright law—has traditionally afforded at least some protection to parts of a work that are both ornamental and functional.<sup>9</sup>

This grant of IP rights over partly functional elements is important. When IP law grants protection to useful or functional features of a product rather than merely aesthetic or ornamental ones, it can convey substantial market power.<sup>10</sup> This market power imposes costs on both consumers, who must pay higher prices, and subsequent designers and inventors, who must license the existing IP or find ways to design around it.<sup>11</sup>

If IP law allows claimants to gain some protection for functional aspects of a design, it should not do so easily or cheaply. It should insist that they have contributed something of high value, and it should be circumspect about the protection it offers. The most direct way of accomplishing this is for IP law to channel designs into the proper IP regime: copyrights for designs that are purely ornamental, design patents for hybrid ornamental designs that are mixed with some functional elements, and utility patents for truly functional elements. In this Article, we explain how IP law can and should use two separate techniques—doctrinal screens and costly screens—to perform this channeling function.

Doctrinal screens use substantive legal rules that exclude certain sorts of claims from a given regime. Different IP regimes' varying creativity thresholds and functionality prohibitions are doctrinal screens. For instance, the rules governing functionality in copyrights, design patents, and utility patents are canonical doctrinal screens. So too is the rule that a designer may obtain a design patent only if she demonstrates that her design is new and nonobvious or that an author obtains a copyright only if her work is original.

Costly screens, by contrast, channel designs into different regimes by altering the costs of obtaining rights.<sup>12</sup> Costly screens influence

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9. *Id.* at 1350–51.

10. *See infra* notes 37–45 and accompanying text (explaining why functionality can lead to market control).

11. *See* Christopher Buccafusco, Stefan Bechtold & Christopher Jon Sprigman, *The Nature of Sequential Innovation*, 59 WM. & MARY L. REV. 1, 16–18 (2017) (describing and analyzing the choice between using existing IP and inventing around it); *see also infra* note 45 and accompanying text.

12. David Fagundes & Jonathan S. Masur, *Costly Intellectual Property*, 65 VAND. L. REV.

creators' behavior by changing the price of access to legal rights. Applying for a patent can be costly and time consuming; an applicant must usually hire a lawyer and pay various fees imposed by the Patent and Trademark Office (PTO). Copyright registration, by contrast, costs very little, and registration isn't even required for a copyright to exist. In this Article, we demonstrate how IP law can effectively use doctrinal and costly screens in tandem to optimize design innovation.

The system that has been in place for channeling designs between copyright, design patent, and utility patent laws should work well if it were operating as intended. Copyright law has a low creativity threshold—because the designer need not demonstrate novelty and nonobviousness—and no costly screen. But copyright has also traditionally had a strict doctrinal screen based on functionality that should channel designs that incorporate functional elements toward design patent law. There they would meet a high doctrinal creativity screen (novelty and nonobviousness) and a costly application screen. The combination of high doctrinal and costly screens should ensure that inventors obtain some control over functional elements only when they have created designs that are genuinely innovative and likely to generate substantial social value.<sup>13</sup>

Unfortunately, however, the actual operation of IP law's channeling techniques is very different. Neither copyright law nor design patent law applies the sorts of screens that theory and law require. First, consider copyright law after the U.S. Supreme Court's recent decision in *Star Athletica v. Varsity Brands*.<sup>14</sup> That opinion fundamentally altered copyright law's functionality screen, potentially allowing highly functional products to obtain copyrights.<sup>15</sup> As a result, a variety of products that the law had excluded from the realm of copyright may now be able to take advantage of its low creativity threshold, lack of examination, and long duration to gain competitive advantages over functional product features.

Things are even worse in design patent law. As discussed, design patent law is built around three limitations: a doctrinal screen (a high creativity threshold), a costly screen (expensive examination), and a

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677, 681 (2012) (discussing the social value of costly screens); Jonathan S. Masur, *Costly Screens and Patent Examination*, 2 J. LEGAL ANALYSIS 687, 699–702 (2010) [hereinafter Masur, *Costly Screens*].

13. We discuss the operation of these screens in detail *infra* Part II.

14. *Star Athletica, L.L.C. v. Varsity Brands, Inc.*, 137 S. Ct. 1002 (2017).

15. See *infra* notes 181–97 and accompanying text (discussing *Star Athletica*).

short duration (fifteen years of protection).<sup>16</sup> In fact, though, none of these limitations have proved especially significant. The creativity threshold is trivially low, and examination costs would deter virtually no potential claims. And while design patent duration is relatively short, the difference between it and copyright duration is often insignificant. Many designs have useful lifespans of only fifteen years or fewer.<sup>17</sup> Thus, design patent law, as it currently operates, also isn't making effective use of doctrinal or costly screens.

For example, numerous design patents cover incredibly trivial ornamentation. Examples include a triangular marking post,<sup>18</sup> crisscrossed straps on a sports bra,<sup>19</sup> a walrus plush toy,<sup>20</sup> or a skull-shaped vodka bottle.<sup>21</sup> All of these designs cleared the PTO's novelty and nonobviousness screens, and all of the patents have been asserted in litigation against competitors.<sup>22</sup>

What is more, the plaintiffs' design patent rights won't be limited to nonfunctional aspects of their designs. In *Sport Dimension, Inc. v. Coleman Co., Inc.*,<sup>23</sup> the plaintiff asserted a design patent that covered the highly functional shape of a life jacket flotation device with armbands.<sup>24</sup> Nevertheless, in a 2016 opinion, the Federal Circuit held that the design's functional elements, not just its ornamental elements, were covered by the design patent.<sup>25</sup> This substantially broadened the plaintiff's design patent rights to cover the design's utility. The opinion gave the plaintiff the ability to block competitors who attempt to market flotation devices that perform the function in the same way, even if they have no desire to copy the ornamental elements of the flotation device. This will increase costs to other designers and,

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16. See Sarah Burstein, *The Patented Design*, 83 TENN. L. REV. 161, 171–73 (2015).

17. See *infra* notes 239–40 and accompanying text.

18. U.S. Patent No. D525,721 (filed July 25, 2006).

19. U.S. Patent No. D709,668 (filed July 29, 2014).

20. U.S. Patent No. D780,854 (filed Mar. 7, 2017).

21. U.S. Patent No. D589,360 (filed Mar. 31, 2009).

22. See Complaint at 13, *Quan v. Ty, Inc.*, No. 1:17-cv-05683 (N.D. Ill. filed Aug. 3, 2017) (plush toy, *supra* note 20); Complaint at 11, *Lululemon Athletica Canada, Inc. v. Under Armour, Inc.*, No. 1:17-cv-00915-UNA (D. Del. filed July 7, 2017) (alleging patent infringement upon the sports bra patent, *supra* note 19); Complaint at 7, *Globefill Inc. v. Maud Borup, Inc.*, No. 0:14-cv-04776 (D. Minn. filed Nov. 17, 2014) (vodka bottle, *supra* note 21). For more examples, see DESIGN LAW, design-law.tumblr.com [https://perma.cc/7C59-ZC3D] (last visited June 30, 2018).

23. *Sport Dimension, Inc. v. Coleman Co.*, 820 F.3d 1316 (Fed. Cir. 2016).

24. *Id.* at 1318–19. The design, shape, and placement of the armbands were determined by the size of human bodies and their ability to keep the wearer afloat, making them highly functional. That is, for these types of flotation devices, function determined form.

25. *Id.* at 1322–23.

ultimately, to consumers.

Worse still, under current interpretations of the law, creators need not choose whether to acquire a copyright or a design patent or a utility patent; they can potentially obtain all three. That means that errors in either copyright or design patent can multiply.

In sum, then, the problem is simple: it is too cheap and too easy to get design protection from various IP regimes, and the current rules make design protection too strong. The operation of these laws does not sufficiently protect consumers or promote ongoing innovation.<sup>26</sup>

Solving this problem is trickier, and it involves understanding the related roles of doctrinal and costly screens. We offer a series of suggestions to bring design protection more in line with its goal of improving social welfare. First, we might require designers to elect either copyright or design patent protection, or at least require designers to disclaim any copyright term after design patent protection ceases. That was the rule before 1974, and it would solve many of the problems that stem from overlapping protection.<sup>27</sup> Second, we could weaken the rights that both copyright and design patents provide, thus reducing the incentive to overclaim design rights. While *Star Athletica* is a large step backward in this regard,<sup>28</sup> courts still have room to reinvigorate the doctrinal screens governing copyright and design patents. And both the PTO and the courts could begin applying an appropriately rigorous creativity threshold for design patents. Congress could also step in to prevent abuse of design rights, for example, by incorporating an independent invention defense into design patent law. Finally, consistent with one author's previous work,<sup>29</sup> it may be that it is simply too cheap to obtain strong design rights. We suggest that the PTO increase application and maintenance fees for design patents and use the money for improved examination.

Our aim is not to render design protection ineffective. Nor is it to

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26. See Mark P. McKenna & Christopher Jon Sprigman, *What's In, and What's Out: How IP's Boundary Rules Shape Innovation*, 30 HARV. J.L. & TECH. 491, 543 (2017) (arguing that we may need stronger channeling doctrines between utility patents and other doctrines). Thirty years ago, Jerry Reichman worried that we might face the opposite problem—not enough protection for designs. J.H. Reichman, *Design Protection and the New Technologies: The United States Experience in a Transnational Perspective*, 19 U. BALT. L. REV. 6, 14 (1989). But the law has changed dramatically since then, so our worry now is too much protection, not too little.

27. *In re Yardley*, 493 F.2d 1389, 1394–96 (C.C.P.A. 1974).

28. See *infra* notes 192–93 and accompanying text.

29. Fagundes & Masur, *supra* note 12, at 692 (discussing the social value of costly screens); Masur, *Costly Screens*, *supra* note 12, at 687.

debate whether design rights are a good idea at all.<sup>30</sup> Rather, we assume that there will be some protection for designs; our goal is to try to align the private and social value of design rights in IP to prevent overclaiming and abuse of those rights. As the system currently stands, that means we need to make design rights weaker, harder to get, or both.

In Part I, we explain why functionality is important to the choice of IP regimes. In Part II, we discuss the theory behind doctrinal and costly screens and how Congress attempted to use them to channel designs into the appropriate IP regime. When operating properly, these screens could provide appropriate incentives to designers while minimizing social costs. Unfortunately, as we document in Part III, design screening is not working, leaving us with a system that may be the worst of all possible worlds. In Part IV, we offer several possible solutions to this problem.

### I. THE CENTRALITY OF FUNCTIONALITY

Copyrights and patents exist to encourage the production of socially valuable creations and innovations by granting people certain exclusive rights to the works and inventions they produce.<sup>31</sup> When authors and inventors obtain these rights, they can charge higher prices for the goods that embody their works and inventions than they otherwise could.<sup>32</sup> These higher prices provide an economic incentive to engage in the costly efforts that creating and innovating entail.<sup>33</sup>

But IP rights also impose costs of their own. By granting some people rights to make certain products, IP laws make purchasing those

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30. For scholarship engaging with this debate, see Sarah Burstein, *Costly Designs*, 77 OHIO ST. L.J. 107 (2016) [hereinafter Burstein, *Costly Designs*]; Burstein, *supra* note 16; Peter Lee & Madhavi Sunder, *The Law of Look and Feel*, 90 S. CAL. L. REV. 529 (2017); Mark P. McKenna & Katherine J. Strandburg, *Progress and Competition in Design*, 17 STAN. TECH. L. REV. 1 (2013).

31. Christopher Buccafusco & Jonathan S. Masur, *Intellectual Property Law and the Promotion of Welfare*, in RESEARCH HANDBOOK ON THE ECONOMICS OF INTELLECTUAL PROPERTY LAW 2 (Ben Depoorter & Peter Menell eds., forthcoming 2018), <https://ssrn.com/abstract=2905936> [<https://perma.cc/4EQH-FV9S>].

32. WILLIAM M. LANDES & RICHARD A. POSNER, *THE ECONOMIC STRUCTURE OF INTELLECTUAL PROPERTY LAW* 13 (2003).

33. *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 429 (1984) (“[Copyright] is intended to motivate the creative activity of authors and inventors by the provision of a special reward, and to allow the public access to the products of their genius after the limited period of exclusive control has expired.”); *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 480 (1974) (“The patent laws promote this progress [of science and useful arts] by offering a right of exclusion for a limited period as an incentive to inventors to risk the often enormous costs in terms of time, research, and development[,] . . . [thereby introducing] new products . . . into the economy . . .”).

products more expensive for consumers, many of whom will be priced out of the market.<sup>34</sup> In addition, IP rights also can impose substantial costs on other creators who want to develop their own works and inventions or improve existing ones. They now have to pay license fees or engage in expensive and risky efforts to design around existing rights.<sup>35</sup> For these reasons, IP laws—including those that protect design—attempt to balance the incentives provided to the current round of creators and the costs imposed on consumers and the next round of creators.<sup>36</sup>

At the center of this question is whether or to what extent the IP right can be used to protect functional aspects in claimed works and inventions.<sup>37</sup> Society stands to benefit when innovators develop new techniques to build safer buildings or more efficient appliances, or to better treat diseases.<sup>38</sup> But often there are only a limited number of ways to design functional products.<sup>39</sup> Scientists and engineers have only discovered so many ways of safely and effectively treating high blood pressure or designing anti-lock brakes. This means that granting inventors exclusive control over the functional features of product design can also give them substantial market power and enable them to price access to those products far above their marginal cost.<sup>40</sup> For

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34. Christopher Buccafusco & Jonathan S. Masur, *Innovation and Incarceration: An Economic Analysis of Criminal Intellectual Property Law*, 87 S. CAL. L. REV. 275, 282 (2014); Mark A. Lemley, *Ex Ante Versus Ex Post Justifications for Intellectual Property*, 71 U. CHI. L. REV. 129, 129 (2004).

35. Buccafusco, Bechtold & Sprigman, *supra* note 11, at 5 (noting that subsequent inventors can “build around” existing inventions); Lemley, *supra* note 34, at 142–43.

36. See generally Lemley, *supra* note 34 (discussing how IP protection affects the incentives of creators, consumers, and subsequent inventors).

37. This is not the only reason for the doctrinal differences between the regimes. Scholars have asserted numerous rationales to explain, for example, why copyright and patent laws impose different creativity thresholds. See 1 PAUL GOLDSTEIN, GOLDSTEIN ON COPYRIGHT § 2.2.1 (3d ed. 2013); Jeanne C. Fromer, *A Psychology of Intellectual Property*, 104 NW. U. L. REV. 1441 (2010) (using the psychology of creativity to analyze the differences in protectability standards between patent and copyright law); Clarisa Long, *Information Costs in Patent and Copyright*, 90 VA. L. REV. 465, 495 (2004); Dale P. Olson, *Copyright Originality*, 48 MO. L. REV. 29, 34 (1983).

38. See Buccafusco & Masur, *supra* note 34, at 283–84.

39. One example is the pocket multi-tool described by U.S. Design Patent 707,091. The device comprises several tools built into one small structure, including a bottle opener, screwdriver, smartphone kickstand, set of hex wrenches, and so forth. The device is only able to perform these functions because of its shape and design, and thus design and function are inextricably linked. Nonetheless, the PTO allowed a patent on the device, which the owner asserted. See, e.g., *Caffeinate Labs, Inc. v. Vante, Inc.*, No. 16-12480-GAO, 2017 WL 2889031, at \*2 (D. Mass. July 6, 2017).

40. We do not suggest that exclusive rights covering aesthetic or ornamental aspects of product design could never convey market power. If they did not provide at least some ability to

example, pharmaceuticals sell for much higher prices when they are covered by a patent than after generic producers have entered the market.<sup>41</sup> By contrast, taste is less limiting than utility. You may really want the new Taylor Swift album, but it has alternatives: you don't *need* it in the way you need a cancer treatment. There are many other differences between these IP regimes, including the damages that plaintiffs can obtain and the defenses available to accused infringers, and we will discuss a variety of these distinctions. But our focus is on functionality, because it is through the protection of function that a creator can most easily turn a design right into a powerful market position.

Accordingly, IP law must be careful about granting exclusive rights to functional features of products. The utility patent regime is the principal home for scientific and technical inventions that improve the ways products work.<sup>42</sup> But a variety of utility patent law doctrines stringently police access to exclusive rights. An inventor seeking a utility patent must prove that her invention is “novel”<sup>43</sup> and “nonobvious”<sup>44</sup>—not only that she is the first to create it, but also that it is more than the predictable combination of preexisting elements. The inventor must also demonstrate that the invention is useful and describe how it should be used.<sup>45</sup> All of this must be proved to the satisfaction of an examiner at the PTO before a utility patent is issued. Utility patents also require the payment of substantial fees, both to obtain the patent and to keep it in force for its full lifetime.<sup>46</sup>

Given these high demands on functional inventions, some innovators attempt to skirt the rigors of utility patent law by seeking

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price products above marginal cost, copyrights and design patents would have no meaningful incentive effects. See Mark A. Lemley & Mark P. McKenna, *Is Pepsi Really a Substitute for Coke? Market Definition in Antitrust and IP*, 100 GEO. L.J. 2055 (2012) (making this point). We merely claim that, given a certain scope for IP rights, those covering functional or utilitarian aspects of design are likely to convey more market power because of the limited range of competitive options.

41. See Rena M. Conti & Ernst R. Berndt, *Specialty Drug Prices and Utilization After Loss of U.S. Patent Exclusivity, 2001-2007*, in MEASURING AND MODELING HEALTH CARE COSTS 273 (Ana Aizcorbe, Colin Baker, Ernst Berndt & David Cutler eds., 2018).

42. McKenna & Sprigman, *supra* note 26, at 504 n.45.

43. 35 U.S.C. § 102 (2012).

44. *Id.* § 103 (“[A patent] may not be obtained . . . if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains.”).

45. *In re Fisher*, 421 F.3d 1365, 1371 (Fed. Cir. 2005).

46. See *infra* Part II.C.1.

protection through either the copyright or design patent regimes. These types of rights can amount to “backdoor utility patents.”<sup>47</sup> A designer would not be able to patent the wheel, because she is not the first inventor. But if she can get a copyright or trademark in the round design, she might effectively get some of the same control over the wheel without having to clear utility patent law’s novelty and nonobviousness hurdles. Thus, the copyright and design patent regimes must themselves police creators who attempt to gain IP protection for functional features of their products without spending the time and money and meeting the higher standards of utility patent law.<sup>48</sup>

Ideally, utility patent, design patent, and copyright laws work together to appropriately channel different kinds of creations into the correct legal regime—the one that maximizes the law’s benefits net of costs. In the next section we explain the tools the law uses to perform this channeling. Before we do so, however, we should explain why, for now at least, we focus primarily on utility patents, design patents, and copyrights, rather than trademark law. Although each of these fields falls under the rubric of intellectual property protection, their foundations differ in important ways. Congress’s power to grant copyrights and patents is grounded in the Progress Clause of Article I, section 8 of the Constitution.<sup>49</sup> Copyrights and patents are intended to stimulate creativity and innovation. In the context of product designs, this means that Congress should use its power to grant copyrights and patents over product designs to optimize innovation.

Trademark law is—or at least is supposed to be—different. Congress’s power to establish and protect trademarks comes from the Commerce Clause of the Constitution.<sup>50</sup> That power is exercised, not

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47. See Buccafusco & Lemley, *supra* note 1, at 1305; Viva R. Moffat, *Mutant Copyrights and Backdoor Patents: The Problem of Overlapping Intellectual Property Protection*, 19 BERKELEY TECH. L.J. 1473, 1523–24 (2004).

48. See generally Buccafusco & Lemley, *supra* note 1, at 1301–03 (highlighting the anticompetitive implications of an improper balance between copyright law and utility patent law); McKenna & Sprigman, *supra* note 26 (highlighting the inconsistent line-drawing in different IP regimes); Viva R. Moffat, *The Copyright/Patent Boundary*, 48 U. RICH. L. REV. 611 (2014) (advocating for a bright-line rule rejecting copyright protection for industrial designs); Pamela Samuelson, *Strategies for Discerning the Boundaries of Copyright and Patent Protections*, 92 NOTRE DAME L. REV. 1493 (2017) (listing strategies for navigating the boundaries between copyright law and utility patent law).

49. U.S. CONST. art. I, § 8, cl. 8 (“Congress shall have Power . . . To promote the Progress of Science and useful Arts by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries . . .”).

50. *Id.* art. I, § 8, cl. 3 (“Congress shall have Power . . . To regulate Commerce with foreign Nations, and among the several States, and with the Indian Tribes . . .”).

primarily to promote creativity and innovation, but rather to protect consumers from confusion in the market.<sup>51</sup> Trademarks, which can include the design of a product or its trade dress, prevent consumers from being misled about, for example, whether a particular shoe is made by Converse or not.<sup>52</sup> To the extent that Congress allows designers to claim exclusive rights to product designs via trade dress law, it is not doing so to promote innovative designs. But because trade dress does, in fact, affect innovation in design, we address its interactions with copyright and patent law in Parts III and IV.

## II. SCREENS AT THE INTERSECTION OF COPYRIGHT AND DESIGN PATENT

Before the government awards a valid design right to a private party, it must have some way of determining that doing so will further the goals of the IP system. One way to do this is to limit protection to designs that meet certain doctrinal thresholds.<sup>53</sup> A court, and sometimes also the PTO, scrutinizes the design to determine whether it warrants protection under the relevant IP doctrines. But doctrine is only one tool for screening out designs that do not deserve protection. The government also uses costly screens—fees and other expenses that someone seeking an IP right must pay—as a means of screening out rights that would do more social harm than good.<sup>54</sup>

These two approaches can be complementary and are frequently applied in tandem. Indeed, doctrinal screens often serve as a driver of costly screens. The higher the doctrinal threshold that a party must pass

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51. See, e.g., LANDES & POSNER, *supra* note 32, at 167–68; Stacey L. Dogan & Mark A. Lemley, *Trademarks and Consumer Search Costs on the Internet*, 41 HOUS. L. REV. 777, 786 (2004) (“[T]rademarks contribute to economic efficiency by reducing consumer search costs.”); Nicholas S. Economides, *Trademarks*, in THE NEW PALGRAVE DICTIONARY OF ECONOMICS AND THE LAW 601, 602 (Peter Newman ed., 1998) (describing the savings for consumers in product searches as one of “[t]he primary reasons for the existence and protection of trademarks”); Nicholas S. Economides, *The Economics of Trademarks*, 78 TRADEMARK REP. 523, 525–27 (1988) (discussing the economic benefits of marks that apprise consumers of products’ unobservable features). See generally Mark P. McKenna, *The Normative Foundations of Trademark Law*, 82 NOTRE DAME L. REV. 1839 (2007) (arguing that trademark law before the 20th century was based on unfair competition rather than consumer protection, but noting that they are both serving similar goals in protecting a functioning market).

52. For additional examples, see *Qualitex Co. v. Jacobson Prods. Co.*, 514 U.S. 159, 167 (1995); *Two Pesos, Inc. v. Taco Cabana, Inc.*, 505 U.S. 763, 763 (1992).

53. See Christopher Buccafusco, Zachary C. Burns, Jeanne C. Fromer & Christopher Jon Sprigman, *Experimental Tests of Intellectual Property Laws’ Creativity Thresholds*, 92 TEX. L. REV. 1921, 1923–31 (2014).

54. Fagundes & Masur, *supra* note 12, at 684; Masur, *Costly Screens*, *supra* note 12, at 693.

in order to claim a right, the more that party will have to spend—in attorney’s fees and other costs—in perfecting and obtaining the right. And the more expensive it is to obtain the right, the more valuable it must be to make it worth the trouble of trying to obtain it. The laws establishing utility patents, design patents, and copyrights, and delineating the boundaries between the three, all balance the costs and benefits of rights provision. Importantly, however, each of these fields attempts to strike this sort of balance in different ways. They differ in terms of how easily rights are granted, and with respect to the scope and duration of the rights that people receive. Accordingly, the screens that separate the three fields, and that separate protectable from unprotectable creations within each field, are different as well.<sup>55</sup>

In the sections that follow, we describe the operation of these screens and the ways in which they do or do not achieve optimal policy objectives. First, however, we begin by describing the operation of screens in general and the manner in which they are designed to function.

#### A. *The Theory Behind Doctrinal and Costly Screens*

As we discussed in Part I, IP protection involves tradeoffs between social benefits and costs. The goal of the IP system is to grant rights only when doing so will produce net social benefits.<sup>56</sup> In addition, the strength of the IP right determines both the incentive it creates to produce further creativity and also the costs it imposes on third parties. The stronger the right, the greater the incentives it creates, but also the greater the costs it imposes. Given a menu of different IP rights, the legal system should grant the appropriate right to maximize net social benefits relative to other kinds of rights.<sup>57</sup> Screens affect these tradeoffs by ensuring that not every right is granted to every party that seeks it and that the parties who do get rights get the appropriate ones, neither too strong nor too weak.

Accordingly, one naïve theory of screens would hold that stronger IP rights should be accompanied by higher and costlier screens.<sup>58</sup> Before a party can obtain a more valuable right, it should be forced to pass a more rigorous test, satisfy a higher legal standard, pay higher

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55. Buccafusco & Lemley, *supra* note 1, at 1301.

56. See Buccafusco & Masur, *supra* note 38, at 4–5 (explaining the policy aims behind a coherent system of IP rules).

57. *Id.*

58. See Fagundes & Masur, *supra* note 12, at 704 (describing and rejecting this theory).

costs, and so forth. This approach is facially plausible and perhaps intuitively appealing, but it is also wrong. The reason is that the objective of a screen is not merely to impose the highest hurdles to the strongest or most powerful IP rights. Some of the strongest rights are also the most socially valuable, in that they have encouraged the most beneficial research.<sup>59</sup> Strong rights may be necessary to provide powerful incentives to create. Rather, the objective of a screen is to separate those rights that are *socially beneficial* from those that are socially harmful, not necessarily the weak rights from the strong.<sup>60</sup> Moreover, in the case of designs, where creators have multiple options for obtaining IP rights, the objective behind these screens is to channel creators into selecting the type of IP protection that will generate the greatest social benefits net of costs.<sup>61</sup>

As noted above, we can limit access to IP rights in two fundamental ways: by imposing doctrinal barriers a creator must clear, or by raising the cost of obtaining a right. We call the former approach a “doctrinal screen” and the latter a “costly screen.” Doctrinal screens and costly screens operate in slightly different ways. A doctrinal screen acts as a firm bar against certain types of design rights. If the design does not satisfy the necessary doctrinal conditions, it does not qualify for protection. A properly calibrated doctrinal screen will refuse protection to designs when the social costs of granting a design right outweigh the benefits. Consider, for example, a creativity threshold for IP rights. By imposing such a threshold, the law judges that designs that cannot meet some standard of cleverness or novelty are unlikely to generate sufficient social benefits to justify the costs associated with IP protection.<sup>62</sup> This is a type of doctrinal screen. Costly screens, on the other hand, force applicants to choose whether or not to pursue a certain type of design right.<sup>63</sup> That is, whether or not an applicant could qualify for a right doctrinally, she must determine whether or not the costs of obtaining and keeping the right are worth it to her.<sup>64</sup>

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59. *Id.* at 713.

60. *Id.* at 692.

61. *Cf.* MATTHEW ADLER & ERIC A. POSNER, *NEW FOUNDATIONS OF COST-BENEFIT ANALYSIS* 32 (2006) (describing the object of social planners as maximizing benefits net of costs).

62. *See* Dan L. Burk & Mark A. Lemley, *Policy Levers in Patent Law*, 89 VA. L. REV. 1575, 1578 (2003) (explaining patent law’s utilitarian framework and the ways in which IP laws are calibrated to generate net social benefits).

63. Masur, *Costly Screens*, *supra* note 12, at 688.

64. *Id.* at 688–90.

*B. Private Value, Social Value, and Screens*

The law's goal in applying either sort of screen is to align private incentives with social value. We can think of design rights as falling into one of four categories based on the relationship between private and social value.<sup>65</sup> First, consider the private value of the right—the value of the right to its owner. IP rights can have “low” private value, meaning that putative owners will not be able to generate significant income from the ownership of the right. Or they can have “high” private value, meaning that putative owners will be able to generate significant income from the ownership of the right. This income could arise through making products covered by the right, licensing the right to others, or litigation over the right.

Second, consider the social value of the right plus the underlying design—whether the underlying design, with an IP right attached to it, produces net costs or net benefits for society. These rights (plus their accompanying designs) can have positive social value or negative social value. The IP right by itself creates only social costs: it makes it more difficult and expensive for consumers or other designers to make use of the design. However, the underlying design might create significant social value: it might be creative or attractive, and consumers might be willing to pay significant amounts of money to use it. Consequently, the IP right (coupled with the associated design) might have positive social value (if the design is worthwhile and valued by the public) or negative social value (if the design is largely worthless) on the whole.

Thus, there are four categories of rights: (1) high private value/positive social value rights; (2) high private value/negative social value rights; (3) low private value/positive social value rights; and (4) low private value/negative social value rights.

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65. This two-by-two categorization was initially laid out in Fagundes & Masur, *supra* note 12, and Masur, *Costly Screens*, *supra* note 12. In those earlier works, the authors referred to “low social value” and “high social value” rights. Here, for greater clarity, we describe them as “negative social value” and “positive social value” rights. The categorization is identical; only the nomenclature has changed slightly.

Table 1: Four Possible Types of IP Rights

	Social value	
Private value	1. High private value/Positive social value	2. High private value/Negative social value
	3. Low private value/Positive social value	4. Low private value/Negative social value

Doctrinal screens are meant to separate rights based upon social value. They should prohibit the creation of IP rights that are predicted to have negative net social value. That is, a well-calibrated doctrinal screen is meant to draw a vertical line between the positive social value rights in boxes 1 and 3 from the negative social value rights in boxes 2 and 4, permitting the former and blocking the latter.

Table 2: Idealized Doctrinal Screen

	Social value	
Private value	1. High private value/Positive social value	2. High private value/Negative social value
	3. Low private value/Positive social value	4. Low private value/Negative social value

Consider, for instance, the requirement that utility and design patents must be new and nonobvious. The purpose of patents is to create incentives for new and valuable innovation. Absent new innovation, patents are unlikely to create positive social value. Without any new innovation, there is just an IP right, which creates costs for consumers and subsequent inventors. Accordingly, the novelty and nonobviousness requirements are meant to screen out those patent applications that did not involve any socially valuable innovation

and—if they were granted—would likely generate net social harm.<sup>66</sup> Other doctrinal tests, such as the utility requirement for utility patents and the idea/expression distinction in copyright law, perform similar functions.<sup>67</sup>

Of course, even well-calibrated doctrinal screens will not function perfectly. Requirements such as novelty and nonobviousness are only proxies for positive social value. For instance, imagine a design patent application involving a new and nonobvious design, but one that the designer would have created whether or not she was able to obtain a patent.<sup>68</sup> A patent on this design would create negative social value, because (a) the valuable design would exist regardless, and (b) the patent will increase costs for consumers and subsequent designers. Merely satisfying doctrinal IP requirements does not guarantee that the IP right will create social value. IP doctrines are only proxies for social value, and not always ideal ones. And of course not all doctrines are properly calibrated, nor are they always properly applied. The doctrine might be too lax or too stringent, and courts or the PTO may err when evaluating whether a given right satisfies the doctrinal requirements.

Thus, no IP doctrine actually succeeds in drawing a perfect vertical line down the center of Table 1. Any system of doctrine will inevitably permit some negative social value rights to see the light of day and block some positive social value rights. Table 3 illustrates the imperfections in doctrinal screens. Accordingly, even if doctrinal screens are well-calibrated—and certainly if they are not—there is a potential role for some other type of screen to play.

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66. See Stephen Yelderman, *The Value of Accuracy in the Patent System*, 84 U. CHI. L. REV. 1217, 1244–46 (2017).

67. See *infra* notes 71–72, 81, 115 and accompanying text.

68. See Michael Abramowicz & John F. Duffy, *The Inducement Standard of Patentability*, 120 YALE L.J. 1590, 1603–05 (2011).

Table 3: Realistic Doctrinal Screen

	Social value	
Private value	1. High private value/Positive social value	2. High private value/Negative social value
	3. Low private value/Positive social value	4. Low private value/Negative social value

Herein lies the motivation for costly screens. A costly screen is simply a requirement that an applicant expend some amount of money or undertake some costly activity to obtain, maintain, or enforce a given legal right. The costly screen can take the form of an application fee, a maintenance fee, or even a procedural hurdle that the IP owner must overcome that will cost time or money to clear. Costly screens may also arise because compliance with some aspect of the law is expensive, such as the need to hire a lawyer to prosecute a patent. Because it is the IP applicant or owner who must bear the expense, costly screens affect IP rights differentially based upon their private value. That is, a costly screen draws a horizontal line between the high private value rights in boxes 1 and 2 and the low private value rights in boxes 3 and 4. For high private value rights, costly screens are irrelevant. If the rights are highly valuable to their potential owner, the owner will invest the money to obtain them regardless of the cost.<sup>69</sup> But if the rights have low value to their owners, the costly screen will deter the putative owner from obtaining the right in the first place.

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69. Fagundes & Masur, *supra* note 12, at 692.

Table 4: Idealized Costly Screen

	Social value	
Private value	1. High private value/Positive social value	2. High private value/Negative social value
	3. Low private value/Positive social value	4. Low private value/Negative social value

Costly screens are a second-best solution because they will not eliminate IP rights that fall into box 2, namely rights that have high private value (so creators will pay to obtain them) but negative social value.<sup>70</sup> For example, if someone could claim the exclusive right to publish stories about star-crossed lovers, she would be able to obtain substantial private value from doing so, but it would clearly make society worse off to allow a single author to exclude others from writing novels with that storyline. No costly screen would prevent a creator from applying for a copyright or patent on such a valuable idea. A doctrinal screen is necessary. For this reason, copyright law's idea/expression doctrine<sup>71</sup> prevents people from obtaining such rights. No matter how much people would be willing to pay to obtain a copyright over an idea or a utility patent over a product of nature, a doctrinal screen prevents them from doing so.<sup>72</sup>

Instead, the function of a costly screen is to eliminate or curtail the number of low private value IP rights. If the costly screen exceeds the value of the right to its putative owner, the owner will not seek (or maintain or enforce) the IP right. Of course, the private value of the right is not what policymakers really care about—their focus is the

70. Costly screens are also regressive—they tax the least valuable IP the most. That might be a feature, not a bug, in many cases, though, because the ones that are taxed the most in percentage terms are the ones that are the least valuable.

71. 17 U.S.C. § 102(b) (2012) (“In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work.”).

72. See 35 U.S.C. § 101 (2012) (establishing patentable subject matter doctrine); see generally *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576 (2013) (barring patents on products of nature); *Diamond v. Chakrabarty*, 447 U.S. 303 (1980) (same).

social value of the right.<sup>73</sup> Costly screens will reduce the number of low private value/negative social value rights (box 4), which is good, but they will also reduce the number of low private value/positive social value rights (box 3), which is bad.<sup>74</sup> Accordingly, costly screens are appropriate when the number of potential low private value/negative social value rights (box 4) is high and the number of potential low private value/positive social value rights (box 3) is low, and they are counterproductive when the reverse is true.<sup>75</sup> Table 5 displays the simultaneous operation of doctrinal and costly screens.

Table 5: Doctrinal and Costly Screens in Combination

	Social value	
Private value	1. High private value/Positive social value	2. High private value/Negative social value
	3. Low private value/Positive social value	4. Low private value/Negative social value

Doctrinal screens and costly screens can and do exist side-by-side in a wide variety of legal regimes.<sup>76</sup> At the boundary between copyrights, design patents, and utility patents, doctrinal screens and costly screens play important complementary roles. Doctrinal screens sort designs between the copyright, design patent, and utility patent regimes, determining which will qualify for each category. And then within those three doctrinal regimes, costly screens (or their absence) determine the types of rights that creators will seek to obtain. For the system to function properly, the two types of screens must be well-calibrated to perform these operations in tandem.

73. Fagundes & Masur, *supra* note 12, at 695–97.

74. *Id.* at 695–98.

75. *Id.* at 703–07 (describing the general point in the context of copyright and patent law).

76. Doctrinal screens can also create costly screens. For example, trade dress law's requirement that a claimant must establish that the design has secondary meaning as a designation of source will typically involve the expenditure of substantial resources on advertising. *See infra* note 229 and accompanying text.

C. *Doctrinal Screens and the Selection of IP Regimes*

Now that we have laid out the principles behind doctrinal and costly screens, we turn our attention to the IP doctrines through which these screens are meant to operate.

1. *The Utility Patent Baseline.* Because our focus is functionality, our baseline is the utility patent regime. Utility patents were designed to protect functional inventions, and indeed they can only be used to protect functional inventions.<sup>77</sup> Before an inventor can obtain a utility patent, however, she must surmount a series of doctrinal and costly screens that are implemented (directly or indirectly) through examination by the PTO. The inventor must demonstrate to the PTO that her invention is within the realm of utility patent law,<sup>78</sup> is new and nonobvious,<sup>79</sup> is sufficiently developed and disclosed,<sup>80</sup> and that it has useful applications.<sup>81</sup> In addition, the high cost of obtaining a utility patent functions as a costly screen that eliminates a significant number of low private value rights.<sup>82</sup> The PTO's examination of patents is not always rigorous or effective, and the costly screen imposed is not terribly high relative to the private value of the most significant patents.<sup>83</sup> Nonetheless, utility patent law couples the IP regime that is most protective of functionality with the most stringent doctrinal and costly barriers to entry. In the sections that follow, we compare copyright law and design patent law against this baseline. We explore the extent to which they can be used to obtain "backdoor" protection for functional elements and the legal responses to the possibility of

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77. See Kevin Emerson Collins, *Patent Law's Authorship Screen*, 84 U. CHI. L. REV. 1603, 1613–15 (2018).

78. 35 U.S.C. § 101 (2012) (listing patentable subject matters).

79. *Id.* § 102(a) (novel); *id.* § 103 (nonobvious).

80. *Id.* § 112 (requiring that the invention be described and enabled).

81. *Id.*

82. Masur, *Costly Screens*, *supra* note 12, at 701.

83. See ADAM B. JAFFE & JOSH LERNER, *INNOVATION AND ITS DISCONTENTS* 130–33 (2004); Rochelle Dreyfuss, *Pathological Patenting: The PTO as Cause or Cure*, 104 MICH. L. REV. 1559, 1567 (2006) ("Fee diversion has impoverished the PTO, making it difficult for the Office to search or examine prior art comprehensively."); Michael D. Frakes & Melissa F. Wasserman, *Does Agency Funding Affect Decisionmaking?: An Empirical Assessment of the PTO's Granting Patterns*, 66 VAND. L. REV. 67, 88 (2013) (arguing that the PTO grants too many patents in order to earn maintenance fees); Mark A. Lemley, *Rational Ignorance at the Patent Office*, 95 NW. U. L. REV. 1495, 1508–11 (2001); Doug Lichtman & Mark A. Lemley, *Rethinking Patent Law's Presumption of Validity*, 60 STAN. L. REV. 45, 53 (2007); Masur, *Costly Screens*, *supra* note 12, at 701; Arti K. Rai, *Growing Pains in the Administrative State: The Patent Office's Troubled Quest for Managerial Control*, 157 U. PA. L. REV. 2051, 2062–63 (2009).

such protection.

2. *Copyright Law.* On its face, copyright law would appear to be the most favorable place for creators to turn in search of backdoor utility patents. Copyright law imposes the lowest creativity threshold for protection, and, once granted, copyright protection lasts the longest. To prevent this sort of doctrinal arbitrage, copyright is meant to have the strictest set of functionality screens, traditionally limiting its availability only to works with no, or very modest amounts of, functionality.

Obtaining a copyright is incredibly easy. Federal copyright protection exists from the moment that a work is fixed in a tangible medium of expression.<sup>84</sup> Creators need not demonstrate any substantial cleverness to obtain copyright protection.<sup>85</sup> A work is protectable if it is original, which means that it was not copied from another source and that it evinces some creativity that is just a bit more than entirely trivial.<sup>86</sup> So while the Supreme Court rejected a copyright claim for a telephone white pages directory because it was insufficiently original and creative,<sup>87</sup> courts have upheld protection for yellow pages directories,<sup>88</sup> fairly simple photographs,<sup>89</sup> and three-note sequences of music.<sup>90</sup> Copyright law sets the creativity hurdle incredibly low, enabling virtually any work with a spark of cleverness or novelty to sail over.<sup>91</sup>

Copyright protection is also cheap. Authors don't need to pay any money or file any paperwork to obtain copyright protection.<sup>92</sup> Every reader of this article has created at least one and probably several

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84. Christopher Sprigman, *Reform(aliz)ing Copyright*, 57 STAN. L. REV. 485, 487–88 (2004).

85. *Feist Publ'ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 345 (1991).

86. 17 U.S.C. § 102(a) (2012) (“Copyright protection subsists, in accordance with this title, in original works of authorship fixed in any tangible medium of expression . . .”).

87. *Feist*, 499 U.S. at 361–63.

88. *See Key Publ'ns, Inc. v. Chinatown Today Publ'g Enters., Inc.*, 945 F.2d 509 (2d Cir. 1991).

89. *See Schrock v. Learning Curve Int'l, Inc.*, 586 F.3d 513 (7th Cir. 2009); *Mannion v. Coors Brewing Co.*, 377 F. Supp. 2d 444 (S.D.N.Y. 2005). *But see Ets-Hokin v. Skyy Spirits, Inc.*, 225 F.3d 1068 (9th Cir. 2000).

90. *See Newton v. Diamond*, 388 F.3d 1189, 1192 (9th Cir. 2014) (assuming without deciding that a three-note sequence of a musical composition could have evinced sufficient originality to be copyrightable).

91. Buccafusco, Burns, Fromer & Sprigman, *supra* note 53; Joseph Scott Miller, *Hoisting Originality*, 31 CARDOZO L. REV. 451, 464, 488–89 (2009).

92. 17 U.S.C. § 408(a) (2012) (noting that “registration is not a condition of copyright protection”).

copyrights today, just by living an ordinary life. Creators need not register their works with the Copyright Office, although they may do so for a nominal fee,<sup>93</sup> and the Office will generally grant registration without meaningful examination of the claimed work.<sup>94</sup> If they do want the additional benefits of copyright registration, creators can pay \$40 and fill out a very simple form online,<sup>95</sup> no lawyers or bankers required. For this nominal sum, they get quite a bit. Copyright protection isn't just easy to obtain; it also lasts for a really long time. Most copyrights last for about a century or more.<sup>96</sup>

Copyright law offers creators a regime with a trivial creativity bar and incredibly long protection, and one that does not require meaningful examination. Creators who cannot meet utility patent law's strict utility and nonobviousness requirements or who desire longer protection are often tempted to seek copyright protection instead. To combat this behavior, Congress erected strict functionality screens to prevent misuse.<sup>97</sup> In some cases, copyright law simply denies protection to entire categories of works because they are deemed too functional.<sup>98</sup> However expressive cooking or yoga might be, creators cannot rely on copyright law for protection in these fields.<sup>99</sup> In other cases, such as

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93. *Id.* § 408 (“[T]he owner of copyright . . . may obtain registration of the copyright claim by delivering to the Copyright Office the deposit specified by this section, together with the application and fee specified by sections 409 and 708. Such registration is not a condition of copyright protection.”).

94. See Thomas G. Field, Jr., *Judicial Review of Copyright Examination*, 44 IDEA 479, 482 (2004).

95. See *Fees*, U.S. COPYRIGHT OFFICE, <https://www.copyright.gov/about/fees.html> [<https://perma.cc/82TZ-S9RG>]; *Registration Portal*, U.S. COPYRIGHT OFFICE, <https://www.copyright.gov/registration> [<https://perma.cc/ZK23-LYR7>].

96. 17 U.S.C. § 302. For many works, copyrights last for the life of the author plus an additional seventy years postmortem. *Id.* For other works, including works made for hire or works created before 1978, copyright typically lasts for ninety-five years from the date of first publication. *Id.*

97. Buccafusco & Lemley, *supra* note 1, at 1303; Samuelson, *supra* note 48, at 1497.

98. Buccafusco and Lemley refer to this as an “Exclusion Screen.” Buccafusco & Lemley, *supra* note 1.

99. *Bikram’s Yoga Coll. of India, L.P. v. Evolution Yoga, LLC*, 803 F.3d 1032 (9th Cir. 2015) (denying copyright protection to a series of yoga poses); *Lorenzana v. S. Am. Rests. Corp.*, 799 F.3d 31 (1st Cir. 2015) (denying copyright protection to chicken sandwich); *Publ’ns Int’l, Ltd. v. Meredith Corp.*, 88 F.3d 473, 482 (7th Cir. 1996) (denying copyright protection to constituent recipes in a cookbook protected by a compilation copyright). For scholarships commenting on this topic, see Christopher Buccafusco, *Authorship and the Boundaries of Copyright: Ideas, Expressions, and Functions in Yoga, Choreography, and Other Works*, 39 COLUM. J.L. & ARTS 421 (2016); Christopher Buccafusco, *Making Sense of Intellectual Property Law*, 97 CORNELL L. REV. 501 (2012); Christopher Buccafusco, *On the Legal Consequences of Sauces: Should Thomas Keller’s Recipes Be Per Se Copyrightable?*, 24 CARDOZO ARTS & ENT. L.J. 1121 (2007).

computer software, copyright law allows limited protection for the relatively few expressive aspects of such works while also filtering out any of their functional content from protection.<sup>100</sup> Copyright protection, if it exists for a computer program, should not cover any of its aspects that relate to efficiency or compatibility, leaving those free for others to copy and use.<sup>101</sup> Most important for design, however, is the regime that Congress created for handling pictorial, graphic, and sculptural works. Congress was concerned that industrial designers would attempt to use copyright law to gain exclusive rights over the designs of “useful articles” such as clothing, furniture, or appliances.<sup>102</sup> Because these items are intrinsically functional, easily obtainable exclusive rights could impose substantial and unwarranted costs on the public and subsequent creators.<sup>103</sup> To avert this risk, the Copyright Act imposes additional eligibility criteria on useful articles.<sup>104</sup> Such works are copyrightable only if and only to the extent that they contain “pictorial, graphic, or sculptural features that can be identified separately from, and are capable of existing independently of, the utilitarian aspects of the article.”<sup>105</sup>

The useful articles doctrine was intended to exclude from copyright protection works of industrial design, including designs that successfully marry form and function.<sup>106</sup> The artistic yet simultaneously functional design of a chair leg, automobile hood, smartphone, or garment were unprotectable via copyright.<sup>107</sup> Protection could extend only to purely nonfunctional features of useful articles such as a hood

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100. *Comput. Assoc.'s. Int'l v. Altai, Inc.*, 982 F.2d 693, 707–10 (2d Cir. 1992) (creating a test to filter out the functional elements of computer software); see Peter S. Menell, *Rise of the API Copyright Dead: An Updated Epitaph for Copyright Protection of Network and Functional Features of Computer Software*, 31 HARV. J.L. & TECH. 305, 328 (2018) (analyzing the *Altai* abstraction-filtration-comparison test); Pamela Samuelson, *Functionality and Expression in Computer Programs: Refining the Tests of Software Copyright Infringement*, 31 BERKELEY TECH. L.J. 1215, 1220 (2016) (same).

101. See, e.g., *Altai*, 982 F.2d at 708–09. But see *Oracle Am., Inc. v. Google, Inc.*, 750 F.3d 1339, 1367 (Fed. Cir. 2014) (extending protection to the functional aspects of a computer program's interface component).

102. 17 U.S.C. § 101 (2012) (“A ‘useful article’ is an article having an intrinsic utilitarian function that is not merely to portray the appearance of the article or to convey information.”).

103. See Christopher Buccafusco & Jeanne C. Fromer, *Fashion's Function in Intellectual Property Law*, 93 NOTRE DAME L. REV. 51, 52 (2017).

104. *Id.*

105. 17 U.S.C. § 101.

106. H.R. REP. NO. 94-1476, at 49–50, 54–55, reprinted in 1976 U.S.C.C.A.N. 5659, 5662–63, 5667–68.

107. *Id.*

ornament or printed decal. That is, copyright would only attach to features of a work that existed solely to portray its appearance or convey information.<sup>108</sup>

For example, the Second Circuit denied the designer of the “Ribbon Rack” bicycle rack copyright protection even though the work was aesthetically appealing and had won numerous design awards.<sup>109</sup> The aspects of the design that were expressive, such as the shape of its curves, were also intrinsically related to its functionality. By contrast, the same court upheld copyrights in decorative belt buckles, because the buckles’ shape did not affect their utility and was entirely superimposed on the functional aspects of the designs.<sup>110</sup> Thus, copyright law’s useful articles doctrine allowed creators to obtain protection for solely nonfunctional aspects of their designs, but it rejected claims based on design elements that intermixed functional and nonfunctional components.<sup>111</sup>

Beyond the useful articles doctrine, copyright law also includes a variety of other features meant to balance its power and scope. On one hand, copyright law offers reasonably broad protection against competition. Copyright owners can prevent not only literal or exact duplications of their designs but also those that are substantially similar to them.<sup>112</sup> This can include works that have the same “aesthetic appeal” as the copyrighted work.<sup>113</sup> On the other hand, copyright law limits this otherwise broad scope in a number of ways. First, copyright only prohibits actual copying: a designer sued for infringement can defend herself by proving that she independently created the allegedly infringing design, even if the prior and subsequent designs are identical.<sup>114</sup> Second, copyright law narrows the scope of an author’s copyright to her expression of a particular idea, rather than to the idea itself. For example, the designer of a jeweled pin the shape of a bee

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108. 17 U.S.C. § 101 (defining “useful article”); *see also* Buccafusco & Fromer, *supra* note 103.

109. *See generally* Brandir Int’l, Inc. v. Cascade Pac. Lumber Co., 834 F.2d 1142 (2d Cir. 1987) (considering the functionality of an artistic bicycle rack).

110. *See generally* Kieselstein-Cord v. Accessories by Pearl, Inc., 632 F.2d 989 (2d Cir. 1980).

111. That law has recently changed in significant respects as a result of the Supreme Court’s *Star Athletica* decision. We discuss that decision in Part III.A.

112. *See, e.g.*, Yurman Design, Inc. v. PAJ, Inc., 262 F.3d 101, 111 (2d Cir. 2001).

113. *Id. But see* Satava v. Lowry, 323 F.3d 805, 812 (9th Cir. 2003) (limiting plaintiff’s copyright in jellyfish-in-glass sculpture to “thin protection” against only virtually identical copying).

114. *Sheldon v. Metro-Goldwyn Pictures Corp.*, 81 F.2d 49, 54 (2d Cir. 1936) (“[J]ust as he is no less an ‘author’ because others have preceded him, so another who follows him, is not a tort-feasor unless he pirates his work.”). On the independent creation doctrine in copyright law, *see generally* ABRAHAM DRASSINOWER, *WHAT’S WRONG WITH COPYING?* (2015).

cannot prevent everyone else from producing bee-shaped jewelry.<sup>115</sup> Third, copyright law's fair use doctrine permits certain kinds of copying that are deemed socially valuable or that don't interfere with the copyright owner's market exploitation.<sup>116</sup> Although comment and criticism are the paradigmatic examples of fair use, it can also include instances of copying that are motivated by the need to access functional features of a work.<sup>117</sup> Finally, copyright law limits the damages that a victorious copyright holder can receive. Copyright apportions damages for infringing and noninfringing elements.<sup>118</sup> That is, even if a design is held to infringe an existing copyright, the copyright owner can only recover damages based on the proportion of lost royalties *attributable to the copying*.<sup>119</sup> She cannot recover royalties attributable to other, noncopyrighted elements of the infringing product.<sup>120</sup>

Thus, at least since the 1976 Copyright Act ("1976 Act"), copyright law has coupled an incredibly low creativity screen, a low cost of acquisition, and a long term of protection with a rather robust functionality screen and a number of doctrines that limit the right's power. Although purely nonfunctional works could obtain protection with ease, functional works were meant to be excluded from the regime. In particular, creators of industrial designs were meant to be channeled into the design patent or utility patent regimes instead of copyright.

3. *Design Patents.* For creators seeking IP protection over ornamental designs, design patent law offers the primary alternative to

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115. *Herbert Rosenthal Jewelry Corp. v. Kalpakian*, 446 F.2d 738, 741–42 (9th Cir. 1971).

116. *See* 17 U.S.C. § 107 (2012) ("[T]he fair use of a copyrighted work . . . , for purposes such as criticism, comment, news reporting, teaching . . . scholarship, or research, is not an infringement of copyright."). For a discussion of the market effect of fair use, see Jeanne C. Fromer & Mark A. Lemley, *The Audience in Intellectual Property Infringement*, 112 MICH. L. REV. 1251 (2014).

117. *Sony Comput. Entm't, Inc. v. Connectix Corp.*, 203 F.3d 596, 603 (9th Cir. 2000) (holding that copying to access unprotected functional elements constitutes fair use); *Sega Enters. Ltd. v. Accolade, Inc.*, 977 F.2d 1510, 1522 (9th Cir. 1992) (same).

118. *See generally* *Rogers v. Koons*, 960 F.2d 301 (2d Cir. 1992); *Roulo v. Russ Berrie & Co.*, 886 F.2d 931 (7th Cir. 1989); *Frank Music Corp. v. Metro-Goldwyn-Mayer Inc.*, 886 F.2d 1545 (9th Cir. 1989).

119. 17 U.S.C. § 504(b).

120. *See generally* *Sheldon v. Metro-Goldwyn Pictures Corp.*, 309 U.S. 390 (1940). This does not mean that copyright's damages provisions are a model of policymaking. *See* Pamela Samuelson & Tara Wheatland, *Statutory Damages in Copyright Law: A Remedy in Need of Reform*, 51 WM. & MARY L. REV. 439 (2009). Statutory damages are indeed subject to abuse in copyright law. But the problem occurs primarily when one defendant is accused of multiple small acts of infringement. That is unlikely to be true in the design cases we consider here.

copyright.<sup>121</sup> Design patents protect the ornamental features of a utilitarian article of manufacture.<sup>122</sup> While design patent law's ornamentality requirement has been treated as a functionality bar, it has been applied in a far more relaxed manner than copyright law's useful articles doctrine.<sup>123</sup> Thus, in contrast to copyright law, where functionality is supposed to be rigorously policed, design patent doctrine is more tolerant of claims that mix ornamentality with utility.<sup>124</sup> Design elements are eligible for protection whenever there are other alternatives to the claimed element.<sup>125</sup> Because there is often at least one other way of achieving a function—even if it isn't quite as good—design patents often include substantial functionality that is mixed with ornamentality.

Both the PTO—which reviews design patent applications—and the federal courts have enabled creators to include functional elements within the scope of their design patents. Claimants have been allowed to protect design features that do more than merely portray appearances or convey information but also contribute to how the design works and have substantial functional value. So although design patent claims should be “construed in order to identify the non-functional aspects of the design,”<sup>126</sup> what *counts* as “non-functional” in the design patent context is broader than it has been in copyright law.

The Federal Circuit has consistently permitted design patents that cover functional elements that contribute to a product's usefulness or efficiency. Consider, for example, the shoe design at issue in *L.A. Gear, Inc. v. Thom McAn Shoe Co.*<sup>127</sup> Although each element of the plaintiff's shoe design contributed to the shoe's function, the court

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121. Congress has considered a number of other design protection regimes in the last hundred years. See Shira Perlmutter, *Conceptual Separability and Copyright in the Designs of Useful Articles*, 37 J. COPYRIGHT SOC'Y U.S.A. 339 (1990). Congress has even adopted a separate design protection regime for vessel hulls. 17 U.S.C. § 1301.

122. 35 U.S.C. § 171 (2012) (design is “for a[] [utilitarian] article of manufacture”).

123. See, e.g., Robert C. Denicola, *Applied Art and Industrial Design: A Suggested Approach to Copyright in Useful Articles*, 67 MINN. L. REV. 707, 707–08 (1982) (“Design patents long offered the possibility of protection for the ornamental design of a useful product.”).

124. Buccafusco & Lemley, *supra* note 1. Indeed, Charles Colman has argued that ornamentality was viewed as a negative thing by the courts for much of the history of design patent law. Charles E. Colman, *Design and Deviance: Patent as Symbol, Rhetoric as Metric: Part 2*, 56 JURIMETRICS J. 1 (2015). If so, that may have pushed designers to seek protection for the functional aspects of their products.

125. Jason J. Du Mont & Mark D. Janis, *Functionality in Design Protection Systems*, 19 J. INTEL. PROP. L. 261, 281–85 (2012).

126. *OddzOn Prods., Inc. v. Just Toys, Inc.*, 122 F.3d 1396, 1405 (Fed. Cir. 1997).

127. *L.A. Gear, Inc. v. Thom McAn Shoe Co.*, 988 F.2d 1117 (Fed. Cir. 1993).

upheld the plaintiff's design patent because the overall design of the shoe was not "dictated by the use or purpose of the article."<sup>128</sup> That is, although these elements served a utilitarian purpose, they were still protectable because competitors could achieve the same purpose with different designs.<sup>129</sup> Even though the design elements served a utilitarian function and even though they may have been the best way to achieve that function, they were still included within the scope of the plaintiff's claim.<sup>130</sup>

In perhaps the Federal Circuit's most comprehensive discussion of functionality screening, the court in *Richardson v. Stanley Works, Inc.*<sup>131</sup> explained that design patents would only be declared invalid if "the patented design is primarily functional rather than ornamental."<sup>132</sup> Thus, many designs that were substantially functional but not *primarily* so would be upheld.<sup>133</sup> The court upheld the plaintiff's patent covering the "ornamental" design of a multifunction tool, which in this case included the shape of the tool's edges and corners.<sup>134</sup> But whatever "ornamental" meant here, it certainly didn't mean entirely nonfunctional. The shape of a hand tool's corners and edges will contribute significantly to its comfort, manipulability, and durability. These are aspects of the design that copyright law's useful article doctrine would traditionally have screened out for being simultaneously aesthetic and functional.<sup>135</sup>

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128. *Id.* at 1123.

129. *Id.* In Europe, by contrast, the availability of alternative designs does not foreclose a finding of functionality. Judgment of 8 March 2018, *DOCERAM GmbH v. CeramTec GmbH*, C-395/16, EU:C:2018:172, paragraph 32. For a discussion of that case, see Jens Schovsbo & Graeme B. Dinwoodie, *Design Protection for Products That Are "Dictated by Function,"* in *THE EU DESIGN APPROACH: A GLOBAL APPRAISAL* (Annette Kur, Marianne Levin & Jens Schovsbo eds., Edward Elgar Publishing forthcoming Nov. 2018), <https://ssrn.com/abstract=3164916> [<https://perma.cc/ZD49-A5M6>].

130. See Perry J. Saidman, *Functionality and Design Patent Validity and Infringement*, 91 J. PAT. & TRADEMARK OFF. SOC'Y 313, 317 (2009) ("[I]f the individual de facto functional features of an article . . . claimed in a design patent were removed from consideration prior to applying the ordinary observer infringement test, there would in most cases be nothing left of the patented design to compare to the accused design.").

131. *Richardson v. Stanley Works, Inc.*, 597 F.3d 1288 (Fed. Cir. 2010).

132. *Id.* at 1293–94.

133. The court "factored out" functional elements of a multi-function tool design from the scope of the plaintiff's claim when it came to deciding infringement. These elements included the handle, the hammer-head, and the jaw, because they were "driven purely by utility." *Id.* at 1294.

134. *Id.* at 1296.

135. European design law similarly allows for the protection of functional elements that are coupled with aesthetic or ornamental elements. See Judgment of 8 March 2018, *DOCERAM GmbH v. CeramTec GmbH*, C-395/16, EU:C:2018:172, paragraph 32.

In *Apple Inc. v. Samsung Electronics Corp.*,<sup>136</sup> the Federal Circuit upheld the validity and infringement of the rounded corners of the iPhone design, even while acknowledging that they improved “pocketability” and “durability.”<sup>137</sup> This decision is even more startling in light of that the fact that, earlier in the same opinion, the court rejected Apple’s claim to trade dress on the same features on the grounds that they were functional.<sup>138</sup> By including functional features, the court noted, Apple “pursued both ‘beauty’ and functionality.”<sup>139</sup> Nonetheless, the court still permitted Apple to draw upon design patents for IP protection. While copyright (at least until recently) excluded an item from protection if there was no way to separate its nonfunctional and functional aspects, design patent law welcomes designs that intertwine form and function. The only designs or elements that will be excluded from design patent’s functionality screen are those that are purely utilitarian.<sup>140</sup>

Design patents differ from copyrights along a number of other dimensions related to their scope and strength. For example, design patents have a narrower scope than copyrights.<sup>141</sup> Variations from a design that copyright law would treat as substantially similar and thus infringing, design patent law treats as sufficiently different and noninfringing.<sup>142</sup> In other ways, however, design patents are more powerful rights than copyrights. There is no independent invention defense to design patents: if a subsequent design infringes an existing design patent, it is irrelevant whether or not the designer copied the preexisting design.<sup>143</sup> Furthermore, design patent law does not include

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136. *Apple Inc. v. Samsung Elecs. Co.*, 786 F.3d 983 (Fed. Cir. 2015).

137. *Id.* at 993.

138. *Id.* at 993–95.

139. *Id.* at 995.

140. Buccafusco & Lemley, *supra* note 1, at 1350.

141. *See, e.g.*, Dennis David Crouch, *A Trademark Justification for Design Patent Rights 4* (Univ. of Mo. Sch. of Law Legal Studies, Research Paper No. 2010-17, 2010), <http://ssrn.com/abstract=1656590> [<https://perma.cc/UKD8-YZUF>]. In general, design patents do not enable claimants to protect downstream “derivatives” of their designs. *See, e.g.*, *Egyptian Goddess, Inc. v. Swisa, Inc.*, 543 F.3d 665 (Fed. Cir. 2008) (establishing the ordinary observer test for design patent infringement).

142. For instance, Apple’s iPad patent on the rectangle with rounded corners was found valid but not infringed by Samsung’s virtually indistinguishable design. *Apple*, 786 F.3d at 983. Both aspects of that ruling are surprising. The Federal Circuit has clarified that the same test must be used to establish infringement by the defendant as was used to establish validity for the plaintiff. *Egyptian Goddess*, 543 F.3d at 677–78.

143. 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

any defense akin to copyright law's fair use provision.<sup>144</sup> Finally, when assessing damages for design patent infringement, judges do not apportion the value of damages between infringing and noninfringing elements. Infringers are on the hook for all of the profits they gain because of the infringement, without respect to the proportion of those profits that were driven by noninfringing elements.<sup>145</sup>

As we discussed above, granting creators exclusive rights over partially functional features, as design patent law does, can provide them with substantial market power. The lack of independent invention or fair use doctrines and the absence of damages apportionment heighten this power. This can create costs for consumers, who must pay more for goods with patented designs, and for subsequent creators, who must license existing designs or expend resources in designing around them.

In exchange, to lessen the risks to consumers and other creators, Congress made it more costly and more difficult to obtain protection through design patent law than through copyright law. To obtain a design patent, a creator must submit a formal application to the PTO that depicts the claimed design.<sup>146</sup> At the PTO, the claimed design undergoes examination to determine whether it should be granted or not.<sup>147</sup> Unlike in copyright law, where the work need only be original and minimally creative to receive protection, the design patent statute requires that the claimed design be both novel and nonobvious, in parallel with the requirements for utility patents.<sup>148</sup> Novelty here means newness.<sup>149</sup> If the design or a substantially similar one previously existed, the applicant can't obtain a patent.<sup>150</sup> In addition, if a designer

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imports into the United States any patented invention during the term of the patent therefor, infringes the patent.”).

144. See generally Maureen A. O'Rourke, *Toward a Doctrine of Fair Use in Patent Law*, 100 COLUM. L. REV. 1177 (2000) (arguing for the adoption of a fair use defense in patent law); Katherine J. Strandburg, *Patent Fair Use 2.0*, 1 U.C. IRVINE L. REV. 265 (2011) (same).

145. Burstein, *Costly Designs*, *supra* note 30, at 117 (“A design patent carries with it the potential for enormous monetary awards, even if it claims only a tiny, trivial, or otherwise insignificant part of a product's overall design.”). The Supreme Court's recent decision in *Samsung Electronics Co. v. Apple Inc.*, 137 S. Ct. 429 (2016), may moderate that somewhat. See *infra* note 289 and accompanying text.

146. U.S. PATENT & TRADEMARK OFFICE, MANUAL OF PATENT EXAMINING PROCEDURE § 601 (8th ed., rev. 8, July 2010).

147. *Id.* §§ 601–03.

148. 17 U.S.C. § 171 (2012); see Jason J. Du Mont, *A Non-Obvious Design: Reexamining the Origins of the Design Patent Standard*, 45 GONZ. L. REV. 531 (2009).

149. Sarah Burstein, *Visual Invention*, 16 LEWIS & CLARK L. REV. 169, 175 (2012).

150. *Int'l Seaway Trading Corp. v. Walgreens Corp.*, 589 F.3d 1233, 1237–41 (Fed. Cir. 2009).

of ordinary skill would have found it obvious to modify prior designs to create the claimed design, the applicant can't obtain a patent.<sup>151</sup> As with utility patents, these requirements are intended to pose a substantial hurdle for claimants. Only those who have produced a significant innovation in ornamental design should be given exclusive rights to reproduce and sell it.

In addition, design patents receive substantially shorter protection than do copyrights. Design patents only last for fifteen years from the date of grant, less than one-sixth the duration of a copyright.<sup>152</sup>

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The doctrinal screens that set the boundaries between copyright, design patents, and utility patents thus endeavor collectively to channel functional and ornamental elements into the proper IP regimes. The law's object is to prevent creators from obtaining rights that would produce negative social value. By combining creativity thresholds with functionality limitations, IP law strives to maximize social welfare by giving creators the correct set of rights. Utility patents are the most natural home for functional inventions, but they also involve the most exacting legal standards. Design patents offer some protection for functional elements, but they similarly require application and examination by the PTO to determine whether the design meets certain legal benchmarks. This means that if designers will get the benefits of protection for functionality, they will have to show that they contributed a significant new design. Copyrights, by contrast, are easily obtained and last for a long time, but they generally cannot be used to protect functional elements. They are also leavened with other legal defenses that mitigate the ability of designers to leverage them into market share over functional products.

#### *D. Costly Screens within IP*

The legal doctrines governing copyright and design patent law are meant to channel designs with functional elements toward design patents and away from copyright. But this between-regimes doctrinal screen is not the only relevant barrier to obtaining IP rights. In addition, design patent law imposes a costly screen, while copyright law

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151. *Id.* at 1240; *Titan Tire Corp. v. Case New Holland, Inc.*, 566 F.3d 1372, 1380–81 (Fed. Cir. 2009).

152. Burstein, *supra* note 16, at 172.

does not. Copyrights spring into being instantly and almost costlessly.<sup>153</sup> This is appropriate, at least in theory. Because copyrights are not thought to protect functional elements, they cannot usually provide substantial market power to designers.<sup>154</sup> The independent creation doctrine, as well as the suite of other doctrines that characterize copyright law, similarly limit the power of a copyright.<sup>155</sup> Copyright law's functionality screen should thus prevent the existence of high private value/negative social value rights. In addition, there should be relatively few low private value/negative social value copyrights, though potentially some low private value/positive social value ones.<sup>156</sup> These are the conditions under which a costly screen would normally do more harm than good, and thus it seems appropriate that copyright law does not establish one.<sup>157</sup>

With respect to design patents, the opposite is true. Applicants seeking design patents must first apply to the PTO and have their patent applications examined. Design patent's doctrinal screen—new and nonobvious—is applied *ex ante*, through this process of application and examination, rather than only *ex post* through judicial review.<sup>158</sup> The *ex ante* review imposes costs through delay—the applicant can only make use of the patent once the examination is complete. It also creates financial costs for the applicant. The PTO charges fees of \$180 to apply for a design patent,<sup>159</sup> \$120 to cover the search for prior art,<sup>160</sup> \$460 to have the patent examined,<sup>161</sup> and \$560 for the patent to be issued,<sup>162</sup> for a total upfront cost of \$1320. Most applicants also hire professionals to produce the drawings for the applications, which costs

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153. While copyright protection is automatic, there are certain advantages to copyright registration. But unlike filing an application with the PTO for a design or utility patent, copyright registration is very cheap (between \$35 and \$55) and can be done with a simple web form without hiring a lawyer. *Circular 4: Copyright Office Fees*, U.S. COPYRIGHT OFFICE, <https://www.copyright.gov/circs/circ04.pdf> [<https://perma.cc/2Y5Z-FMXE>] (last updated Apr. 2018). And the examination process is cursory. Indeed, in many circuits it is the mere *filing* of the copyright application that confers benefits, even if it is later rejected. Kenneth Moskow, *What's in a Word? Defining Registration Under the Copyright Act*, 52 JURIMETRICS J. 87 (2011).

154. Fagundes & Masur, *supra* note 12, at 712–13.

155. *Id.* at 713; *see also supra* Part II.C.2.

156. *Id.* at 704–07.

157. *Id.*

158. *See* Burstein, *Costly Designs*, *supra* note 30, at 137 (describing the design patent examination process).

159. 37 C.F.R. § 1.16(b) (2012).

160. 37 C.F.R. § 1.16(l).

161. 37 C.F.R. § 1.16(p).

162. 37 C.F.R. § 1.18(b).

approximately \$500,<sup>163</sup> and attorneys or agents to represent them, at a cost of approximately \$2000 on average.<sup>164</sup> All told, a design patent applicant will spend approximately \$5000 to obtain a valid patent,<sup>165</sup> compared with as little as \$40 spent by a copyright applicant.<sup>166</sup>

These upfront fees are potentially important. Design patent rights can be powerful: as we explained above, not only can design patents be used to protect functional elements, but they are also not limited by independent creation or fair use defenses, and victorious design patent plaintiffs can recover significant damages.<sup>167</sup> This has two significant ramifications for the universe of potential design patents. First, it reduces the likelihood of low private value/positive social value design patents, just as there are very few low private value/positive social value utility patents.<sup>168</sup> Design patent rights are strong enough within their scope to allow their owners to capture a substantial proportion of the value of any designs they have created.<sup>169</sup>

Second, despite the operation of doctrinal screens, the power of design patents raises the prospect of numerous low private value/negative social value design patents. Each existing design patent increases costs for future designers in ways that copyrights do not. A new designer who wishes to patent a design must comb through the thicket of existing designs to determine whether someone has already patented a similar design.<sup>170</sup> This is because there is no independent creation defense to design patent infringement. Even if the second designer has no knowledge of the patented design, she may still be held

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163. Burstein, *Costly Designs*, *supra* note 30, at 124; Thomas T. Chan, *Design Patent*, in THE AMERICAN BAR ASSOCIATION'S LEGAL GUIDE TO FASHION DESIGN 38 (David H. Faux ed., 2013).

164. Burstein, *Costly Designs*, *supra* note 30, at 124 (citing AM. INTELL. PROP. LAW ASS'N, 2015 REPORT OF THE ECONOMIC SURVEY I-100 (2015)).

165. Burstein, *Costly Designs*, *supra* note 30, at 124.

166. Copyright registration costs only \$40, and is so simple that you don't need a lawyer to do it. If you do hire a lawyer the total cost could rise to roughly \$400, AM. INTELL. PROP. LAW ASS'N, *supra* note 164, at I-100, but that is still well less than the cost of a design patent.

167. See *supra* Part II.C.3.

168. See Fagundes & Masur, *supra* note 12, at 706–08 (explaining why low private value/positive social value patents are unlikely to exist in large numbers).

169. Burstein, *supra* note 16, at 182 (describing how design patent holders can effectively use design patents in the marketplace).

170. See Sarah Burstein, *Moving Beyond the Standard Criticisms of Design Patents*, 17 STAN. TECH. L. REV. 305, 316–18 (2013) (explaining the process by which designers attempt to determine whether new designs are patentable or whether they can be employed without violating another's patent).

liable for infringement.<sup>171</sup> By contrast, an author seeking to protect a design through copyright need not prove that her design is novel, need not worry about infringing a preexisting design (so long as she did not copy it), and thus need not search the existing stock of copyrighted designs before proceeding.<sup>172</sup> Each newly granted design patent imposes a small social cost by contributing to the mass of existing designs that a new designer must navigate.<sup>173</sup>

In addition, because there is no independent creation defense, even weak design patents can be used to file nuisance lawsuits and extract settlements. Potential damages from design patent infringement are so high that many defendants will settle rather than challenge patents that appear to be invalid or not infringed.<sup>174</sup> This gives rise to the possibility that owners of design patents that are likely invalid or not infringed might nonetheless be able to extract small payments from lawsuit targets without having to litigate those patents to final judgment.<sup>175</sup> As in the utility patent context, these types of lawsuits create negative social value. They impose a tax on other designers without leading to the contribution of valuable new designs.<sup>176</sup>

Design patent law's novelty and nonobviousness rules are meant to deter negative social value rights by preventing creators from obtaining patents when they haven't contributed truly new designs. But these doctrinal rules are imperfect proxies for social value. Many designs that are new and nonobvious are undesirable nonetheless. A designer may create a unique shape for a shoe that turns out to be both uncomfortable and unattractive. If the patented design turns out not to be socially useful, then the patent has net negative social value. It represents an additional IP right that future designers will be forced to search through when attempting to determine whether an existing right covers their intended designs.<sup>177</sup> A doctrinal screen will not have

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171. See 35 U.S.C. § 271(a) (2012) (imposing no scienter requirement).

172. See *supra* note 148 and accompanying text.

173. See Burstein, *supra* note 170, at 320 (describing the search process).

174. Burstein, *Costly Designs*, *supra* note 30, at 131.

175. For discussion of the prospect of design patent trolls, see Tim Sparapani, *Stretched Too Far: Convolutional Design Patent Rules Empower Patent Trolls*, FORBES (Dec. 3, 2015), <https://www.forbes.com/sites/timsparapani/2015/12/03/stretched-too-far-convoluted-design-patent-rules-empower-patent-trolls> [<https://perma.cc/7CDZ-W2RZ>].

176. Cf. Masur, *Costly Screens*, *supra* note 12, at 715.

177. Cf. Jonathan S. Masur, *Patent Liability Rules as Search Rules*, 78 U. CHI. L. REV. 187, 191–92 (2011).

eliminated it.

These considerations indicate that the design patent regime stands to benefit from application of a costly screen. Recall that a costly screen will only affect the issuance of low private value patents.<sup>178</sup> Designers will still seek high private value patents regardless of any screen—it will just be more expensive for them to do so. There are very few low private value/positive social value patents, so a costly screen will not negatively affect any such grants (or the underlying designs). At the same time, a costly screen might deter the filing of many low private value/negative social value design patents. If it simply reduces the number of low-value design patents that are filed and must later be navigated, that is a social gain; if it similarly reduces the number of nuisance-value suits that are filed, that would be a benefit as well.

The upshot is that if the IP system were operating properly, doctrinal and costly screens would combine to select for predominantly social welfare-enhancing patents. Copyright's high functionality screen would channel any design covering a functional element toward design patents. There, design patent's high creativity screen would ensure that only truly innovative designs were rewarded with patent protection, and the costly screen would eliminate many (though surely not all) of the weak, negative social value patents that might otherwise be granted. Designers who opted out of the high design patent screens and into copyright protection would receive only a much thinner right that would create many fewer social costs.<sup>179</sup> The problem, as the next Part will demonstrate, is that the doctrinal and costly screens within copyright and design patent law are not functioning in this manner.

### III. THE BREAKDOWN OF FUNCTIONALITY SCREENING

Channeling functional designs via a combination of doctrinal and costly screens would be a sound approach if those screens were operating properly. Ideally, the system should mitigate the risk of negative social value IP rights by making it difficult and costly for claimants to obtain protection for functional creations and the market power that goes with them. Unfortunately, however, the institutions that govern IP law have failed to implement its doctrinal and costly screens effectively. Copyright law's high functionality screen for useful articles has vanished, and design patent law's creativity threshold and

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178. *See supra* notes 69–75 and accompanying text.

179. *See supra* notes 170–73 and accompanying text.

costly examination screen are much weaker than is commonly understood. Moreover, the problem is getting worse, not better, with recent Supreme Court and Federal Circuit decisions that have distorted the careful balance of screens upon which design law had relied.

A. *Star Athletica and the Lowering of Copyright Law's Functionality Bar*

Under the system established by the 1976 Copyright Act, copyright law, with its virtually nonexistent creativity threshold and nearly costless screen, was meant to be the home for solely nonfunctional designs, or at least the completely nonfunctional elements of designs.<sup>180</sup> The useful articles doctrine was meant to screen out any utilitarian aspects of an article that were not capable of being identified separately from—and could not exist independently of—the article's nonfunctional features. In its recent opinion in the case of *Star Athletica v. Varsity Brands*, however, the Supreme Court tore down copyright law's high functionality bar and replaced it with one that resembles design patent law.<sup>181</sup>

The case involved two-dimensional designs of stripes, chevrons, and color-blocking that were incorporated into cheerleading uniforms. The placement of these design features on the uniforms was partially functional.<sup>182</sup> Although the designs may have been visually appealing in their own right, that's not why they were chosen. They also served to affect the appearance of the wearer's body, emphasizing certain body parts and deemphasizing others, and to identify the wearer as a cheerleader.<sup>183</sup> Unlike a decal of a team logo or mascot that could be attached to the uniform for purely nonfunctional reasons, the designs at issue in the case were dual nature—they were simultaneously expressive and utilitarian.<sup>184</sup> According to decades of appellate opinions interpreting the 1976 Act's useful articles doctrine, the designs should have been categorically uncopyrightable.<sup>185</sup>

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180. Buccafusco & Fromer, *supra* note 103, at 65; Buccafusco & Lemley, *supra* note 1, 1327–28.

181. *Star Athletica, L.L.C. v. Varsity Brands, Inc.*, 137 S. Ct. 1002 (2017).

182. Buccafusco & Fromer, *supra* note 103, 89–90.

183. *Id.*

184. *Id.*

185. See generally *Jovani Fashion, Ltd. v. Fiesta Fashions*, 500 F. App'x 42 (2d Cir. 2012); *Galiano v. Harrah's Operating Co.*, 416 F.3d 411 (5th Cir. 2005); *Chosun Int'l, Inc. v. Chrisha Creations, Ltd.*, 413 F.3d 324, 328 (2d Cir. 2005); *Whimsicality, Inc. v. Rubie's Costume Co.*, 891

Justice Thomas’s opinion for the majority of the Court interpreted the statute in a much more lenient fashion. According to the Court, design elements could be copyrightable if they meet two criteria: (1) that the decisionmaker can spot elements that appear to have pictorial, graphic, or sculptural qualities, and (2) that the feature could exist in a work once it is imagined apart from the useful article.<sup>186</sup> The first step, which the Court noted was “not onerous,” only seems to require the decisionmaker to find something at least partially nonfunctional about the design of the object, even if it is intertwined with functional elements. The second step then asks whether those features could be “imaginatively separated” and depicted or reproduced in some nonuseful article. Because the stripes, chevrons, and color-blocking “hav[e] pictorial, graphic, or sculptural qualities,”<sup>187</sup> and because they could have been depicted on a piece of paper or canvas,<sup>188</sup> they met the Court’s test for copyrightability.

While this might seem like a fairly straightforward reading of the statute, the radical nature of Justice Thomas’s opinion lies in its discussion of the imagining and separating that he has in mind. Justice Thomas referred to the view that copyright law should only protect solely artistic features as “flawed.”<sup>189</sup> Instead, he announced that copyright can extend to a design feature “even if it makes that article more useful.”<sup>190</sup> A feature can now count as a protectable pictorial, graphic, or sculptural element even if it imparts significant utility to the article—indeed, even if the article couldn’t function at all without it.<sup>191</sup> Under this approach, copyright law can now protect things like aerodynamic elements of a car that make it drive faster or with less wind resistance, and perhaps even designs like a pattern of tire treads that are intended for functional purposes but that could be imagined as works of abstract art.

The Court’s opinion in *Star Athletica* thus fundamentally altered the nature of copyright law’s functionality screen.<sup>192</sup> Instead of refusing

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F.2d 452, 455 (2d Cir.1989) (citing *Fashion Originators Guild v. FTC*, 114 F.2d 80, 84 (2d Cir. 1940) (L. Hand, J.), *aff’d*, 312 U.S. 457 (1941)).

186. *Star Athletica, L.L.C. v. Varsity Brands, Inc.*, 137 S. Ct. 1002, 1009 (2017).

187. *Id.* at 1012.

188. *Id.*

189. *Id.* at 1014.

190. *Id.*

191. *Id.*

192. Buccafusco & Lemley, *supra* note 1, at 1332. See generally Peter S. Menell & Daniel Yablon, *Star Athletica’s Fissure in the Intellectual Property Functionality Landscape*, 166 U. PA.

to protect dual nature features and channeling them to design patent law, copyright law will now potentially be available to protect features of applied art and industrial design that contribute to the article's function. The opinion replaces copyright law's high doctrinal screen for functionality with one that in fact resembles design patent law's much more accommodating standard—but, of course, while also retaining copyright law's low creativity threshold and costless examination and registration.<sup>193</sup>

The design at issue in *Star Athletica* highlights the significance of this combination of screens. Because the Court lowered copyright law's functionality bar, the cheerleading uniforms are not categorically excluded from protection. Instead, they will only fail to obtain protection if they cannot meet copyright law's creativity threshold, which requires only that they be original and more than minimally creative. Accordingly, the designers of these cheerleading uniforms will be able to obtain IP protection for functional aspects of their creations without establishing that they have made a substantial innovation and without surmounting any sort of costly screen.

For example, in the wake of *Star Athletica*, the Copyright Review Board recently reversed a denial of registration for a lighting fixture based on *Star Athletica*, and it found that a very simple crystal mesh pattern was sufficiently original for copyright protection.<sup>194</sup> Courts have allowed protection for such things as a car floor liner made of tire tread<sup>195</sup> and a replica of the Statue of Liberty.<sup>196</sup> Copyright's previously rigorous functionality screen now resembles design patent's generous and flexible functionality screen.<sup>197</sup>

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L. REV. ONLINE 137 (2017).

193. See *supra* note 192 and accompanying text; see also Barton Beebe, *Star Athletica and the Problem of Panaestheticism*, 9 IRVINE L. REV. (forthcoming 2019) (manuscript at 1) (“[*Star Athletica*] has destroyed the separability test in copyright law and rendered the statutory language that supports it a nullity.”); Mark P. McKenna, *Knowing Separability When We See It*, 166 U. PA. L. REV. ONLINE 127, 131 (2017) (describing *Star Athletica*'s muddled test for functionality).

194. See Letter from Regan A. Smith, Copyright Office Review Bd., U.S. Copyright Office, to Shanna K. Sanders, Heslin Rothenberg Farley & Mesiti P.C. (July 27, 2017), <https://www.copyright.gov/rulings-filings/review-board/docs/amaca.pdf> [<https://perma.cc/73F7-R2DD>].

195. David Kluff, *Star Athletica and the Expansion of Useful Article Protection: Copyright Office Permits Registration of Automotive Floor Liner*, FOLEY HOAG L.L.P.: TRADEMARK & COPYRIGHT L. BLOG (Apr. 24, 2018), <http://www.trademarkandcopyrightlawblog.com/2018/04/star-athletica-and-the-expansion-of-useful-article-protection-copyright-office-permits-registration-of-automotive-floor-liner> [<https://perma.cc/GE7U-WN3W>].

196. *Davidson v. United States*, No. 13-942C, 2017 WL 3033774 (Fed. Cl. July 18, 2017).

197. To be sure, as noted above copyright has other limitations designed to prevent backdoor utility patents. Two of us have argued elsewhere that those limitations should now come into play

### B. *The Failure of Design Patent's Screens*

In contrast to copyright law, design patent law is meant to couple laxer rules on functionality with (1) a high doctrinal creativity screen and (2) a significant costly screen. In reality, however, neither of these screens is operating as intended. Consider first the doctrinal screen. At least in theory, design patents should be subjected to substantial scrutiny to ensure that they are novel and nonobvious. This is the tradeoff that designers make in order to obtain the ability to protect functional elements related to designs and the market power that accompanies it. Designers should only be able to capture significant market power if they have contributed a truly new and innovative design.

The truth is that design patent law's doctrinal screen is largely toothless. The PTO rejects only 1.2 percent of designs for novelty or obviousness.<sup>198</sup> Moreover, it is not as if this high grant rate is being driven by the fact that designers are playing it safe and only applying for patents on designs that are clearly novel. Even a quick perusal of some of the design patents granted by the PTO reveals that designers are regularly able to obtain patents on designs that are so familiar they should have never been granted.<sup>199</sup>

Design patent law's creativity screen is failing for three distinct but related reasons. First, neither the PTO nor the courts apply the novelty and nonobviousness thresholds as rigorously in design patent law as they do in utility patent law.<sup>200</sup> For prior art to invalidate a design patent for lacking novelty, the PTO and courts seem to require that the two designs be nearly identical in every feature. They will only deem a design patent obvious if there is a single "primary reference" that has the same overall appearance as the claimed design which can be coupled with a "secondary reference" that modifies the primary

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to dramatically narrow the scope of any resulting right. See Buccafusco & Lemley, *supra* note 1, at 1371–72; see generally Samuelson, *supra* note 48 (giving examples of different types of functionality doctrines in copyright law). But there is no question that the primary line of defense against turning copyrights into backdoor utility patents has been breached.

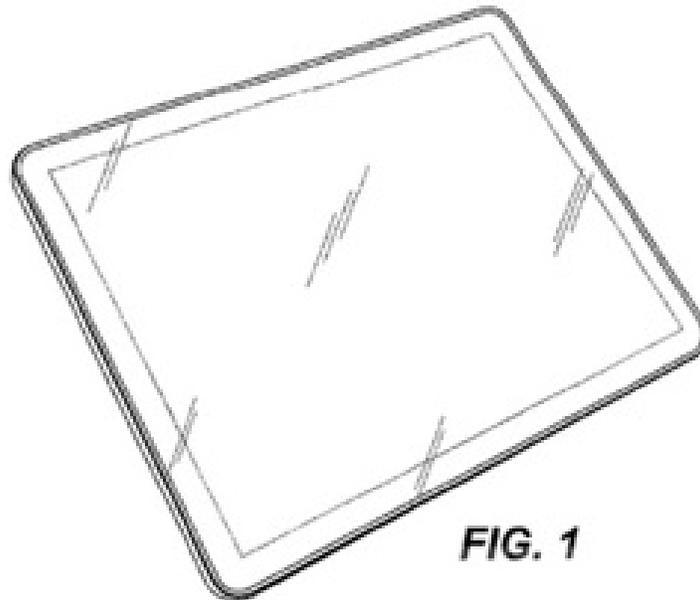
198. Crouch, *supra* note 141. For additional data on the high rate at which the PTO approves design patents, see Dennis Crouch, *Design Patent Rejections*, PATENTLY-O (Jan. 19, 2010), <https://patentlyo.com/patent/2010/01/design-patent-rejections.html> [https://perma.cc/5EJW-WZ4D] (providing data on design patent rejection and approval rates).

199. Burstein, *Costly Designs*, *supra* note 30, at 125. For examples, see *supra* notes 18–21 and accompanying text.

200. Crouch, *supra* note 141, at 12, 15–16.

reference such that it is identical to the claim.<sup>201</sup> In the case of *Apple v. Samsung*, for example, the Federal Circuit upheld Apple's design patents on the rectangular shape of the iPad even though there were very similar references in the prior art.<sup>202</sup>

*Figure 1: Apple's "Novel and Nonobvious" Design Compared to Prior Art*



Cases like this demonstrate that the courts and the PTO are interpreting the doctrinal screen to impose a lower hurdle on claimants than the statutory language would suggest. Rather than assessing cleverness or inventiveness in design, the PTO and courts apply mechanical rules that are easy to satisfy. In fact, the creativity threshold in design patent law is so low that it hardly seems different from copyright law's originality requirement.

Second, designers whose patent applications are rejected can keep coming back to the PTO and filing requests for further examination.

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201. *Apple Inc. v. Samsung Elecs. Co.*, 678 F.3d 1314, 1326–30 (Fed. Cir. 2012).

202. *Id.*

No application can ever be finally rejected; the designer can always refile and, in so doing, wear down the PTO examiner until the patent is finally granted.<sup>203</sup>

The third reason for design patent law's incredibly low rejection rate is that it is quite difficult for the PTO to effectively examine design patents. Design patents are not as easily searched as utility patents, and they cannot be identified as easily using keywords. This is part of the challenge associated with comparisons based entirely on visual claims.<sup>204</sup> All told, the PTO has a difficult time determining whether a design is actually new and nonobvious, and the result is a proliferation of patents that should not exist.

Both the PTO and defendants are further hampered in challenging design patents' validity by recent changes to the doctrines of ornamentality and functionality.<sup>205</sup> While design patent law provides more protection of hybrid functional-aesthetic elements than copyright law traditionally did,<sup>206</sup> it should not protect purely utilitarian product features. But recent case law has all but abandoned that functionality limitation, allowing protection even of purely functional elements where the alternative is not to protect a particular element of a design.<sup>207</sup> Design patent's already lax doctrinal screen has become even laxer.<sup>208</sup>

The Federal Circuit has proven willing to protect even the purely functional aspects of design as long as they have some relationship with ornamental ones.<sup>209</sup> For example, in *Sport Dimension v. Coleman*, the case mentioned in the Introduction, the design patent at issue covered

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203. Mark A. Lemley & Kimberly A. Moore, *Ending Abuse of Patent Continuations*, 84 B.U. L. REV. 63, 82–84 (2004); Masur, *Costly Screens*, *supra* note 12, at 705–07.

204. On the problem of defining and analyzing the scope of visual works elsewhere in IP, see Rebecca Tushnet, *Worth A Thousand Words: The Images of Copyright*, 125 HARV. L. REV. 683 (2012).

205. Buccafusco & Lemley, *supra* note 1, 1332–36.

206. Du Mont & Janis, *supra* note 125, at 281.

207. *Id.*

208. Menell and Yablon oddly criticize academics, including some of the authors, for pointing out in a brief that this is true and claim that we “argue for expanding design patent protection.” Menell & Yablon, *supra* note 192, at 5 n.32. Not so. We do not argue that design patents *should* reach a combination of functional and ornamental elements, but instead point out that design patent law currently *does* offer such protection, a point that Menell and Yablon do not even address, much less refute. They do not discuss the current cases permitting design patent protection for functional elements, and so may misunderstand the current expansive state of design patents.

209. See Lee & Sunder, *supra* note 30, at 560–62 (noting the willingness of the Federal Circuit to protect purely functional aspects of design).

a life jacket-style flotation device with armbands.<sup>210</sup> During claim construction, the district court excluded the armbands from the claim, because it found them to be functional.<sup>211</sup> The Federal Circuit agreed that the armbands were functional, but it held that the district court had wrongly excluded them from the claim.<sup>212</sup> According to the Federal Circuit, the district court should instead have viewed the design as a whole, including the functional features.<sup>213</sup> Each element of the design was entitled to protection, even if it was purely functional, as long as the overall design had some ornamental elements.<sup>214</sup>

Similarly, in *Ethicon Endo-Surgery, Inc. v. Covidien, Inc.*,<sup>215</sup> the district court had “factored out” certain elements of a handle for ultrasonic shears—like the trigger and an on/off button—that were driven by functional considerations.<sup>216</sup> The Federal Circuit reversed. The court held that as long as the entirety of the design was not fully dictated by functional considerations, courts could not exclude the individually functional elements from protection.<sup>217</sup> It specifically noted that the scope of the design patents extended to the combination of those elements, even though they were functional.<sup>218</sup>

Even if the Federal Circuit were to reverse course and apply more traditional understandings of novelty and functionality, that would only partially solve the problem. If a design patent is granted, it still has some value to its owner, even if it is possible (or even likely) that it would later be invalidated if challenged in court. If the patent’s invalidity is not obvious or certain, or if the cost of discovering that invalidity is high, the patent’s owner will usually be able to extract a settlement of some value from an accused infringer. The settlement may be substantial, if the patent’s validity is plausible, or it may be merely a nuisance-value settlement. But it will not be zero. And the settlement value will be enhanced by the high level of damages available to patent plaintiffs. If design patent owners are able to realize private value through even invalid patents, they are imposing costs on

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210. *Sport Dimension, Inc. v. Coleman Co.*, 820 F.3d 1316, 1318 (Fed. Cir. 2016).

211. *Sport Dimension, Inc. v. Coleman Co.*, No. CV 14-00438, 2015 WL 13309300 at \*9 (C.D. Cal. Feb. 9, 2015).

212. *Sport Dimension*, 820 F.3d at 1321–22.

213. *Id.* at 1323.

214. *Id.*

215. *Ethicon Endo-Surgery, Inc. v. Covidien, Inc.*, 796 F.3d 1312 (Fed. Cir. 2015).

216. *Id.* at 1328.

217. *Id.* at 1334.

218. *Id.*

consumers and other designers. These are low private value/negative social value patents that design patent's failing doctrinal screen is allowing to slip through.

Such patents should, in theory, be deterred by design patent's costly screen. This would make obtaining a design patent sufficiently expensive that applicants would refrain from applying for low private value patents. In reality, however, design patent's costly screen is not nearly as effective as one might hope. Recall that the total cost of obtaining a design patent is roughly \$5000.<sup>219</sup> This is not trivial, but it pales in comparison to the cost of obtaining a utility patent, which is approximately \$35,000 in PTO fees and attorney costs.<sup>220</sup> Five thousand dollars is much less than what even a dubious design patent might be worth. Again, the potential for design patent owners to win substantial damages awards due to the lack of damages apportionment can turn even questionable patents into valuable private assets. An upfront application cost of \$5000 will weed out only the most frivolous design patent applications while allowing many others through. In light of the high grant rate for design patents and the incentives to file for even weaker design patents, this too-low costly screen poses significant problems. Designers can (and do) obtain multiple patents on different configurations of their designs.<sup>221</sup> This suggests that the costly screen isn't very costly. And, because they can submit dozens of applications simultaneously, the costs of drafting and prosecution are probably even lower.

The upshot is that design patents are too easy to obtain, both as a matter of doctrine and expense. Design patent law is meant to award these powerful IP rights only to designers who have contributed valuable new designs, and it is meant to deter putative applicants from even applying for low private value/negative social value designs. It

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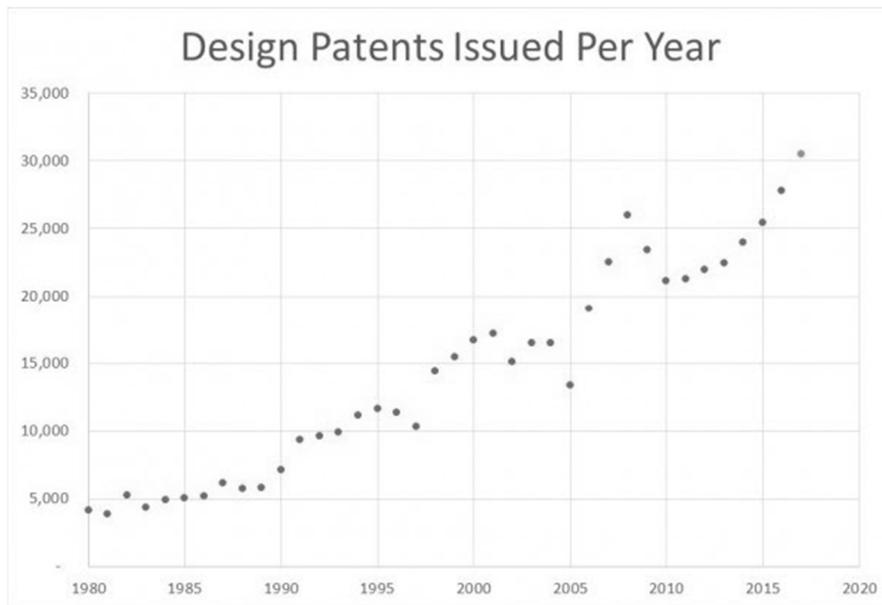
219. See *supra* notes 158–65 and accompanying text.

220. In 2017, a utility patent application requires payment of \$280 in filing fees, 37 C.F.R. § 1.16(a) (2017), \$600 in search fees, 37 C.F.R. § 1.16(k), \$720 in examination fees, 37 C.F.R. § 1.16(o), and \$960 in issuance fees, 37 C.F.R. § 1.18(a)(1), for a total of \$2560 in upfront fees. The PTO also charges maintenance fees for patents that remain in force, which totaled \$12,600 over the life of a patent in 2017. 37 C.F.R. § 1.20(e)–(g). Design patents, by contrast, do not need to pay maintenance fees. 37 C.F.R. § 1.362(b). Most applicants also hire attorneys, and fees for preparing and prosecuting patents typically run from \$15,000 to \$25,000, depending upon the complexity of the invention. Masur, *Costly Screens*, *supra* note 12, at 699. In total, then, a typical utility patent costs roughly \$35,000 to obtain and maintain.

221. See generally *Apple Inc. v. Samsung Elecs. Co.*, 786 F.3d 983 (Fed. Cir. 2015); Jason J. Du Mont & Mark D. Janis, *Virtual Designs*, 17 STAN. TECH. L. REV. 107 (2013); Michael J. Risch, *Functionality and Graphical User Interface Design Patents*, 17 STAN. TECH. L. REV. 53 (2013).

accomplishes neither of these tasks. By consequence, every day there are design patents granted that do more harm than good, driving up prices for consumers and taxing genuine creativity. If either the doctrinal screen or the costly screen had failed independently, the problem would be significant. The simultaneous and conjoint failures of both screens is calamitous. And it goes some way toward explaining the dramatic rise in design patenting.

Figure 2: Design Patents Issued Per Year<sup>222</sup>



### C. The Additional Problem with Overlapping Trade Dress Protection

The screening rules of copyright and patent law are further complicated by the availability of design protection via trade dress law. Designers can assert exclusive rights in the shape of a product or its packaging under trade dress law.<sup>223</sup> These rights are not meant to stimulate new creativity in design, but instead to prevent consumers

222. Dennis Crouch, *Design Patents Per Fiscal Year: New High Expected for FY2017*, PATENTLY-O, (Aug. 14, 2017), [https://patentlyo.com/patent/2017/08/design-patents-expected.html?utm\\_source=feedburner&utm\\_medium=email&utm\\_campaign=Feed%3A+PatentlyO+%28Dennis+Crouch%27s+Patently-O%29](https://patentlyo.com/patent/2017/08/design-patents-expected.html?utm_source=feedburner&utm_medium=email&utm_campaign=Feed%3A+PatentlyO+%28Dennis+Crouch%27s+Patently-O%29) [<https://perma.cc/W66A-QFJD>].

223. See *supra* notes 90–94 and accompanying text.

from being confused about the product's origin. For example, if consumers associate the rubber toe bumper and molding on a shoe as an indication that the shoe was produced by Converse, then Converse can attempt to use trade dress law to prevent competitors from making similarly designed shoes.<sup>224</sup> But trade dress protection fits uneasily within the channeling scheme that Congress created for copyrights and design patents, and it renders the task of screening designs even more difficult.<sup>225</sup>

Because trade dress law allows firms to obtain protection for product design, it shares copyright and design patent laws' concerns with extending protection to functional elements.<sup>226</sup> But trade dress law's doctrinal and costly screens differ from those used by the other regimes. Trade dress law imposes no creativity screen for marks or designs.<sup>227</sup> A design is protectable even if it is identical to prior designs and was copied from them as long as the claimant can establish that consumers treat the design as indicating the source of the product.<sup>228</sup> This non-screen isn't even as rigorous as copyright law's trivial originality requirement. Trade dress protection is, however, subject to a costly screen, although one that operates differently from patent law's. Trade dress is only protectable once it has become "distinctive,"<sup>229</sup> and a company often must spend an enormous amount of money on marketing to get consumers to associate the design with the company. Requiring a design to acquire distinctiveness over time through sales or advertising imposes a substantial cost and serves as a meaningful costly screen.

Trade dress law also imposes a doctrinal screen for functionality that resembles the one copyright law applied prior to *Star Athletica*.<sup>230</sup>

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224. Bill Donahue, *ITC Spells Out How Broad Use Sunk Converse Sneaker TM*, LAW360 (July 14, 2016), <https://www.law360.com/articles/817642> [<https://perma.cc/L43Y-4FDM>].

225. Cf. Robert G. Bone, *Trademark Functionality Reexamined*, 7 J. LEGAL ANALYSIS 183, 190 (2015) (noting that trade dress protection frustrates the monopoly-detering purpose of the functionality doctrine). See generally Mark P. McKenna, *An Alternate Approach to Channeling?*, 51 WM. & MARY L. REV. 873 (2010) (noting the channeling functions of intellectual property law).

226. McKenna, *supra* note 225, at 875–76.

227. See Jeanne C. Fromer, *The Role of Creativity in Trademark Law*, 86 NOTRE DAME L. REV. 1885, 1886–87 (2011).

228. See *Two Pesos, Inc. v. Taco Cabana, Inc.*, 505 U.S. 763 (1992) (allowing trade dress protection for the design of a Mexican restaurant). The design is protectable if it has acquired "secondary meaning" as a designation of the source of the goods.

229. *Wal-Mart Stores, Inc. v. Samara Bros., Inc.*, 529 U.S. 205, 212–14 (2000).

230. *Buccafusco & Lemley, supra* note 1, 1327–28.

Producers cannot obtain trade dress protection for any aspect of the design that is “essential to the use or purpose of the device or when it affects the cost or quality of the device.”<sup>231</sup> This functionality screen is more rigorous than design patent law’s (and presumably than the post-*Star Athletica* copyright screen). This is illustrated by *Apple v. Samsung*. There, the Federal Circuit held that certain functional features of the iPhone could not be protected under trade dress law but *could* be protected by a design patent.<sup>232</sup> However, courts and the PTO do not always apply the functionality screen with consistent rigor. For example, the registered trade dress of Coca-Cola’s distinctive bottle design or Converse’s rubber toe bumper and molding both contribute to their designs’ functionality, but they are treated as protectable.<sup>233</sup>

Trade dress law thus sits awkwardly alongside the other IP doctrines that exist to protect designs.<sup>234</sup> Without a doctrinal screen for novelty and nonobviousness, trade dress law does little to ensure that rights are only granted to designs that contribute to social welfare.<sup>235</sup> Moreover, trade dress protection, once obtained, can last forever.<sup>236</sup> Accordingly, if designers are ever able to sneak functional elements past trade dress law’s functionality screen, they can obtain rights that significantly hinder competition and innovation.<sup>237</sup> That unfortunately occurs in some cases despite the Supreme Court’s imposition of a doctrinal bar against functional trade dress in *TrafFix*.<sup>238</sup>

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231. *TrafFix Devices, Inc. v. Mktg. Displays, Inc.*, 532 U.S. 23, 33 (2001) (holding that a dual spring design for a sign could not receive trademark protection because it was functional, as evidenced by an expired utility patent).

232. *Apple Inc. v. Samsung Elecs. Co.*, 786 F.3d 983, 989–99 (Fed. Cir. 2015).

233. *In re Certain Footwear Prods.*, U.S. Int’l Trade Comm. Inv. No. 337-TA-936, at 57–64 (Nov. 17, 2015), [https://www.manatt.com/uploadedFiles/Content/4\\_News\\_and\\_Events/Newsletters/IPandInternetLaw@manatt/ConverseITCopinion.pdf](https://www.manatt.com/uploadedFiles/Content/4_News_and_Events/Newsletters/IPandInternetLaw@manatt/ConverseITCopinion.pdf) [<https://perma.cc/LE9V-WTHS>] (concluding, incorrectly in our opinion, that a rubber toe guard wasn’t functional for an athletic shoe).

234. *See generally* Laura Heymann, *Policing the Copyright/Trademark Divide*, 60 SMU L. REV. 55 (2007).

235. That’s because trade dress law doesn’t have the same incentive-based rationale that copyright and patent laws do.

236. DONALD S. CHISUM, TYLER T. OCHOA, SHUBHA GHOSH & MARY LAFRANCE, *UNDERSTANDING INTELLECTUAL PROPERTY LAW* 521 (2d ed. 2011).

237. Dennis Crouch has suggested that trade dress can combine with design patents, since design patents provide temporary protection that allows the patentee to build the secondary meaning necessary for trade dress protection. *See generally* Crouch, *supra* note 141. But that will be a problem only if trade dress’s functionality doctrine also fails.

238. *See, e.g.*, *Leapers, Inc. v. SMTS, L.L.C.*, 879 F.3d 731 (6th Cir. 2018) (holding that a reasonable jury could find that a pattern of texturing applied to rifle scopes to make them easier to grip was nonfunctional).

*D. The Dystopian Reality of IP Screening*

The principal concern generated by the Supreme Court's decision in *Star Athletica* is that copyright law will no longer rigorously police functionality. This would allow designers to obtain protection for the functional elements of designs via copyright without having to overcome design patent law's high creativity threshold, short duration, and costly screen. That protection would then last for a century, rather than design patent's fifteen years.

As we have explained, however, many of the benefits of channeling functional designs away from copyright and into the design patent regime are chimerical. Very few designs are excluded by the latter's doctrinal creativity screens, and its supposedly costly screen isn't very costly. Design patent law's screens are already allowing through nearly every design. In addition, we suspect that the enormous difference in duration between copyrights and design patents may not, in fact, be all that meaningful in practice. Product designs, including those that incorporate functionality, tend to have relatively short shelf lives.<sup>239</sup> Accordingly, the market power differences between fifteen years and a century may not be that great. IP protection that covered (for instance) the shape of a floppy diskette, film canister, or fax machine would have had virtually zero value after a few decades as those products became obsolete.<sup>240</sup> The additional years of copyright protection that extended beyond the fifteen-year design patent term would generate little private value or social cost. In cases like these, where the product is truly obsolete, we would not even expect rights to have significant nuisance value or impose substantial search costs. Competitors simply aren't trying to make these products. While some industrial designs have enduring market value—the Eames chair, the Burberry trench coat, or the classic Coca-Cola bottle—these are the exceptions that prove the rule of short shelf life.<sup>241</sup>

The weaknesses of the screens that control access to these two regimes compound one another. The reason is that designers are not required to select only one of the available design regimes. There is no

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239. *Traffix Devices, Inc. v. Mktg. Displays, Inc.*, 532 U.S. 23 (2001). See WILLIAM SHAKESPEARE, *MUCH ADO ABOUT NOTHING*, act 3, sc. 3 (“[T]he fashion wears out more apparel than the man.”).

240. This is the process that Schumpeter refers to as “creative destruction.” JOSEPH A. SCHUMPETER, *CAPITALISM, SOCIALISM, AND DEMOCRACY* 82–85 (1942).

241. Indeed, even Coca-Cola is not normally sold in its iconic shape any longer, except as a novelty item.

doctrine of election that requires a designer to choose between copyright and design patent when obtaining IP over a design. Rather, any designer can obtain both types of protection for the same designs. In addition, the designer can also seek trade dress protection running parallel to copyright and design patent protection.

The ability to obtain copyright, trade dress, *and* design patent protection for the same design element creates all sorts of opportunities for designers to exploit the overlapping advantages of these systems. For instance, it is typically easier for a plaintiff to prove that a design patent is infringed than to prove that a copyright is infringed, because independent creation is not a defense to design patent infringement. At the same time, it is typically easier for a plaintiff to establish that a copyright is valid than that a design patent is, because copyrights need not be novel and nonobvious. Accordingly, a designer could seek both a copyright and a design patent and choose which right to enforce against a given defendant depending upon whether that defendant is likely to have better defenses related to infringement—in which case the plaintiff asserts the design patent—or invalidity—in which case the plaintiff asserts the copyright.

Similarly, designers can choose which rights to assert to maximize the damages they recover. If the design encompasses all aspects of the infringing product, the designer can assert a copyright, knowing that she will be able to obtain essentially full damages because the profit is attributable entirely to the design. If the infringing product involves both infringing and noninfringing design elements, the plaintiff can instead elect to assert a design patent in order to avoid having damages apportioned. For instance, a plaintiff could capture the profits of an entire car based solely on the design of one small part.<sup>242</sup>

Copyrights also offer the option of obtaining what amount to “design patent lite” protection for decades after the design patent has expired. The designer could rely upon the more powerful design patents for the first fifteen years, then switch to copyrights after the design patents have expired. As we noted, in many cases the extra

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242. See Mark A. Lemley, *A Rational System of Design Patent Remedies*, 17 STAN. TECH. L. REV. 219 (2013) (discussing examples of overclaiming that result from this rule); cf. *Automotive Body Parts Ass’n v. Ford Glob. Techs., LLC*, 293 F. Supp. 3d 690, 701–04 (E.D. Mich. 2018) (upholding design patents on functional automobile parts). The Supreme Court’s decision in *Samsung v. Apple* might limit this problem by allowing courts to define the “article of manufacture” more narrowly. See generally *Samsung Elecs. Co., v. Apple Inc.*, 137 S. Ct. 429 (2016); Sarah Burstein, *The “Article of Manufacture” in 1887*, 32 BERKELEY TECH. L.J. 1 (2017).

decades of protection will be largely irrelevant.<sup>243</sup> But the ability to capture those additional out-years of rents will be valuable to some designers, and these designers can do so at roughly zero cost.<sup>244</sup>

Most importantly, and most realistically, designers can assert both types of rights against the same defendants in the same cases.<sup>245</sup> If the two causes of action are at all independent—that is, if they do not rise or fall on precisely the same factors—designers will have two bites at the same apple. Even if the design patent claim founders for some reason, the copyright claim may still prevail, or vice versa. Simply as a matter of mathematics, a design plaintiff can transform two dubious rights into one source of strong protection. For instance, imagine that a design patent and a copyright are each only 50 percent likely to be found valid and infringed by a particular defendant design. If the two causes of action are completely independent, the plaintiff is 75 percent likely to prevail on at least one of the two. Of course, it is unlikely that the two causes of action will ever be entirely independent, particularly on the issue of infringement. But even partial independence will allow the IP holder to leverage the two rights to obtain greater protection than either regime would separately allow. Moreover, by bringing two claims instead of one, the plaintiff will increase the defendant's litigation costs to defend through trial. In other contexts, scholars have demonstrated that offering IP rights-holders the choice between two legal regimes can artificially inflate the power of IP rights and distort the operation of the IP system.<sup>246</sup> Option value by itself is bad enough. Permitting designers to opt for *both* IP regimes is potentially far worse.

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243. See *supra* notes 239–41 and accompanying text.

244. This could be particularly relevant in the world of fashion. As styles go in and out of vogue over periods of decades, copyrights that had fallen into desuetude could again become valuable. It might also be particularly relevant to designs that incorporate substantial functional elements. Even if the design is no longer in vogue, the functional elements might remain useful and widespread.

245. See, e.g., Complaint, *Quan v. Ty, Inc.*, No. 1:17-cv-05683 (N.D. Ill. filed Aug. 3, 2017) (alleging infringements of both copyright and design patent on plush toys). We have not yet seen many cases where plaintiffs have asserted both copyrights and design patents, but there are volumes of cases asserting both copyrights and trademarks or design patents and trademarks for the same features. Cf. Heymann, *supra* note 234, at 65–67 (noting that copyright law and trademark law are motivated by fundamentally different concerns); Moffat, *supra* note 48 (arguing that industrial designs already entitled to functionality-based intellectual property protections should not be copyrightable).

246. Omri Ben-Shahar, *Damages for Unlicensed Use*, 78 U. CHI. L. REV. 7, 15–18 (2011) (describing the distortions introduced when plaintiffs have the option of selecting between two damages regimes). But see John M. Golden, *Redundancy: When Law Repeats Itself*, 94 TEX L. REV. 629 (2016) (suggesting some situations in which redundancy of legal doctrines may be useful).

## IV. WHAT IS TO BE DONE?

Design law gives people too many ways to obtain too many rights. As a result, IP law grants design rights that are broader than they should be, rights that aren't worth the social cost to have around, and rights that overlap in ways that undo the calibration that individual IP regimes are supposed to provide. In this section, we consider policy changes designed to bring design rights more in line with social welfare.

A. *Reining in Overpowered Design Rights*

One set of approaches focuses on the fact that design rights have become too powerful, inducing too many designers to seek and enforce protection even when it is not socially optimal to do so. We consider several approaches to mitigate the excessive power of design rights in this section.

Many of the problems discussed above stem from the ability of IP owners to use tools directed at ornamentation (design patent, copyright) or reputation (trademark) to achieve what the law intends only utility patents to provide: control over the function of the item itself.<sup>247</sup> One solution to the problem is to try to shore up the doctrinal screens that prevent design-related rights from bleeding over into backdoor utility patents. This won't make design rights more costly, but it will reduce the ability to capture inappropriate value—value in excess of what the designer has really created—with those rights. It will therefore reduce the temptation to invest in negative social value rights that generate positive private value. A number of scholars have suggested ways to shore up these screens.<sup>248</sup>

If we can't fix the functionality doctrine, we might modify IP law in other ways to try to restore balance to the system. As we explained in Part III, neither the PTO nor the courts seem to be applying the nominally high creativity threshold that design patent law demands. Patent law's novelty and nonobviousness standards are intended to impose a significant hurdle for claimants. But while the PTO and the courts have demonstrated some willingness to reject utility patents on these grounds, they have not done so for design patents.<sup>249</sup> When prior art discloses a design that substantially anticipates the principal

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247. Buccafusco & Lemley, *supra* note 1, at 1295.

248. See, e.g., *id.*; Jeanne C. Fromer & Mark P. McKenna, *Claiming Design*, 167 U. PA. L. REV. (forthcoming 2018); McKenna & Sprigman, *supra* note 42; Risch, *supra* note 221, at 62–64.

249. See *supra* Part II.D.

features of the claimant's design, as with Apple's patent on a rectangle with rounded corners, the PTO should deny the patent or the courts should invalidate it. Design patent law shouldn't grant substantially stronger protection than copyright law while simultaneously applying a similarly trivial creativity threshold.

Copyright has the converse problem. Just as design patent law has adopted copyright's lax approach to creativity screening, copyright law's functionality screen has moved towards design patent law's lax standard.<sup>250</sup>

We could make it harder to obtain design patents by raising the obviousness bar. Right now, a challenge to a design patent or application must satisfy a two-step test in which the PTO or defendant must first "find a single reference . . . the design characteristics of which are basically the same as the claimed design."<sup>251</sup> Put another way, a design won't be judged as obvious even if it combined elements from two different prior art designs. But as Maureen Long has argued,<sup>252</sup> that rule violates the Supreme Court's decision in *KSR International Co. v. Teleflex Inc.*<sup>253</sup> Understanding that a designer of ordinary skill might combine elements from prior designs, and that it is obvious to do so, could reduce the incidence of weak design patents claiming obvious designs.

There may also be ways to limit the damage *Star Athletica* did in copyright law. While the Supreme Court's decision allows at least some protection for the functional aspects of a useful article, courts might use other copyright doctrines such as section 102(b)'s prohibition on protection for ideas, systems, or methods or the fair use doctrine to restrict the reach of the resulting copyrights.<sup>254</sup>

But there may still be ways for courts to restore the division between design and function that Congress intended. In design patent law, the undoing of the functionality screen is the work of the Federal Circuit alone. It finds no basis in Supreme Court precedent, and it is at odds with the way functionality is treated in trademark cases. Indeed,

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250. See *supra* Part II.D.

251. *Durling v. Spectrum Furniture Co.*, 101 F.3d 100, 103 (Fed. Cir. 1996) (quoting *In re Rosen*, 673 F.2d 388, 391 (C.C.P.A. 1982)) (internal quotation marks omitted).

252. Maureen Long, *The Nonobviousness Requirement for Design Patents: What is the Standard and Why Shouldn't It Obviously Be Modified After KSR?*, 45 AIPLA Q.J. 193 (2017); see also Lee & Sunder, *supra* note 30, at 563 (discussing nonobviousness and the decision in *K.S.R. Int'l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007)).

253. *K.S.R. Int'l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007).

254. See 17 U.S.C. §§ 102(b), 107 (2012).

in *Apple v. Samsung*, the Federal Circuit went so far as to hold that the very same features both *were* functional under trademark law and *were not* functional under design patent law.<sup>255</sup> The Supreme Court declined to resolve that issue, reversing the case on the issue of damages instead.<sup>256</sup> The Court should take a case to resolve this issue. When it does, it should reintroduce an effective form of functionality screening to design patents. That is what the statute requires, and it is how design patent law has historically operated until recent Federal Circuit decisions.<sup>257</sup> Applying *Richardson* (which rejected patents on functional aspects of tools)<sup>258</sup> and rejecting *Coleman* (which allowed patents on functional elements of a flotation device)<sup>259</sup> would be a good start.

Copyright functionality is a somewhat harder problem, because the Supreme Court seemed to suggest in *Star Athletica* that copyright could protect even the functional aspects of a utilitarian work as long as courts could envision creative elements in that work.<sup>260</sup> That risks making copyright design protection cheap indeed. It also eliminates the filters on scope that prevented every copyright in a utilitarian work from becoming an automatic backdoor utility patent.<sup>261</sup> It's not clear that the Court intended to dismantle the functionality screen in copyright, rather than simply concluding that there was *something* worth protecting in a simple design for a cheerleader uniform. And it is entirely possible that courts interpreting *Star Athletica* will grant copyright protection to such works but narrow the scope of that protection to prevent designers from effectively copyrighting functional elements.<sup>262</sup> That's what we think they should do, if the case isn't going to be changed by statute.<sup>263</sup> Doing so would reduce the

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255. *Apple Inc. v. Samsung Elecs. Co.*, 786 F.3d 983, 991–92 (Fed. Cir. 2015).

256. *Samsung Elecs. Co. v. Apple Inc.*, 137 S. Ct. 429, 436 (2016).

257. Risch, *supra* note 221, at 73–77.

258. *Richardson v. Stanley Works, Inc.*, 597 F.3d 1288, 1293–94 (Fed. Cir. 2010).

259. *Sport Dimension, Inc. v. Coleman Co.*, 820 F.3d 1316, 1320–23 (Fed. Cir. 2016).

260. *Star Athletica, L.L.C. v. Varsity Brands, Inc.*, 137 S. Ct. 1002, 1013–14 (2017).

261. That's not what Congress intended. Indeed, it is notable that the Court, in an opinion otherwise purportedly concerned with the plain meaning of the statute, ignored completely the most pertinent part of the very statutory section it was interpreting. 17 U.S.C. § 101 (2012) (explaining that pictorial, graphic, and sculptural works “shall include works of artistic craftsmanship insofar as their form but not their mechanical or utilitarian aspects are concerned”); *see also* Buccafusco & Fromer, *supra* note 103.

262. *See supra* Part III.A. (discussing the effects of *Star Athletica* on the ability to copyright functional elements).

263. *See generally* Buccafusco & Lemley, *supra* note 1, at 1324; Mark A. Lemley & Mark P.

incidence of cheap copyrights with negative social value that impede the follow-on design. But there is no question that *Star Athletica* made the line between design protection and functional IP rights fuzzier than ever. In an ideal world, Congress would pass new legislation overriding *Star Athletica* and restoring copyright's traditional functional screen. But since that seems unlikely, courts should consider other options.

*B. Election of Rights*

A second way to tackle the problem of cheap backdoor utility patents is to focus on the problem of overlap between IP rights. As we noted in Part II, at least before *Star Athletica* different IP regimes were calibrated in different ways. Design patents were intended to be rarer, more costly, shorter, and harder to get than copyrights, but they conferred significantly stronger rights. Copyrights were cheap and simple to get but came with significant limitations designed to prevent their use as backdoor utility patents. And trademark law has special requirements that limit its use to particular circumstances in which a design is valued not for what it is, but for what it represents. In the best-case scenario, creations would be channeled to the one correct doctrinal bucket that appropriately balanced social costs and benefits for designs of that type. IP rights would be offered as a menu of options from which the designer could select the legal regime that best fit her creation.

The concept of one choice from a menu of options was an appropriate metaphor for much of IP law's history. For years, IP law explicitly incorporated a "doctrine of election." Under this doctrine, a creator had to choose one—but only one—form of protection for her work.<sup>264</sup> We don't mean that a design couldn't fall within the subject matter of more than one IP regime; it is well established that copyright, design patent, utility patent, and trade dress might all coexist within a single product. Rather, the doctrine of election meant that where two

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McKenna, *Scope*, 57 WM. & MARY L. REV. 2197, 2242–43 (2015); McKenna, *supra* note 193, at 127.

264. See Jason J. Du Mont & Mark D. Janis, *U.S. Design Patent Law: A Historical Look at the Design Patent/Copyright Interface*, in THE COPYRIGHT/DESIGN INTERFACE: PAST, PRESENT & FUTURE 351 (Estelle Derclaye ed., Cambridge Univ. Press 2018) (providing a detailed discussion of the history of design patent and copyright interface); Douglas R. Wolf, *The Doctrine of Elections: Has the Need to Choose Been Lost?*, 9 CARDOZO ARTS & ENT. L.J. 439, 439 (1991) ("Historically, the Doctrine of Elections . . . limited the creator of an ornamental design to only one form of protection. Over time, the Doctrine has been substantially abandoned." (citation omitted)).

or more IP rights did overlap, the IP owner had to choose which form of protection she wanted.<sup>265</sup> Obtaining a design patent meant foregoing copyright protection over the same design elements, and vice versa. Similarly, a copyright or design patent over a work meant the shape of the work wasn't also eligible for trade dress protection.<sup>266</sup>

The doctrine of election was rejected by the Court of Customs and Patent Appeals in 1974 in *In re Yardley*.<sup>267</sup> That case held that a watch featuring a caricature of then-Vice President Spiro Agnew could be both copyrighted and design patented. *Yardley* was based on the (correct) proposition that different IP rights have different purposes, and if a work has many parts it may be appropriate to protect different parts with different regimes. We have no quarrel with that reasoning. Indeed, utility patents and design patents have long protected different aspects of the same product.<sup>268</sup> But the absence of a doctrine of election has increasingly meant that IP owners use different IP regimes to protect *the same aspects of the same works*, leading to overlapping protection.<sup>269</sup> Thus, a designer might obtain a design patent with its relatively strong rights, then claim a copyright in the same aspects of the work once the design patent expires, and then even claim a trademark in the design should the copyright ever expire.<sup>270</sup> As we described in Part III.D, this allows a designer to leverage the advantages of all of these systems simultaneously, rather than accepting the limitations of a given system as the price of obtaining its

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265. *Louis De Jonge & Co. v. Breuker & Kessler Co.*, 182 F. 150, 152 (E.D. Pa. 1910) (“Since [the work of art] was qualified for admission into the two statutory classes, I see no reason why it might not be placed in either. But it could not enter both.”).

266. *Vacheron & Constantin-Le Coultre Watches, Inc. v. Benrus Watch Co.*, 260 F.2d 637, 642 (2d Cir. 1958) (L. Hand, J.); *Taylor Instrument Cos. v. Fawley-Brost Co.*, 139 F.2d 98 (7th Cir. 1943); *Korzybski v. Underwood & Underwood, Inc.*, 36 F.2d 727 (2d Cir. 1929); *In re Blood*, 23 F.2d 772 (D.C. Cir. 1928); *Louis De Jonge & Co.*, 182 F. at 152; *In re Thorington*, 418 F.2d 528 (C.C.P.A. 1969) (no design and utility patent on same attribute); *In re Guild*, 204 F.2d 700 (C.C.P.A. 1953); *William A. Meier Co., v. Anchor Hocking Glass Corp.*, 95 F. Supp. 264 (W.D. Pa. 1951); *Jones Bros. Co. v. Underkoffler*, 16 F. Supp. 729 (D.D.C. 1936); *Ex parte Guild*, 98 U.S.P.Q. 464 (Pat. Off. Bd. App. 1952), *aff’d on other grounds*, *In re Guild*, 204 F.2d at 700; *Ex parte Fulda*, 1913 Dec. Comm’r Pat. 210 (1913).

267. *In re Yardley*, 493 F.2d 1389 (C.C.P.A. 1974).

268. *E.g.*, *Samsung Elecs. Co. v. Apple Inc.*, 137 S. Ct. 429, 433–35 (2016) (noting that the same devices can be protected by both design patents and utility patents).

269. *See* Complaint at 3–5, *Quan v. Ty, Inc.*, No. 1:17-cv-05683 (N.D. Ill. filed Aug. 3, 2017).

270. The oldest of us is fifty-one years old, and copyrights have never expired in any of our lifetimes because Congress keeps retroactively extending copyright terms. The most recent extension added twenty years to copyright terms, and that was nineteen years ago. We’ll see this year if it happens again.

benefits.<sup>271</sup>

Perhaps it is time to bring back the doctrine of election.<sup>272</sup> The fact that it is too cheap and easy to get strong protection for industrial designs means that the law should look for some other way to limit the power of IP over design. An election doctrine would not solve all the problems we identified in Part III. If it is too easy to get design patents, the fact that a designer can't *also* get copyright protection on the work isn't a complete solution. And if it is too easy to protect functionality through copyright, the fact that a designer can't *also* obtain a design patent doesn't solve that problem either. But requiring election would provide a remedy in an important class of cases in which we make design protection too cheap and too strong—cases in which the IP owner benefits from layering different protections to avoid the limits of each doctrine. That is particularly true when short-term rights like utility patents and design patents expire. Giving long-term or even perpetual protection through copyright or trade dress to elements that also received the benefits of strong patent rights undoes the public benefit of the patent bargain: the promise that the world will have access to the design once the patent expires.

Bringing back election would not necessarily require legislative action. The history of the election doctrine is curious, because its demise in the copyright and design patent context can be traced to a single appellate case—*In re Yardley*.<sup>273</sup> True, that court—the Court of Claims and Patent Appeals—heard all appeals from the Patent and Trademark Office, but at the time it didn't even hear infringement suits. Meanwhile, at the time of *Yardley* the regional circuits and district courts had unanimously adopted the doctrine of election.

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271. *OddzOn Prods., Inc. v. Oman*, 924 F.2d 346 (D.C. Cir. 1991) (refusing Koosh ball copyright registration where product was already patented; patentee wanted the benefits of easier enforcement through copyright).

272. For an early suggestion that we should do something similar with software, see Michael J. Kline, *Requiring an Election of Protection for Patentable/Copyrightable Computer Programs*, 6 COMP. L.J. 607 (1986).

273. To the extent Congress thought about the issue at all, it seems to have assumed that copyright protection was possible for utilitarian works only if the IP owner had not obtained a design patent for the same work. Herbert Putnam, Esq., then Librarian of Congress and active in the movement to amend the copyright laws, told the joint meeting of the House and Senate Committees:

The term ["works of art"] is deliberately intended as a broader specification than ["works of the fine arts"] in the present statute with the idea that there is subject-matter (for instance, of applied design, not yet within the province of design patents), which may properly be entitled to protection under the copyright law.

*Mazer v. Stein*, 347 U.S. 201, 213 (1954).

Nonetheless, when the influential Nimmer treatise endorsed *Yardley*,<sup>274</sup> IP stakeholders just began taking it for granted that a designer could protect the same design element using multiple IP regimes. The Copyright Office acquiesced in 1995, allowing registration of works that had already been patented.<sup>275</sup>

Since *Yardley*, the IP world has taken as given that overlapping protection is the norm. But neither the Supreme Court nor the regional circuits have ever endorsed the elimination of the election doctrine. Indeed, there are good reasons to think the Supreme Court would not do so. Election is common in other areas of IP. Anyone who files for a patent must elect to forego trade secret protection, and choosing trade secrecy similarly precludes later obtaining a patent.<sup>276</sup> In one important decision, the Court seemed to implement an election doctrine between copyright and trademark, sharply limiting the ability of IP owners to assert trademark claims that effectively protected copyrighted works once those copyrights had expired.<sup>277</sup> In another, the Court held that an expired utility patent was strong evidence that a design feature was functional and could not be protected by trademark law.<sup>278</sup> And it has repeatedly held that design patents preempt state design-like rights because of concerns that overlapping protection would allow IP owners to circumvent the requirements of federal design patent law.<sup>279</sup> Congress also endorsed the doctrine of election when it created a new IP right covering boat hulls. It expressly provided that no designer could obtain this new IP right on a boat hull that had already been the subject of a design patent.<sup>280</sup> While the Court has not considered the

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274. Registrability of Pictorial, Graphic, or Sculptural Works Where a Design Patent Has Been Issued, 60 Fed. Reg. 15,605, 15,606 (Mar. 24, 1995) (to be codified at 37 C.F.R. pt. 202) (quoting DAVID NIMMER & MELVILLE NIMMER, NIMMER ON COPYRIGHT § 2.19 (1994)). Pam Samuelson has offered trenchant criticism of the prior edition of the Nimmer treatise, see Samuelson, *supra* note 48, at 1495, and the new version of the treatise contains a much-revised discussion of the election doctrine that is not as critical of it. See DAVID NIMMER & MELVILLE NIMMER, NIMMER ON COPYRIGHT § 2A.07[B] (2018).

275. Registrability of Pictorial, Graphic, or Sculptural Works Where a Design Patent Has Been Issued, 60 Fed. Reg. at 15,605.

276. See MARK A. LEMLEY, PETER S. MENELL & ROBERT P. MERGES, INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE 41 (2017).

277. *Dastar Corp. v. Twentieth Century Fox Film Corp.*, 539 U.S. 23 (2003).

278. *Traffix Devices, Inc. v. Mktg. Displays, Inc.*, 532 U.S. 23 (2001).

279. *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141 (1989); *Compcorp. v. Day-Brite Lighting, Inc.*, 376 U.S. 234 (1964); *Sears, Roebuck & Co. v. Stiffel Co.*, 376 U.S. 225 (1964).

280. 17 U.S.C. § 1329 (2012).

overlap problem in the context of copyright law,<sup>281</sup> we think it should draw the same conclusions there.<sup>282</sup>

Reinvigorating the doctrine of election is somewhat more complicated since the 1976 Copyright Act, because copyright protection is automatic.<sup>283</sup> Surely one does not “elect” copyright over design patent protection merely by creating a work that the law deems automatically within the scope of copyright. We think the doctrine of election should attach at the time a designer files for a design or utility patent on a product attribute. Doing so would represent a choice not to enforce any copyright claim on that attribute. Our proposal is that courts should dismiss copyright lawsuits and the Copyright Office should reject applications for registration that are brought on the basis of elements that are already protected by an existing, pending, or expired design patent. The creator would still own the copyright and remain an author of the work. But she could not enforce that copyright in court. Similarly, the Copyright Office should refuse to register a copyright on any element for which a patent has already been filed.<sup>284</sup>

Conversely, bringing (or perhaps even threatening) a copyright

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281. *Mazer v. Stein* acknowledged the doctrine of election in the case law but declined to rule on it one way or the other. 347 U.S. 201, 205 (1954).

282. Indeed, in *Wal-Mart Stores, Inc. v. Samara Bros., Inc.*, 529 U.S. 205 (2000), the Court restricted the scope of trademark protection for product configurations because it was concerned that trademark law could otherwise be used to circumvent the limitations then imposed by copyright law. It is true that in *Star Athletica* the Court allowed for the possibility that design patent and copyright could protect the same utilitarian articles:

Moreover, we have long held that design patent and copyright are not mutually exclusive. Congress has provided for limited copyright protection for certain features of industrial design, and approaching the statute with presumptive hostility toward protection for industrial design would undermine Congress’ choice.

*Star Athletica L.L.C. v. Varsity Brands, Inc.*, 137 S. Ct. 1002, 1015 (2017) (citation omitted). But that statement is not inconsistent with the doctrine of election. The Court held that the fact that something was eligible for design patent protection didn’t disqualify it from copyright protection. But it did not hold that IP owners could hold both forms of protection over the same element at the same time. The same is true of *J.E.M. Ag Supply, Inc. v. Pioneer Hi-Bred International, Inc.*, 534 U.S. 124 (2001), which held that the developers of new plants could choose utility patents rather than plant patents or a plant variety protection certificate. Election necessarily presupposes that the IP owner has more than one type of right it could employ; the point is that it must choose between them.

283. NIMMER & NIMMER, *supra* note 274, § 2A.07[C](1) (Supp. 2018) (noting that “identifying a plaintiff’s unequivocal choice of regime through registration posed little ambiguity” when copyright registration was required for protection).

284. This would require the Copyright Office to communicate with the PTO and engage in a limited amount of research each time a copyright registration is filed. However, given the nature of copyrights and design patents, this should not be overly difficult. As one solution, the Copyright Office could simply enact a rule requiring any copyright registrant to notify the office of all design patents for which that registrant is a party in interest.

lawsuit based on a product attribute should estop later efforts to patent (or enforce a patent on) that product attribute. The PTO should also dismiss any patent application that tries to claim an element that has already been the subject matter of copyright litigation. We focus here upon registration, litigation, and application because they are public acts that occur at discrete moments in time. It would be comparatively difficult (or impossible) to base election on the moment at which a copyright is created, simply because copyrights spring into existence instantaneously at the moment an author creates a work. Registration and litigation are when that copyright becomes publicly known and reified. There is of course the possibility that parties might try to game this rule, particularly during the period during which a patent application is held secret. But it should function well in most circumstances, and it is certainly an improvement on the status quo.

We think election must be limited to individual features of a product, rather than necessarily encompassing the product as a whole. Complex products can have different attributes for which different IP rights are appropriate. The design of an iPhone is different from the operation of the WiFi technology inside that phone, and enforcing rights in one shouldn't prevent enforcement of the other. By contrast, there is no reason for Apple to be able to use design patent, copyright, and trade dress to enforce rights in the same design element, such as the shape of the phone. Election would prevent disturbing results such as *Apple v. Samsung*, where a failed trade dress case nonetheless prevailed under a design patent theory.<sup>285</sup>

### C. *Narrowing the Scope of Design Rights*

A final approach to the problem of too-powerful design rights would be to narrow the scope and power of the rights we grant. The functionality screens in copyright and design patent were intended to do that,<sup>286</sup> but as we have seen, they aren't working. Congress could, however, impose limits on the strength of design patent rights to better align private and social value. One possibility is to change the current rule on design patent damages. Unlike every other area of IP, a finding of design patent infringement entitles the plaintiff to capture the defendant's entire profit from the "article of manufacture" without any consideration of how valuable the design actually was or what other

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285. *Apple Inc. v. Samsung Elecs. Co.*, 786 F.3d 983, 987 (Fed. Cir. 2015).

286. Buccafusco & Lemley, *supra* note 1, at 1324; Lemley & McKenna, *supra* note 263, at 2226-43; Lee & Sunder, *supra* note 30, at 584-85.

features might have contributed to the value of the defendant's product.<sup>287</sup> As one of us has observed elsewhere, that rule makes no sense.<sup>288</sup> The Supreme Court may have narrowed its reach in *Samsung v. Apple* by permitting courts to define "article of manufacture" narrowly,<sup>289</sup> but a rule that doesn't consider the relative value of the design patent and other features of a product is absurd. Eliminating it and applying the normal rules of IP damages would help tackle the problem of overpowered design patents.

Second, we might consider introducing an independent invention defense to design patents like the one we have in copyright law.<sup>290</sup> The ease of obtaining design patents and the ability to seek profits that are disproportionate to the value of the design has led some to worry about the problem of "design patent trolls," plaintiffs who use their design patents to try to strategically capture value in others' similar designs.<sup>291</sup> The rise of patents on individual images—rather than the shape of an overall product—exacerbates this risk.<sup>292</sup> Scholars have debated whether utility patents should have a defense for independent invention.<sup>293</sup> Even if they shouldn't, such a defense might make sense for design patents, which are closer in purpose to copyright than to utility patent. A design patent shouldn't inhibit design simply to allow its owner to engage in rent seeking; the design patent's real purpose is to prevent close imitation from destroying the incentives to invest in design. Requiring plaintiffs to prove copying would be consistent with that purpose. Doing so would, however, require Congress to act.

There may be other ways to narrow the scope of design patent rights. The current practice of "dotted line" drawings allows patentees to claim a particular curve or feature divorced from the product as a

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287. 35 U.S.C. § 289 (2012).

288. Lee & Sunder, *supra* note 30, at 588–89; Lemley, *supra* note 242.

289. *Samsung Elecs. Co. v. Apple Inc.*, 137 S. Ct. 429 (2016).

290. See *supra* notes 85–91 and accompanying text; see also Robert E. Suggs, *A Functional Approach to Copyright Policy*, 83 U. CIN. L. REV. 1293, 1302 (2015); Rebecca Tushnet, *The Eye Alone Is the Judge: Images and Design Patents*, 19 J. INTELL. PROP. L. 409, 423 (2012).

291. See Sparapani, *supra* note 175 (discussing this problem).

292. Du Mont & Janis, *Virtual Designs*, *supra* note 221, at 114–16.

293. For proposals for an independent invention defense, see Carl Shapiro, *Prior User Rights*, 96 AM. ECON. REV. at 92, 95 (2006); Samson Vermont, *Independent Invention as a Defense to Patent Infringement*, 105 MICH. L. REV. 475 (2006); cf. Mark A. Lemley, *Should Patent Infringement Require Proof of Copying?*, 105 MICH. L. REV. 1525 (2007) (noting the benefits of but also some potential problems with such an approach); Samson Vermont, *The Angel Is in the Big Picture: A Response to Lemley*, 105 MICH. L. REV. 1537 (2007).

whole.<sup>294</sup> And the use of black-and-white drawings means that designs can infringe even if the colors of the plaintiff's and defendant's actual products are not particularly similar.<sup>295</sup> The PTO might instead require the plaintiff to submit a photo or a computer-aided design drawing of the actual or intended product and limit design patent infringement to products that are similar to the design the plaintiff actually implemented rather than the idealized one drawn by her lawyers.<sup>296</sup> Doing so would require more similarity between the plaintiff's design and the defendant's product before the plaintiff could prove infringement.

*D. Raising the Cost of Design Protection*

A different set of solutions to the problem of socially harmful design rights involves making the doctrinal screening mechanisms for design protection more effective. Doing so would have the collateral effect of making obtaining design rights more costly. This, in turn, would dissuade firms from filing applications for especially dubious design patents, thus reducing the number of low private value/negative social value patents in existence and mitigating the design patent troll problem.<sup>297</sup>

One way to start is to improve the examination process. As we have seen, design patents are virtually never rejected at the PTO for lack of novelty or obviousness.<sup>298</sup> While this is not proof that the PTO, as currently constituted, is poorly equipped to examine design patents, there are reasons to think that the agency is in fact hamstrung. The PTO likely has a very difficult time locating relevant design prior art because it is harder to search for shapes than for words. The PTO rarely issues even initial rejections, suggesting that it isn't narrowing design patents' scope before allowing them.<sup>299</sup> This situation might have been tolerable in the past, but as the scope and power of design patents

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294. Burstein, *supra* note 16, at 182–83.

295. Fromer & McKenna, *supra* note 248, at 45 n.263 and accompanying text.

296. Patentees would still need some mechanism to disclaim portions of the photographed design, as they do today with dotted lines.

297. The Berne Convention for the Protection of Literary and Artistic Works, July 24, 1971, 1161 U.N.T.S. 3, constrains our ability to impose a costly screen on copyright, though it might be possible to impose a higher registration fee on U.S. (but not foreign) applicants, just as the law now requires registration as a prerequisite to suit only for U.S. applicants. 17 U.S.C. § 411(a) (2012).

298. *See supra* notes 198–204.

299. *Id.*

expand, the PTO's ability to locate prior art needs to expand as well. The agency should invest in improved search tools designed to find prior art, and it should pay more attention to novelty in the examination process.<sup>300</sup>

If the various doctrinal changes we've suggested are insufficient, the PTO should also increase the cost of seeking or maintaining design patent protection. This would be the most direct way of establishing a meaningful costly screen to design patents.<sup>301</sup> Design patents are an excellent target for cost-based screening. The value of many designs is low, and so a screen should have a significant effect on designers' decisions regarding whether to file for patents.<sup>302</sup> In addition, there is not a well-established market for the sale of design patents to trolls, which makes it less profitable for designers to seek nuisance patents.

A typical utility patent will cost roughly \$35,000 to obtain and maintain throughout its twenty-year lifetime.<sup>303</sup> Perhaps design patents should not cost quite this much, but the cost should be higher than the current \$5000.<sup>304</sup> In particular, while owners of utility patents must pay maintenance fees to keep a patent in force throughout its lifetime, the PTO imposes no such fees on owners of design patents.<sup>305</sup> The PTO should consider imposing maintenance fees during a design patent term, just as it does for utility patents. This could prevent opportunistic enforcement while still allowing design patent owners to prevent rapid copying.<sup>306</sup> The PTO charges \$12,600 to maintain a utility patent over the course of its full twenty-year term.<sup>307</sup> Design patents last 75 percent as long. The PTO should consider imposing design patent maintenance fees equal to 75 percent of that total, or roughly \$9000.<sup>308</sup>

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300. Cf. Lemley, *Rational Ignorance*, *supra* note 83, at 1482 (noting that utility patent examination is cursory, but that even this cursory examination well exceeds the examination of design patents).

301. Fagundes & Masur, *supra* note 12, at 706.

302. John R. Allison, Mark A. Lemley, Kimberly A. Moore & R. Derek Trunkey, *Valuable Patents*, 92 GEO. L.J. 435 (2004) (arguing that many patents are too valuable to be deterred by a costly screen).

303. See *supra* note 220 and accompanying text.

304. See *supra* note 166 and accompanying text; see also Burstein, *Costly Designs*, *supra* note 30, at 122–26 (arguing that design patent fees are justified).

305. See *supra* note 220.

306. Cf. Jonathan S. Masur, *CBA at the PTO*, 65 DUKE L.J. 1701 (2016) (describing the beneficial effects of maintenance fees as a means of eliminating harmful patents while preserving valid and valuable ones).

307. See *supra* note 220.

308. This is a particularly rough estimate because the value of an IP right is typically front-loaded in time and does not scale linearly with the length of the right. *Supra* notes 239–40 and

There is a risk that higher fees will disproportionately affect smaller designers, who may not have the liquid capital necessary to file for patents on new designs. We do not think this will be an overly significant concern, however. First, many small designers with valuable designs should be able to raise the necessary funds through loans or other types of investment.<sup>309</sup> Some may be able to take advantage of pro bono legal services. (Attorney's fees are currently responsible for the majority of the cost of obtaining a design patent.<sup>310</sup>) Smaller entities could also receive discounts on design patent filing fees, as they already do for utility patents,<sup>311</sup> or fees could scale with the total number of patents filed by a given entity. In addition, the PTO could substantially increase the costs of filing continuation patents, which use an earlier patent application to retain the first's priority date.<sup>312</sup> Continuation patents are one of the principle means by which companies like Apple obtain many patents over the same product. Because continuation patents may be less important for small scale designers, charging higher fees for them may produce the appropriate distributional effect.

The PTO could also impose substantial maintenance fees on design patents while holding up-front application fees constant.<sup>313</sup> Choosing maintenance fees over up-front examination fees might reduce the worry that higher fees would discourage small firms and individuals from seeking protection. Waiting until a design has been patented and been in the market for several years gives independent designers the time to turn the design into a success. But by the same token, it presents the risk that plaintiffs will obtain and enforce cheap design patents early in their life.

Increased costly screens can complement improved doctrinal screening. Higher examination or maintenance fees would both

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accompanying text; see Anup Malani & Jonathan S. Masur, *Raising the Stakes in Patent Cases*, 101 GEO. L.J. 637, 672 (2013). In addition, design patents, while powerful, are less powerful than utility patents. Nonetheless, absent a more precise figure, this type of maintenance fee would almost surely be an improvement upon the status quo.

309. Kickstarter lists tens of thousands of design projects that are currently seeking crowdfunding. KICKSTARTER, <https://www.kickstarter.com/discover/categories/design/product%20design> [<https://perma.cc/P6EG-PG28>] (last visited May 29, 2018).

310. See *supra* note 220.

311. Neel U. Sukhatme, *Regulatory Monopoly and Differential Pricing in the Market for Patents*, 71 WASH. & LEE L. REV. 1855, 1881–83 (2014).

312. See *In re Owens*, 710 F.3d 1362 (Fed. Cir. 2013) (discussing claiming for continuation patents).

313. Although maintenance fees are required for utility patents, they are not required for design patents. 37 C.F.R. § 1.362(b) (2017).

increase the potency of design patent's costly screen and provide funding for improved substantive examination—that is, a more effective creativity screen.<sup>314</sup> Moreover, they would likely do so without deterring much (if any) valuable design creation. At the same time, improved patent examination would naturally augment the costly screen because it would increase the cost of hiring an attorney to prosecute a patent application.

Congress could also increase the cost of enforcing both copyrights and design patents. While litigation is expensive for both plaintiffs and defendants, IP owners can often use the threat of litigation to scare even defendants who are behaving lawfully into caving and settling. The existence of contingency-fee lawyers in IP means that litigation is often more costly for defendants than for plaintiffs.<sup>315</sup> Congress could increase the cost of litigation, for example, by charging a substantial fee to file an IP infringement suit or perhaps even a small fee to send threat letters. Raising the cost of enforcement rather than acquisition would effectively apply a costly screen to copyrights as well as design patents. And it would have the added benefit of allowing parties to acquire design patents cheaply and then decide later whether it was worth the expense to assert those patents.

#### *E. Optimal Design Screening*

While each of these approaches would help solve the problem of excessive design rights, their effects are cumulative, and we worry that pulling on too many levers at the same time might overshoot the mark. In this section we discuss how these different approaches might overlap.

If someone put us in charge of the world,<sup>316</sup> we would begin with

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314. See generally Roger Allan Ford, *The Patent Spiral*, 164 U. PA. L. REV. 827, 839–40 (2016); Masur, *Costly Screens*, *supra* note 12, at 699–703; Stephen Yelderman, *Improving Patent Quality with Applicant Incentives*, 28 HARV. J.L. & TECH. 77, 103–08 (2014) (observing that if the PTO rejects more overbroad patents, those patents become costlier to obtain in expectation).

315. Ronen Avraham & John M. Golden, *From PI to IP: Yet Another Unexpected Effect of Tort Reform*, 20 AM. L. & ECON. REV. 168 (2018); David L. Schwartz, *The Rise of Contingent Fee Representation in Patent Litigation*, 64 ALA. L. REV. 335 (2012).

316. To be clear, we're imagining a triumvirate in which the three of us takes turns running the various branches of government in three-year terms. After a round robin miniature golf tournament, we have determined that the initial distribution of responsibilities is Executive: Masur, Judiciary: Lemley, Legislative: Buccafusco. *Eminem* will serve as ambassador to the United Nations.

If we did in fact control the government, we doubt that optimizing design protection would be high on our agenda, but we would get to it at some point, and this is what it would look like.

doctrinal screens as a first-order solution. First, we would return to a world that resembled the one that existed prior to *Star Athletica*. Copyright law should have virtually no creativity threshold and a relatively low ex ante costly screen, but it should rigorously police functionality.<sup>317</sup> Only those aspects of designs that are exclusively nonfunctional should be accorded copyright protection.<sup>318</sup>

Design patent law would then serve as the appropriate home for design elements that are simultaneously functional and nonfunctional. But it would properly exclude features of designs that are entirely functional.<sup>319</sup> We would also impose a much stricter obviousness screen on designs than currently exists at the PTO and in the courts. A design should only qualify for design patent protection when it is truly creative and new. This would help minimize the number of negative social value patents.

In an ideal world we might not need costly screens at all. As we discussed above, however, creativity thresholds are imperfect proxies for social welfare, and we don't think courts will get it right all the time. So it makes sense to impose upon design patent claimants a substantial costly screen. This includes application and maintenance fees that more closely track utility patent law, and perhaps an enforcement fee as well. In addition, in a second-best world we would impose a doctrine of election that would prevent claimants from asserting both copyright and design patent rights. The exploitation of overlapping IP rights wouldn't be as significant a problem if the law properly defined the metes and bounds of each type of right, but a doctrine of election would help to prevent duplicative design rights from slipping through the cracks.

Establishing a perfect system would require a combination of legislative, judicial, and administrative action that we suspect is unlikely to occur. But half steps are better than none, and any of the proposals we have outlined in this section is likely to improve social welfare.

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317. Although copyright law might not want a costly screen for establishing rights for the reasons explained by Fagundes & Masur, *supra* note 12, it should impose increasingly costly maintenance fees over its long duration to avoid the problems associated with orphan works.

318. The Second Circuit's opinion in *Brandir Int'l, Inc. v. Cascade Pac. Lumber Co.*, 834 F.2d 1142 (2d Cir. 1987), and Judge Kanne's dissenting opinion in *Pivot Point Int'l, Inc. v. Charlene Prods.*, 372 F.3d 913, 932 (7th Cir. 2004) (Kanne, J., dissenting), come closest to our view of copyright's optimal functionality screen.

319. As a matter of functionality screening, the opinions in *Richardson* and *Apple* seem to strike the balance correctly.

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*INTELLIGENT DESIGN*

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## CONCLUSION

The mechanisms IP law has created to separate design protection from utility patent protection aren't working. Today it is too cheap and too easy to get design protection that is too broad. And because designers don't have to choose between IP regimes but can take advantage of all of them at once, the failure of any particular IP regime to get the balance right reverberates throughout other doctrines.

We suggest several ways to bring design protection back into balance. We can make it harder to get stronger rights or rights that tread on what is properly the ground of utility patent law. We can make it more expensive for designers to insulate themselves from competition. And finally, we can force people to choose only one form of protection for any given design element. Not all of these solutions will be politically feasible. But alone or in combination, they offer a framework for a more intelligent system of design rights.

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