

WHOLE DESIGNS

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In the past decade, there has been a renewed interest in the concept of patentable subject matter—that is, what kinds of things can you get a patent for? But this attention has, to date, been focused on utility patents, the patents that protect how things work. There has been scant attention paid to statutory subject matter and design patents, the patents that protect how things look. These patents have gained prominence in both practice and scholarship since the \$1 billion verdict in Apple v. Samsung. The time has come to take the question of design patentable subject matter seriously. Today, the USPTO allows applicants to claim any visual characteristic of an article as a separate “design,” including small, immaterial, or functional fragments of an article. This Article argues that design patents should only be granted for whole designs—whole shapes, surface designs, or combinations—for articles of manufacture. This approach would better match the statutory text, allow for the development of intellectually coherent design patent doctrines, and better promote the progress of the decorative arts. It would also help define a clear domain for design patents to better channel designs among intellectual-property regimes.

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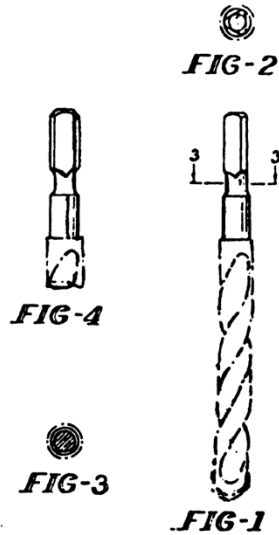
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INTRODUCTION

In 1980, the U.S. Court of Customs and Patent Appeals (CCPA) radically redefined what counts as a patentable “design for an article of manufacture.”¹ In *In re Zahn*, it held that, contrary to past practice at the U.S. Patent & Trademark Office (USPTO), an applicant could claim a fragment of a shape

1. See *In re Zahn*, 617 F.2d 261, 268 (C.C.P.A. 1980). Then, as now, the statute defined the statutory subject matter for designs using that phrase. See 35 U.S.C. § 171 (1976); 35 U.S.C. § 171(a) (2018) (“Whoever invents any new, original and ornamental design for an article of manufacture may obtain a patent therefor, subject to the conditions and requirements of this title.”).

as a freestanding “design.”² Thus, Zahn was allowed to claim the shape of just the “shank portion” of a drill bit—that is, the part shown in solid lines below—as a “design”:³



This might not sound like a big deal but it was.⁴ This kind of claim gives a design patent owner a monopoly over a

2. See *In re Zahn*, 617 F.2d at 267 (“[A] design for an article of manufacture may be embodied in less than all of an article of manufacture . . .”).

3. See *id.*; *id.* at 262–63 (showing some of the illustrations from Zahn’s application). If the reader is thinking to themselves, “but wait, I thought you said the design had to be ornamental”—well, that’s another problem. See *infra* Section IV.A.5.

4. Practitioners immediately recognized this was a major development. See Joel M. Freed, *Patent Developments*, The Eighth Annual Judicial Conference of the United States Court of Customs and Patent Appeals (Apr. 10, 1981), in 92 F.R.D. 181, 194 (1981) (describing *Zahn* as effecting a “major change in law”). Other contemporary practitioners agree. See, e.g., Robert G. Oake, Jr., *Design Patent Perspective: The Design Patent Application - Part 2*, INTELL. PROP. TODAY, Nov. 2012, at 2, 4 (describing *Zahn* as “a fundamental shift in design patent law”); Elizabeth D. Ferrill & Robert D. Litowitz, *Avoiding the Remedy Dilemma in Enforcing Design Patents*, LAW360 (Mar. 5, 2013), <https://www.finnegan.com/en/insights/avoiding-the-remedy-dilemma-in-enforcing-design-patents.html> [<https://perma.cc/BH9R-KH7J>]. Some scholars, however, disagree. See Jason J. Du Mont & Mark D. Janis, *Virtual Designs*, 17 STAN. TECH. L. REV. 107, 116 (2013) (“*Zahn* can be read as standing for the narrow—and perhaps unremarkable—proposition that it is acceptable to use broken lines to designate ‘the environment in which the design is associated.’”).

“potentially infinite number of” drill bit shapes.⁵ Any other drill bit with a shank portion that looked the same as the claimed design would infringe the patent, regardless of the appearance of the rest of the bit.⁶ By accepting this kind of fragment claiming, the CCPA fundamentally changed the nature of the U.S. design patent system.⁷

The basis for this dramatic change—the CCPA’s decision in *Zahn*—is fatally flawed.⁸ It should be overruled.⁹ Courts and the USPTO should interpret the phrase “design for an article of manufacture” as referring, in accordance with its plain English meaning, to a whole design for an article of manufacture.¹⁰ But what is a whole design for an article of manufacture?

This Article provides an answer. It argues that a “design for an article of manufacture” is one that is directed to a whole article, not just a fragment thereof. In other words, design

5. That was exactly what *Zahn*—really, his assignee—wanted. See Appellant’s Brief at 6, No. 79-560, *In re Zahn* (Fed. Cir. July 13, 1979) (“If this position were upheld, appellant would be forced, in the present instance, to file patent applications showing the drill tool shank in combination with every conceivable twist or cutting portion, a potentially infinite number of applications.”).

6. See *infra* Part I (discussing the contemporary test for infringement).

7. See Sarah Burstein, *How Design Patent Law Lost Its Shape*, 41 CARDOZO L. REV. 555, 596–615 (2019) [hereinafter Burstein, *Shape*] (discussing some of those implications). Conceptually, a “design,” like the one claimed in *Zahn*, could be conceptualized as a whole design that is directed to only part of an article or as a part of a design for the whole article. Either way, “fragment claiming” seems an apt way to describe this claiming technique and “fragment designs” and “fragment claims” seem apt ways describe what is being claimed. See *id.* at 639. Unless indicated otherwise, that is how those terms will be used for the rest of this Article. And to be clear, the main concern here is *what* is claimed, not *how* it’s claimed. Dotted lines *per se* are not the problem. See *infra* Part I (describing contemporary design patent drawing conventions). The problem is when they—or other drawing conventions—are used to claim fragments.

While other scholars have recognized some of the problems discussed therein, they have not drawn a connection between them and the contemporary conception of what constitutes a patentable “design.” See, e.g., Christopher Buccafusco, Mark A. Lemley & Jonathan S. Masur, *Intelligent Design*, 68 DUKE L.J. 75 (2018). Even those who have recognized the need for design patent law to develop “coherent notion of the protected subject matter” have not proposed one. Jason Du Mont & Mark D. Janis, *Disclosing Designs*, 69 VAND. L. REV. 1631, 1674–75 (2016) (arguing that contemporary restriction requirements, along with other section 112 disclosure issues, shows that design patent law needs to “arrive at a coherent notion of the protected subject matter” but not proposing one).

8. Burstein, *Shape*, *supra* note 7, at 557 (“*Zahn* is a flawed decision built on poor logic, mis-framed issues, and ipse dixit.”).

9. See *id.* at 638.

10. For a full argument as to why, see *id.* at 559.

patents should protect whole designs. This Article proceeds in four Parts. Part 0 provides a brief background of the relevant principles of design patent law and practice. Part 0 develops a new framework for analyzing what constitutes a whole design, utilizing insights from visual design theory. Part 0 applies this new framework to the three longstanding types of patentable designs. Part 0 evaluates the merits of this new approach and demonstrates that it would be more consistent with contemporary design theory and practice, better encourage design innovation, and would be a first step towards bringing greater intellectual coherence to various areas of design patent doctrine.

I. BACKGROUND

In the United States, there are three different types of patents: utility patents, plant patents, and design patents.¹¹ Section 171 of the current patent statute provides that “[w]hoever invents any new, original and ornamental design for an article of manufacture may obtain a patent therefor, subject to the conditions and requirements of this title.”¹² Those other conditions and requirements include novelty and

11. 35 U.S.C. §§ 101, 161, 171 (2018); *see also* U.S. DEP’T OF COM., PATENT & TRADEMARK OFFICE, MANUAL OF PATENT EXAMINING PROCEDURE § 201 (9th ed. Jan. 2018) [hereinafter MPEP] (listing the three types of patents).

12. 35 U.S.C. § 171(a) (2018). Neither “new” nor “original” have been interpreted as stating independent requirements for design patentability. The Federal Circuit has suggested in dicta that the word “original” was “likely . . . designed to incorporate the copyright concept of originality—requiring that the work be original with the author” even though the requirement was added to the copyright statute after it was in the design patent statute. *See Int’l Seaway Trading Corp. v. Walgreens Corp.*, 589 F.3d 1233, 1238 (Fed. Cir. 2009) (“The originality requirement in § 171 dates back to 1842 when Congress enacted the first design patent law. The purpose of incorporating an originality requirement is unclear; it likely was designed to incorporate the copyright concept of originality—requiring that the work be original with the author, although this concept did not find its way into the language of the Copyright Act until 1909.”) (footnote omitted) (citing 1-2 MELVILLE B. NIMMER & DAVID NIMMER, NIMMER ON COPYRIGHT § 2.01 (2005)). It’s worth noting that the contemporary concept of copyright originality includes not just independent creation but also minimal creativity. *See Feist Publ’ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 345 (1991) (“Original, as the term is used in copyright, means only that the work was independently created by the author (as opposed to copied from other works), and that it possesses at least some minimal degree of creativity.”) (citing 1 M. Nimmer & D. Nimmer, Copyright §§ 2.01[A], [B] (1990)).

nonobviousness.¹³ In theory, novelty and nonobviousness might seem to be high burdens but, in practice, they are not. The U.S. Court of Appeals for the Federal Circuit, which has had exclusive appellate jurisdiction over design patent cases since 1982,¹⁴ has eroded the substantive requirements of ornamentality, novelty, and nonobviousness to the point that it is very difficult for courts and the USPTO to reject any design patent claim, no matter how functional, banal, or unimportant the claimed design might be.¹⁵

For as long as there have been design patents, it has “been held that there are two classes of protectable designs—designs for ‘surface ornamentation applied to an article’ and designs for ‘the configuration or shape of an article.’”¹⁶ Applicants have always been able to claim a design for configuration, surface ornamentation, or a combination of both.¹⁷ The words “configuration” and “shape” have long been used as synonyms in U.S. design law.¹⁸ Therefore, this Article will use those terms interchangeably. Today, the USPTO allows applicants to

13. See 35 U.S.C. § 171(b) (2018). (“The provisions of this title relating to patents for inventions shall apply to patents for designs, except as otherwise provided.”); § 102 (setting forth the requirement of novelty); § 103 (setting forth the requirement of nonobviousness). Neither courts nor the USPTO require a separate showing of “newness” or “originality.” See Sarah Burstein, *The “Article of Manufacture” in 1887*, 32 BERKELEY TECH. L.J. 1, 7 n.26 (2017) [hereinafter Burstein, 1887].

14. See 28 U.S.C. § 1295(a)(1) (2012); see also Federal Courts Improvement Act of 1982, Pub. L. No. 97-164, 96 Stat. 25 (1982) (creating the Federal Circuit).

15. See Sarah Burstein, *Is Design Patent Examination Too Lax?*, 33 BERKELEY TECH. L.J. 607 (2018) [hereinafter Burstein, *Too Lax?*] (explaining the current tests for ornamentality, novelty, and nonobviousness); see also Sarah Burstein, *Costly Designs*, 77 OHIO ST. L.J. 107, 128 (2016) [hereinafter Burstein, *Costly Designs*] (“The PTO issues design patents for trite, uncreative, or obviously unpatentable designs nearly every week.”).

16. Burstein, 1887, *supra* note 13, at 8 (2017) (citing, *inter alia*, *Gorham Mfg. Co. v. White*, 81 U.S. 511, 525 (1871)).

17. See *id.*; see also *Gorham*, 81 U.S. at 525 (“It is the appearance itself, therefore, no matter by what agency caused, that constitutes mainly, if not entirely, the contribution to the public which the law deems worthy of recompense. The appearance may be the result of peculiarity of configuration, or of ornament alone, or of both conjointly, but, in whatever way produced, it is the new thing, or product, which the patent law regards.”).

18. See, e.g., *In re Schnell*, 46 F.2d 203, 209 (C.C.P.A. 1931); *Gorham*, 81 U.S. at 525. The USPTO also appears to consider the statutory terms “shape” and “configuration” to be synonymous. See MPEP, *supra* note 11, § 1502.01 (“The ornamental appearance for an article includes its shape/configuration or surface ornamentation applied to the article, or both.”).

claim any “visual characteristic[] embodied in or applied to an article” as a separate “design.”¹⁹

A design patent gives its owner the right to prevent others from making, using, selling, offering to sell, or importing the patented design for fifteen years.²⁰ Upon a finding of infringement, a design patent owner may be able to obtain injunctive relief²¹ and is entitled to “damages adequate to compensate for the infringement, but in no event less than a reasonable royalty.”²² For certain acts of design patent infringement, the patent owner can elect to forgo compensatory damages in favor of recovery under a special “total profits” provision.²³

To obtain a design patent, the inventor or their assignee must file an application with the USPTO.²⁴ That application must “particularly point[] out and distinctly claim[] the subject matter which the inventor or a joint inventor regards as the invention.”²⁵ Unlike a utility patent application, a design patent application can include only one claim.²⁶ A design patent claim has two parts—a short, *pro forma* verbal claim and a visual representation consisting of one or more drawings or photos of the claimed design.²⁷

19. See MPEP, *supra* note 11, § 1502.

20. 35 U.S.C. § 173 (2018). There was recently a term change; therefore, “[d]esign patents that mature from applications filed on or after May 13, 2015 have a term of fifteen years; design patents that matured from applications filed prior to that date have a term of 14 years.” Sarah Burstein, *The Patented Design*, 83 TENN. L. REV. 161, 172 n. 48 (2015). And, unlike utility patents, the design patent term runs from the date the patent is issued. Compare 35 U.S.C. § 154(a)(2) (2018), with 35 U.S.C. § 173.

21. 35 U.S.C. § 283 (2018); see also *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 393–94 (2006) (rejecting the Federal Circuit’s “general rule . . . that a permanent injunction will issue once [patent] infringement and validity have been adjudged”) (quoting *MercExchange, LLC v. eBay, Inc.*, 401 F.3d 1323, 1338 (Fed. Cir. 2005)).

22. 35 U.S.C. § 284 (2018).

23. 35 U.S.C. § 289 (2018). For more on the interplay between these remedies, see Sarah Burstein, *The “Article of Manufacture” Today*, 31 HARV. J.L. & TECH. 781, 788–89 (2018) [hereinafter Burstein, *Today*]. Notably, a design patent owner must comply with the marking requirement of 35 U.S.C. § 287 in order to recover under either § 284 or § 289. *Nike, Inc. v. Wal-Mart Stores, Inc.*, 138 F.3d 1437, 1446 (Fed. Cir. 1998).

24. See 35 U.S.C. § 111 (2018).

25. 35 U.S.C. § 112(b) (2018); see also MPEP, *supra* note 11, § 1503.01(III) (explaining the USPTO’s rules for design claims).

26. MPEP, *supra* note 11, § 1503.01(III).

27. For more details, see Burstein, *1887*, *supra* note 13, at 10–11.

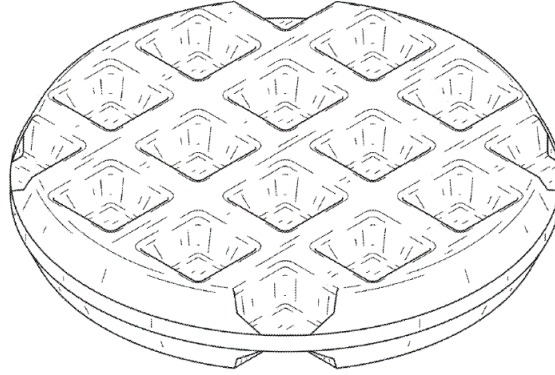
Generally, the claimed design is shown using solid lines and any disclaimed portions of the article's visual appearance are shown in broken lines.²⁸ This type of disclaimer increases the patent's scope because, under the current test for design patent infringement, "a design patent is infringed if the claimed design . . . looks the same as the corresponding portion (or portions) of the accused product."²⁹ Thus, if only part of an article's visual appearance is claimed, the range of potentially infringing products becomes larger.³⁰ Consider, for example, this recently-issued design patent for a design for a "Pressed

28. See *id.* (citing MPEP, *supra* note 11, at §§ 1503.01(III), 1503.02(III)). It appears that, in recent years, the USPTO has allowed applicants to use other methods to visually disclaim portions of a design. See, e.g., Tyre, U.S. Patent No. D721,636 at 1 (issued January 27, 2015) ("The claimed element in FIGS. 5, 6, 7 and 8 appears in focus, while the remainder of each of the figures is purposely out of focus."); see also *id.* at figs. 5–8.

29. Burstein, *Today*, *supra* note 23, at 787 (summarizing the test stated in *Egyptian Goddess, Inc. v. Swisa, Inc.*, 543 F.3d 665, 672 (Fed. Cir. 2008) (en banc)). This test must be performed from the perspective of a hypothetical "ordinary observer" who is familiar with the prior art. See Burstein, *The Patented Design*, *supra* note 20, at 174–75. Notably, "[a]lthough the ordinary observer is deemed to be familiar with the prior art, that does not mean the court (or jury) must always consider it." *Id.* at 174 (citing *Ethicon Endo-Surgery, Inc. v. Covidien, Inc.*, 796 F.3d 1312, 1337 (Fed. Cir. 2015)); see also *id.* at 175 (citing *Ethicon*, 796 F.3d at 1337) ("[T]he prior art may be used in some circumstances to narrow a design patent's scope. But if the claimed design and accused product appear to be 'plainly dissimilar,' then the prior art may not be used to broaden the claim."). Importantly, design patent infringement is about duplication, not copying in the copyright sense. See generally Burstein, *Shape*, *supra* note 7, at 555, 564 ("Although the cases sometimes use the phrase 'substantially similar' in discussing design patent infringement, which sounds a bit like the 'substantial similarity' test used for copyright infringement, the two tests are not the same. In design patents, 'the proper inquiry' is 'whether the accused design has appropriated the claimed design as a whole.' In other words, there is no doctrine of 'fragmented literal similarity' in design patent law.").

30. See Burstein, *Today*, *supra* note 23, at 787 (noting that this type of claiming "allows a design patent owner to succeed on an infringement claim where the defendant's product, considered as a whole, doesn't look the same as the patent owner's product"). Some may argue that *Zahn*-style fragment claims are (or should be) easier to invalidate than full-article claims and that will prevent undue overreach. "But in practice, it does not appear that fragment claims are especially vulnerable to invalidation or rejection." Burstein, *Shape*, *supra* note 7, at 600. That may be even more true if the Federal Circuit upholds a recent decision of the Patent Trial and Appeal Board (PTAB) ruling that a reference showing the outer side and top views of a prior design was not sufficient to anticipate a patented shoe design because the reference lacked a view of "the inner side," "the front," and "the rear." See Decision on Appeal at 11–12, U.S.A. Dawgs v. Crocs, Inc., Appeal 2019-0004306, Reexamination Control 95/002,100 (P.T.A.B. Sept. 10, 2019); see also *id.* at 8 (showing the reference).

Shredded Potato Product.”³¹ Here is a representative drawing from that patent:³²



The entire shape of the article is shown in solid lines; therefore, the claim extends to the entire shape. It would only be infringed by another pressed shredded potato product that looked the same, overall, to an ordinary observer.³³ It would not be infringed, for example, by a pressed shredded potato product that had the same dimples but had a square outer contour.³⁴ But that hypothetical square waffle *would* infringe this other design patent, which was issued a few months later to the same patentee.³⁵

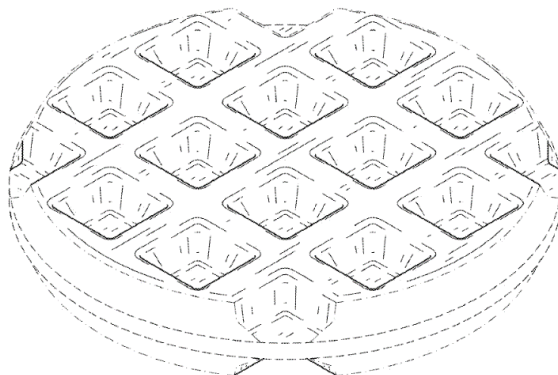
31. Pressed Shredded Potato Product, U.S. Patent No. D857,332 (issued Aug. 19, 2019). Yes, that’s right. This appears to be a premade totwaffle.

32. *Id.* at fig. 7.

33. Some would argue that the verbal portion of this claim should not be limiting. But the author maintains that the verbal portion of the claim is still part of the claim and should, therefore, be limiting.

34. See generally PAUL ZELANSKI & MARY PAT FISHER, DESIGN PRINCIPLES & PROBLEMS 320 (2d ed. 1996) (defining “major contours” as “[t]he outer spatial limits of a three-dimensional piece” (italics omitted)); *id.* at 321 (defining “secondary contours” as “[i]nterior modeling of a three-dimensional work, as opposed to the outer major contours” (italics omitted)).

35. Pressed Shredded Potato Product, U.S. Patent No. D884,309 fig. 7 (issued May 19, 2020).



In this second design patent, only the dimples—not the outer contour—are shown in solid lines. That means that only the dimples are claimed. The second patent would also be infringed by a circular potato product with more dimples, as long as this set of dimples was a visual match for the claimed design. So the second patent is much broader than the first.

These two patents also demonstrate another important aspect of contemporary design patent practice—continuation applications.³⁶ Design patent applications can claim priority to earlier-filed design patent applications and non-provisional utility patent applications.³⁷ As explained previously:

One limit on continuation and divisional applications is that they are not supposed to contain any “new matter.” According to the USPTO, changing a solid line to a broken line or vice versa in a design patent drawing does not constitute the addition of “new matter.” Therefore, an

36. See generally Stephanie Plamondon Bair, *Adjustments, Extensions, Disclaimers, and Continuations: When Do Patent Term Adjustments Make Sense?*, 41 CAP. U. L. REV. 445, 464 (2013) (“[A] patent continuation is a mechanism whereby a patent applicant can ‘reset’ the patent prosecution process following a final rejection of a patent application or at any other time prior to the patent issuing or applicant abandoning the application.”); *id.* at 465 (discussing the various types of continuations).

37. See MPEP, *supra* note 11, § 1504.20; see also *In re Daniels*, 144 F.3d 1452, 1456 (Fed. Cir. 1998) (“[D]esign and utility patents are each entitled to claim priority from the other.” (citing *Racing Strollers, Inc. v. TRI Indus., Inc.*, 878 F.2d 1418, 1418 (Fed. Cir. 1989))); MPEP, *supra* note 11, § 1504.10 (“Design applications may not make a claim for priority of a provisional application under 35 U.S.C. 119(e).”); see generally *In re Owens*, 710 F.3d 1362, 1366 (Fed. Cir. 2013) (discussing design patent continuation practice).

applicant can significantly alter the scope of their claims over time by filing a string of related applications with different lines—or parts thereof—shown in solid and broken lines. This “daisy-chain” technique allows design patent applicants to claim basically whatever they want, whenever they want. They can even go back to the USPTO and capture competing products that were introduced after the first design patent application was filed—even if those competing products did not infringe the original patent claim.³⁸

This “daisy-chaining” or “keep one in the oven” strategy allows applicants to not only expand the scope of their claims but it also allows sophisticated design patent applicants “to ‘evergreen’ design patent protection for a particular product for 30 or even 40 years by filing multiple applications covering different aspects of a product design.”³⁹

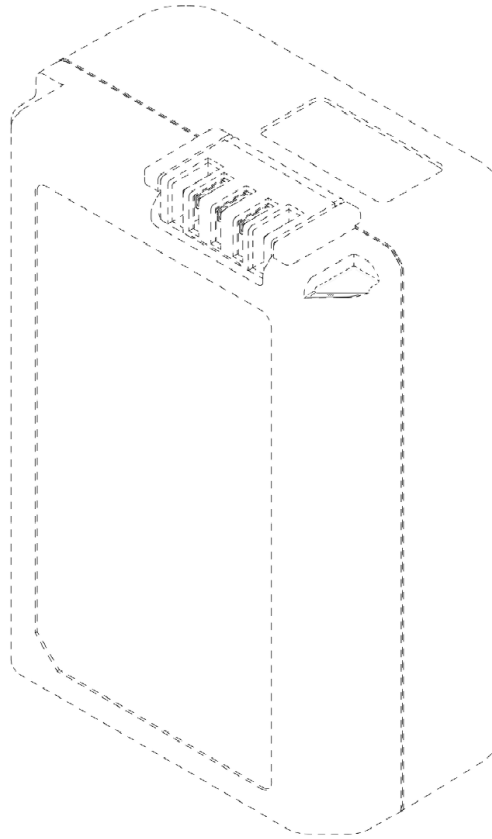
Importantly, for both continuation and other applications, neither the USPTO nor the Federal Circuit limit fragment claims to important, distinctive, or salient design features.⁴⁰ So it is not unusual for applicants to claim very small or visually insignificant fragments of a larger design. Consider this design

38. Burstein, *Shape*, *supra* note 7, at 603–04 (footnotes and some internal quotation marks omitted). I have heard some design patent prosecutors say that the USPTO may be tightening the reins on what they can claim in continuations; however, since design patent applications are not published unless and until a patent issues, it is difficult to independently ascertain the truth of those claims or to know what kinds of continuations, if any, are actually getting rejected. *See generally* 35 U.S.C. § 122(b)(2)(A)(iv) (2018). International applications filed using the Hague System are an exception. *See id.* § 154(d)(1); *see also id.* § 381 (providing definitions for the Hague-ratification provisions).

39. Burstein, *Costly Designs*, *supra* note 15, at 130–31.

40. *See id.* at 116. It is simply not true, one prominent design expert has claimed, that “companies only patent the parts of a product that represent its ‘heart and soul[.]’” *See* Linda Tischler, *Cooper Woodring, Design Defender*, FAST COMPANY (Oct. 15, 2012), <http://www.fastcompany.com/3001762/cooper-woodring-design-defender> [<https://perma.cc/RA44-ZL6Q>]; *see also* Sarah Burstein, *Heart, Soul and US Design Patents -- and Partial Claiming*, CLASS 99 (Oct. 17, 2012), <https://www.marques.org/Class99/Default.asp?XID=BHA377> [<https://perma.cc/5M3G-SWF4>]. The Federal Circuit endorsed some narrow limits on fragment claiming in continuation and divisional applications. *See In re Owens*, 710 F.3d 1362, 1368–69 (Fed. Cir. 2013). But the USPTO has interpreted that decision narrowly. MPEP, *supra* note 11, § 1503.02(III). And *Owens* does not apply to originally filed claims. *See* 710 F.3d at 1368–69.

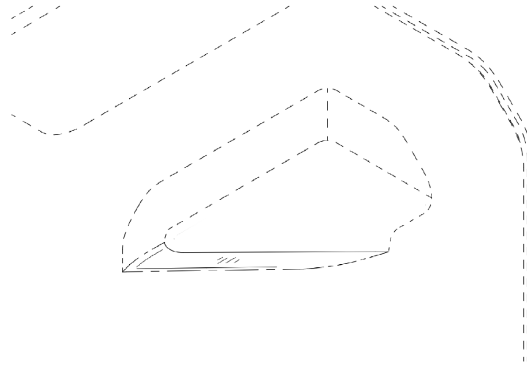
patent, which claims a very small part of the shape of a “Rechargeable Battery”:⁴¹



Can't tell what's being claimed? Here is a closer view:⁴²

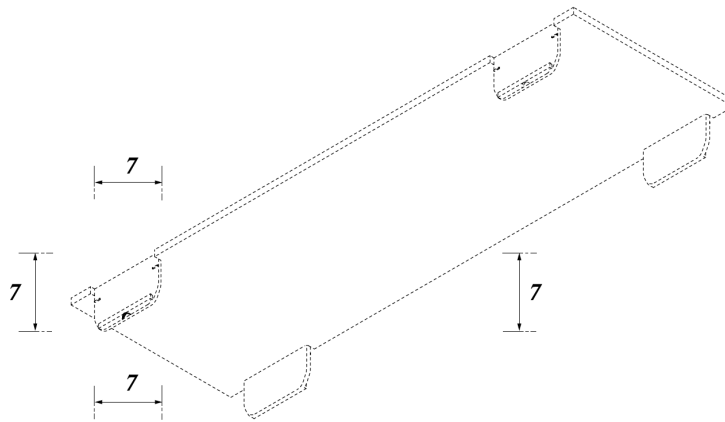
41. Rechargeable Battery, U.S. Patent No. D803,156 fig.1 (issued Nov. 21, 2017).

42. *Id.* at fig.5.



Because design patent claims only cover what is shown in solid lines, this claim only covers the small plane shown in the bottom left of this closer view.⁴³ So it would be infringed by any rechargeable battery that included that plane, regardless of what the rest of the battery looked like.

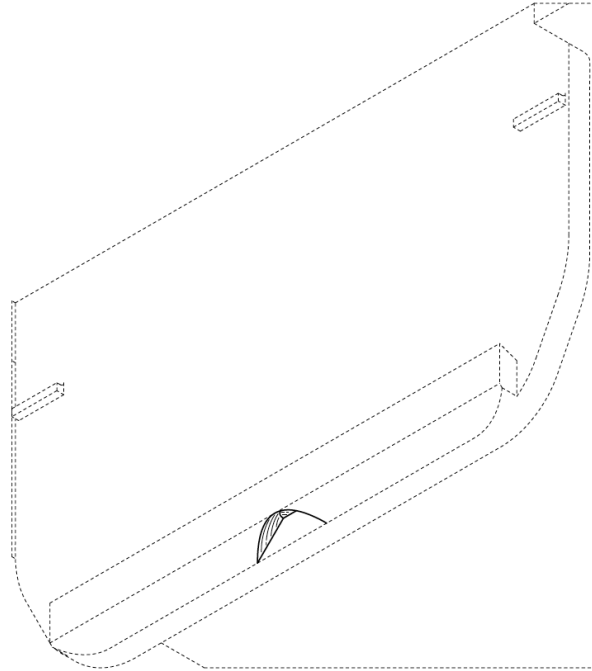
Here is another one, which claims a design for the configuration of a fragment of a “Wire Harness Protector”:⁴⁴



43. This may also be a component; it's hard to tell from the drawings. But if it were a component, one might expect it to be claimed separately. In any case, it's just a small, insignificant portion of the larger design.

44. Wire Harness Protector, U.S. Patent No. D761,209 fig.1 (issued Jul. 12, 2016).

In this one, it's nearly impossible to see the claimed portion in the view that shows the whole article. Here's the close-up:⁴⁵



From this view, you can see that the claim extends only to the apparently crescent-shaped notch portion. These are not isolated examples; design patents for similarly insignificant fragments are issued frequently.⁴⁶

Because design patent applications aren't published unless and until a patent issues, a design patent application might be pending for any product that's been on sale or in public use for less than a year.⁴⁷ After that first year, it may be possible to tell from public records whether the design owner has any

45. *Id.* at fig.7.

46. Based on my own visual review of the issued design patents, conducted almost every week for several years now, many fragment designs are patented every week. Examples like these—where the claimed portion is very small—are by no means rare.

47. See 35 U.S.C. § 122(b)(2)(iv) (2018); *see also* 35 U.S.C. § 102 (2018) (setting forth the rules for novelty and providing for no more than a one-year grace period for filing).

continuation or divisional applications pending—even if one doesn’t know the content of the pending claim. Of course, this assumes one knows the name of the entity that would have filed the patent, which is not always easy or possible. Even a competitor who did a diligent clearance search could be caught unaware.⁴⁸

II. TOWARDS A NEW THEORY OF THE PATENTABLE DESIGN

The Patent Act does not protect any and all “designs.”⁴⁹ Instead, it protects “design[s] *for* [] article[s] of manufacture.”⁵⁰ This Article argues that this key statutory phrase should be read as referring to *whole* designs for articles of manufacture.⁵¹ But what is a whole design for an article of manufacture? To answer that question, at least two important conceptual problems must be addressed: (1) A whole design for *what*? and (2) What counts as a *whole*? This Part will work through those problems—which it will refer to as the “denominator problem” and the “numerator problem”—in turn.

A. *The Denominator Problem*

When one starts to think about what might constitute a whole design, the first question is: “A whole design for *what*?” Section 171 of the Patent Act says that design patent protection is available for “any design for an article of manufacture.”⁵² But what is an article of manufacture?

48. And because design patents can claim priority to utility patents, a competitor could not limit its clearance search to just design patents. *Cf.* Burstein, 1887, *supra* note 13, at 22 (noting that, in the recent case of *Nordock v. Systems*, “Systems ‘began selling the accused levelers in October 2005.’ Nordock applied for the [asserted design] patent on May 31, 2007, as a continuation of an unsuccessful utility patent application”) (quoting *Nordock, Inc. v. Sys. Inc.*, 803 F.3d 1344, 1349 (Fed. Cir. 2015), *vacated*, 137 S. Ct. 589 (2016)).

49. Burstein, *Shape*, *supra* note 7, at 618–19 (“[T]he statute does not protect ‘any design.’ It protects ‘any design for an article of manufacture.’ The key issue raised by *Zahn* is what that means. The phrase ‘for an article of manufacture’ is not some throwaway line; it is a key part of the description of the statutory subject matter.”) (referring to *In re Zahn*, 617 F.2d 261 (C.C.P.A. 1980)).

50. See 35 U.S.C. § 171 (2018) (emphasis added).

51. For a full argument in support of this proposition, see Burstein, *Shape*, *supra* note 7.

52. 35 U.S.C. § 171(a) (2018).

The phrase “article of manufacture” appears in another part of the Patent Act: The special design patent remedy provision, 35 U.S.C. § 289.⁵³ In a recent case, the Supreme Court ruled that, in section 289, “article of manufacture” means “a thing made by hand or machine.”⁵⁴ Specifically, the Court held that, “in the case of a multicomponent product,” the phrase “article of manufacture” did not have to mean “the end product” but could “also be a component of that product.”⁵⁵

It would be better and more precise to define “article of manufacture” as a tangible item made by humans—other than a machine or composition of matter—that has a unitary structure and is complete enough that it could be used or sold separately.⁵⁶ That was the historical meaning of this term of art.⁵⁷ Design patent law and policy should not be rigidly bound by, or blindly follow, historical rules or practices. But we should be willing to learn from history when it provides solutions that are helpful and logical. And, as this discussion will show, this is one case where history does provide helpful and logical solutions.⁵⁸ Therefore, this Article will adopt the historical

53. 35 U.S.C. § 289 (2018). “There does not seem to be any good reason to interpret the phrase ‘article of manufacture’ differently in § 289 than in § 171.” Burstein, *Today*, *supra* note 23, at 835.

54. *Samsung Elecs. Co. v. Apple Inc.*, 137 S. Ct. 429, 435 (2016). For a historical critique of this interpretation, see Burstein, 1887, *supra* note 13, at 66–67.

55. *Samsung*, 137 S. Ct. at 434.

56. See Burstein, *Shape*, *supra* note 7, at 566; see also *id.* 566–67 (summarizing this historical definition as: “An article is something made by humans in a single physical unit that is complete enough that it could be used or sold separately”). For a complete exploration of the history of this term of art, including a detailed examination of cases, USPTO decisions, and other sources, see Burstein, 1887, *supra* note 13, at 1. Some examples of things that were historically considered to be “articles of manufacture” are “textile fabrics, articles of personal attire, general hardware, [and] house furnishing goods” as well as “pottery, glassware, nails, [and] screws.” Burstein, *Today*, *supra* note 23, at 812–13. And while historically “an ‘article of manufacture’ had to be something complete enough that it could be sold to someone, ‘that someone did not have to be the ultimate or end consumer. It could be another manufacturer or artisan.’” *Id.* at 813 (internal quotation marks omitted). And “[w]hile an item had to be capable of being sold separately in order to be an article of manufacture, it did not have to actually be sold separately by either the patentee or the accused infringer.” Burstein, 1887, *supra* note 13, at 66–67.

57. Burstein, 1887, *supra* note 13, at 5.

58. See Burstein, *Today*, *supra* note 23, at 784 (arguing that this definition should be adopted not only because it was the historical meaning but because it “provide[s] a workable and sensible approach” to design patent damages).

definition of “article of manufacture” and, unless indicated otherwise, use the word “article” as a shorthand for the same.⁵⁹

Some may question whether it makes sense to exclude machines from this definition.⁶⁰ Under contemporary design patent law and practice, designs for machines (i.e., designs for the shapes of machines or for ornamentation applied to machines) are considered to be design-patentable subject matter.⁶¹ But that was not always the case.⁶² And the rationale

59. Notably, this definition of “article of manufacture” is not inconsistent with the definition used in *Samsung*. See Burstein, *Shape*, *supra* note 7, at 567 n.52 (explaining why this definition is not inconsistent with the *Samsung* definition). Some might argue that the Supreme Court meant to include fragments in its definition of “article of manufacture” because it cited *Zahn*. See *Samsung*, 137 S. Ct. at 435 (“The Patent Office and the courts have understood § 171 to permit a design patent for a design extending to only a component of a multicomponent product.”) (citing, *inter alia*, *In re Zahn*, 617 F.2d 261, 268 (C.C.P.A. 1980)). But *Zahn* was not an “article of manufacture case” and, if the Justices read it that way, that only reinforces my interpretation of the statute:

Some commentators have read *Zahn* as redefining the phrase “article of manufacture” to include ‘part of an article of manufacture.’ . . . [T]his interpretation is understandable if these commentators were reading “design for an article of manufacture” to mean “design for a whole article of manufacture.” If one reads the statute that way and sees that *Zahn* allowed fragment claims, it would be natural to assume that *Zahn* ruled that the fragment was the “article.”

Burstein, *Shape*, *supra* note 7, at 620. That is the definition this Article will use, unless otherwise indicated. But the arguments here should apply with equal force no matter how “article of manufacture” is defined—unless, of course, it is defined to include what this Article will refer to as fragments. See *supra* note 7 and accompanying text.

60. See, e.g., Brief for The Internet Association et al. as Amici Curiae at 17, *Samsung Electronics Co., Ltd. v. Apple Inc.*, No. 15-777 (June 8, 2016), 2016 WL 3194217, at *17 (“From today’s perspective, the machine-manufacture distinction seems outdated.”). The exclusion of compositions of matter, on the other hand, appears to be uncontroversial. See generally Burstein, 1887, *supra* note 13, at 27–28 (noting that, in the late nineteenth century, “[a] ‘composition of matter’ was ‘an artificial substance made up of two or more elements so united as to form a homogeneous whole,’ such as paint or a medicine” (quoting HENRY CHILDS MERWIN, *THE PATENTABILITY OF INVENTIONS* § 55 (1883) (internal citations omitted))).

61. See Burstein, 1887, *supra* note 13, at 62–63.

62. The historical reason for this exclusion was based on the *expressio unius est exclusio alterius* canon of construction. *Id.* at 33. The terms “article of manufacture” and “manufacture” have long been used as synonyms in U.S. patent law and practice. *Id.* (“[B]y 1887, a number of administrative and judicial decisions had expressly equated the phrase ‘article of manufacture’ in the design patent statute with the term ‘manufacture’ in the utility patent statute. And the phrase ‘article of manufacture’ was already being used as a synonym for ‘manufacture’ in utility patent law.” (footnotes omitted)). More recently, a panel of “the Federal Circuit has called this longstanding understanding of equivalency

for expanding design patent law to cover designs for machines is questionable.⁶³ There are also compelling policy reasons for defining “article of manufacture” to exclude designs for machines. For example, it “would solve many of the worst overcompensation problems that could potentially be created by § 289.”⁶⁴ And the definition of “article of manufacture” adopted here would still cover articles that are used as parts of machines.⁶⁵ If these parts, referred to here as “components,” are proper statutory subject matter, it’s difficult to see any good reason why additional design patent protection would be necessary for machines *qua* machines.⁶⁶ If a designer came up with a new and novel design for a car, she could still claim the design of decoratively important parts, such as the body shell.⁶⁷ Or the fins, if those were manufactured as a separate

into question” in an attempt to avoid some ill-reasoned design patent precedent. See *In re Nuijten*, 500 F.3d 1346, 1357 n.9 (Fed. Cir. 2007) (suggesting that a section 101 “manufacture” need not be the same as a section 171 “article of manufacture”); *id.* (attempting to distinguish *In re Hruby*, 373 F.2d 997 (1967)); see also Burstein, 1887, *supra* note 13, at 12–13 (“In *Hruby*, the CCPA held, with little support or analysis, design patents for patterns ‘formed by continually moving droplets of water in a fountain’ satisfied the ‘article of manufacture’ requirement of § 171.”). And the utility patent subject matter provisions have always listed “manufactures” and “machines” as types of patentable inventions. See Burstein, 1887, *supra* note 13, at 26–33. So, in the nineteenth century, “the Patent Office repeatedly stated that designs for machines did not constitute proper statutory subject matter.” *Id.* at 62–63. The Patent Office did, however, “allow[] design patents for *parts* of machines if those parts otherwise qualified as articles of manufacture.” *Id.* at 63 (emphasis added). So a design for a machine *qua* machine was not patentable but a design for a casing or other parts of machines could be. See *id.*

63. See Burstein, *Shape*, *supra* note 7, at 566 n.51 (critiquing *In re Koehring*, 37 F.2d 421, 424 (C.C.P.A. 1930)).

64. Right now, someone could get a design patent for a fragment of a steering wheel design and make a colorable argument that they are entitled to the profits for a car that is sold with the infringing steering wheel—a remedy far out of proportion of any conceivable harm. See generally Burstein, *Today*, *supra* note 23, at 815–16 (arguing that “excluding ‘machines’ from the category of ‘articles of manufacture’ makes a lot of sense”).

65. See *infra* note 72 and accompanying text.

66. Of course, applicants may want additional layers of damages or the ability to get windfalls in damages awards. See generally Burstein, *Today*, *supra* note 23, at 825 (discussing how the rule suggested there might be applied to a design patent for a car). But “want” and “need” are not the same thing. And just because applicants want something does not mean we have to give it to them.

67. It is true that, in certain cases, it may be difficult to draw a line between “machines” and “articles of manufacture.” For example, in the past, “[c]ommentators disagreed . . . about whether items such as tools and pianos should be classified as ‘machines’ or ‘manufactures.’” *Id.* at 816. But those line-

component. For all of these reasons, this Article will continue to distinguish between “articles of manufacture” and “machines.” However, this distinction is not critical to the arguments set forth below. Whether or not “articles of manufacture” includes machines, the rest of the arguments made here apply with equal force.⁶⁸

Under the definition adopted in this Article, “article of manufacture” is not a synonym for “product.”⁶⁹ A “product” is “something sold by an enterprise to its customers.”⁷⁰ So “all articles are (or can be) products, but not all products are articles.”⁷¹ It may also be helpful to distinguish between

- a *simple article* – an article that is manufactured as one solid piece;
- a *composite article* – an article that is made from physically joining together one or more smaller articles;
- a *component* – an article that is joined with one or more others to form a composite article; and
- an *end product* – a composite article (or machine) that is sold separately as a complete product.⁷²

Under this definition, a smartphone screen would be an “article of manufacture” even though it was designed and manufactured to be used as part of a larger product—specifically, a component.

This definition may prompt some to ask: Why include components in the definition of “article of manufacture”? Why not interpret that phrase (or amend the statute) to refer only to

drawing problems do not appear to be insurmountable. *See id.* (acknowledging this problem and suggesting some potential solutions).

68. For example, a design that delineates the shape of a steering wheel should still be considered a design “for a steering wheel,” not a design “for a car.” Indeed, any definition of “article of manufacture” should work with the rest of the framework set forth here, as long as it does not include fragments.

69. *See* Burstein, *Shape*, *supra* note 7, at 567 (“Under this definition, all articles are (or can be) products, but not all products are articles.”).

70. KARL T. ULRICH & STEVEN D. EPPINGER, *PRODUCT DESIGN AND DEVELOPMENT* 2 (6th ed. 2016).

71. Burstein, *Shape*, *supra* note 7, at 567–68.

72. *Id.* at 558.

items sold separately as products? One could argue the point of sale is the most commercially important stage of any manufactured item's lifecycle and, thus, might be the stage design patent law should care about. And one important segment of design patentable subject matter, industrial design,⁷³ "has always been a product-focused activity."⁷⁴ Others might ask if the patent system needs to incentivize the creation or dissemination of product components, as opposed to just end products.

The problem with productness is that it is contextual and changeable. The same manufactured item might be a component to one consumer but a product to another. For example, Samsung used to sell Apple screens for iPhones.⁷⁵ To someone who buys an iPhone, the screen wouldn't be the product.⁷⁶ But it *would* be the product in the transaction between Samsung and Apple. It would be strange to say that the same physical item is an "article of manufacture" at one point of its lifecycle but not at another. Even if we broadened the definition of "article of manufacture" to include all items currently sold separately to some consumer, conceptual issues

73. Importantly, the concept of a patentable design is not the same as "industrial design," at least as that term is understood today. See Sarah Burstein, *Visual Invention*, 16 LEWIS & CLARK L. REV. 169, 210 (2012) [hereinafter Burstein, *Visual Invention*] ("Design patents protect only one aspect of industrial design—the ornamental appearance of products."); see also *id.* at 173 n.17 ("[I]t is important to note that the term 'decorative arts' is not synonymous with the contemporary concept of 'industrial design.'"). And while qualifying works of industrial design, like a new design for a teapot, have always been patentable, the universe of design patentable subject matter has also always included things that are not generally considered "industrial design," like statutes and fabric designs. For example, the first design patent act provided protection for, among other things, "any new and original design for the printing of woollen, silk, cotton, or other fabrics, or any new and original design for a bust, statue, or bas relief or composition in alto or basso relievo." Act of Aug. 29, 1842, ch. 263, § 3, 5 Stat. 543, 543–44. The USPTO still issues design patents for those kinds of designs today. See, e.g., Woven Fabric, U.S. Patent No. D880,873 (issued Apr. 14, 2020); Laughing Buddha Statue, U.S. Patent No. D880,347 (issued Apr. 7, 2020).

74. Burstein, *The Patented Design*, supra note 20, at 170. That is why, in that piece, I focused on products and not "articles," as defined herein.

75. Mark Gurman, *Apple Is Using a Secret Facility to Do Something It's Never Done Before*, TIME (Mar. 19, 2018, 10:17 AM), <https://time.com/5205238/apple-displays-screens-samsung/> [<https://perma.cc/V28R-SWNZ>] ("Right now smartphones and other gadgets essentially use off-the-shelf display technology. . . . The iPhone X, Apple's first OLED phone, uses Samsung technology.").

76. And, using the definition adopted here, the phone would not be an article of manufacture. See *supra* notes 60–68 and accompanying text.

would still remain. Should the same phone screen be considered an “article of manufacture” if Samsung sells it to Apple but not if Samsung keeps it for its own smartphones? It would be odd for an item’s status as an “article of manufacture” to be dependent on its manufacturer’s business model or degree of vertical integration. This leads to a host of related questions: From whose point of view would productness be evaluated? The designer? The patent owner? The accused infringer? The consumers? Whose consumers?⁷⁷ Could Samsung claim the shape of the phone screen separately only as long as it sold screens to Apple? Or would it matter if other screen makers sold screens to other phone makers? How about if others used to sell them separately but don’t do it anymore?⁷⁸

Moreover, not all components, as that term is defined here, start as components. An item may be intended to be sold

77. There is no working requirement for patents in the United States. *See* Marketa Trimble, *Patent Working Requirements: Historical and Comparative Perspectives*, 6 U.C. IRVINE L. REV. 483, 484 (2016) (“A working requirement is a provision of a national patent statute that states that an owner of a patent must practice his or her patented invention (i.e., to manufacture or import the invention) within the country that granted the patent.”); *id.* at 485 (noting that “current U.S. patent law does not include a general patent working requirement per se”). So, the patent owner may or may not have its own customers for a product covered by a particular patent-in-suit—or any customers at all. For an argument that the United States should adopt a patent working requirement, see Timothy T. Lau, *Patent Nationalism and the Case for a New U.S. Patent Working Requirement*, 2018 B.Y.U. L. REV. 95, 95 (2018).

78. The productness of a particular item can also change with time, circumstances, and culture. For example, people today might think of things like coffin handles as items that were never meant to be sold as a separate product—at least not to the end users. *See generally* Brief for Respondent at 37, *Samsung Electronics Co., Ltd. v. Apple Inc.*, No. 15-777, 137 S. Ct. 29, 2016 WL 4073686 (July 29, 2016) (pointing to examples of old design patents for “coffin parts”). But in the nineteenth century, these handles and other coffin hardware were, in fact, sold directly to those who had lost loved ones, not just to coffin-makers. *See* MEGAN E. SPRINGATE, *COFFIN HARDWARE IN NINETEENTH-CENTURY AMERICA* 59 (2015) (“Living in rural communities, members of the family and close neighbors prepared the deceased for burial” and “the coffin was constructed by family members or the local carpenter/furniture maker” (internal citations omitted)); *id.* at 63 (“[I]n the early years, coffin hardware was available in both the specialty catalogs marketed to coffin manufacturers and undertakers as well as general goods catalogs from which the general public could order coffin hardware for home-made or community-made coffins” (internal citations omitted)). This is another reason it is risky to make assumptions about old design patents based on contemporary customs or practices. *Cf.* Burstein, *Shape*, *supra* note 7, at 626 (“[D]rawing and claiming conventions have changed over time and contemporary readers should not assume that the dotted lines in an old design patent mean the same as they would in a contemporary design patent.”).

separately for one purpose but later incorporated into a new composite article—like a teacup that is made into a bird feeder.⁷⁹ Similarly, certain items can be sold both as separate products and as parts of a larger product—for example, a bottle of beer that is sold as part of a six-pack or a jar of jam that is sold with other items in a gift basket. Because the bottle and the jar are not physically joined to the other items, the new product would not be a composite article. It may be helpful to think of these types of products as a separate category that this Article will refer to as *sets*.⁸⁰

These are just some of the problems that would arise if we defined “article of manufacture” to be a synonym for “product.” The definition adopted here avoids these problems by focusing on whether an item is complete enough that it *could* be sold or used separately, as opposed to asking whether it is *currently* sold or used separately.⁸¹ Under this approach, and if we consider machines to be articles of manufacture, a phone maker could claim a design for the shape of just the screen and a separate design for the shape of the entire phone. But the former would have to be claimed as a design “for a screen” and not—as is possible under the current system—a design “for a phone.”⁸² The overlap would not necessarily be problematic; a single product is often covered by more than one patent. But keeping conceptual clarity about what the design is *for* is important.

Defining “article of manufacture” as “a tangible item made by humans—other than a machine or composition of matter—

79. Just do a search for “teacup bird feeder” on Etsy and you will see lots of examples. *E.g.*, *Teacup and Saucer Bird Feeder, Handmade Gift for Mom, Unique Recycled Gift, Repurposed Home Décor*, ETSY, <https://www.etsy.com/listing/567599853/teacup-and-saucer-bird-feeder-handmade?ref=reviews> (last visited June 29, 2020) [<https://perma.cc/9T6F-FXMF>].

80. By the way, sets are currently considered “articles of manufacture” by the USPTO. MPEP, *supra* note 11, § 1504.01(b) (“While the claimed design must be embodied in an article of manufacture as required by 35 U.S.C. 171, it may encompass multiple articles or multiple parts within that article.”) (citing *Ex parte* Gibson, 20 U.S.P.Q. 249 (Pat. Off. Bd. App. 1933)); *id.* (“When the design involves multiple articles, the title must identify a single entity of manufacture made up by the parts (e.g., set, pair, combination, unit, assembly).”).

81. See generally Burstein, 1887, *supra* note 13, at 65 (“It is true that, in 1887, an article of manufacture had to be a ‘product’ in the sense it had to be complete enough to be sold to someone. But that ‘someone’ did not have to be the ultimate or end consumer. It could be another manufacturer or artisan.”).

82. This has implications for damages, among other issues. See Burstein, *Today*, *supra* note 23, at 829–31.

that has a unitary structure and that is complete enough that it could be used or sold separately” has other benefits. It makes the denominator inquiry objective and unchanging; one simply looks to how an item is made.⁸³ Because these are objective facts—ones that could usually be discerned through observation by the naked eye—this approach would give competitors and the public a clear (or at least clearer) idea of which portions of a product might be separately patented or patentable. This definition also ties the denominator inquiry to a single, identifiable design problem.⁸⁴ For each item that is manufactured, there must be a plan for how to manufacture it. So even when a single designer designs a component in the process of designing a larger end product, those are both still conceptually separate acts of design.⁸⁵ Indeed, industrial design has always been tied to manufacturing.⁸⁶ And the one attribute shared by all “articles of manufacture,” under any reasonable interpretation of that term, is that they are manufactured.⁸⁷ For all of these reasons, the historical

83. *Id.* at 815 n.195 (“By manufactured ‘separately,’ I mean that the item was put together into a single unit (whether or not that unit was formed from smaller pieces joined together), not that it was manufactured by a ‘separate’ person or in a ‘separate’ location.”). Contrast this to the metaphysical and unnecessarily complicated approaches proposed by others in the context of section 289. *See id.* at 793–812 (critiquing the approach proposed by the U.S. Government in *Samsung*).

84. *See generally* Burstein, *Visual Invention*, *supra* note 73, at 173 (“Design, like engineering, involves problem-solving. While the engineer’s problem is, essentially, how to make a product work (or work better), the designer’s problem is how to make a product look better.” (footnote omitted)).

85. Under both the current practice and the approach proposed here, the design for the component and the design for the end product would also be separately patentable. The key point is that these are separate designs—one for a lampshade and one for a complete lamp. *See generally* Sarah Burstein, *Design Patents After Curver Luxembourg: Design FOR an Article of Manufacture*, PATENTLYO (Sept. 16, 2019), <https://patentlyo.com/patent/2019/09/patents-luxembourg-manufacture.html> [<https://perma.cc/CXP9-R5DQ>].

86. *See, e.g.*, LAURA SLACK, WHAT IS PRODUCT DESIGN? 10 (2006) (“Industrial design appeared during the 1920s and 1930s as a result of the Industrial Revolution The changing work environment brought about by early methods of mechanization and improved product output introduced a greater degree of specialization in the workplace.”); MARJORIE ELLIOTT BEVLIN, DESIGN THROUGH DISCOVERY 323 (3d ed. 1977) [hereinafter BEVLIN, 1977] (“Industrial design is that field which created products for mass production.”); RICHARD MORRIS, THE FUNDAMENTALS OF PRODUCT DESIGN 127 (2009) (“Manufacturing often seems less glamorous for designers to consider, preferring perhaps to leave this area to production engineers. It is, however, a fundamental area for consideration.”).

87. *Cf.* ANTHONY BERTRAM, DESIGN 12 (1938) (defining “design” as referring not just to “a drawing made in his studio by the designer . . . but rather the thing

definition of “article of manufacture” provides an elegant and practicable solution to the denominator problem.⁸⁸ Courts and the USPTO should readopt it.

Notably, this definition contemplates that there are some physical parts of articles or products that are not “articles of manufacture.” Consider, for example, the shank portion of a drill bit claimed by the applicant in *In re Zahn*.⁸⁹ That portion of the drill bit was not manufactured as a separate article and would never exist as a separate item absent some act of physical mutilation or destruction.⁹⁰ These types of physical parts—those not manufactured as less than a complete article—will be referred to in this Article as *fragments*.⁹¹ So to go back to the smartphone screen example, while the whole screen would be an article of manufacture (specifically, a component), a corner of that screen—or any portion thereof which is not manufactured or designed to be used separately—would be a fragment.⁹²

itself, but with that drawing, the preceding idea of the thing and the succeeding process of manufacture all implicit”).

88. Notably, this analysis is not limited to the U.S. design patent system; these arguments would seem to apply with equal force to other dedicated design-protection regimes (i.e., those created to protect designs, as opposed to regimes like copyright and trademark that protect designs along with other things).

89. See *supra* notes 2–5 and accompanying text and image; see also Burstein, *Shape*, *supra* note 7, at 578 (noting that, in *Zahn*, “[T]he applicant was claiming the shape of a fragment (the shank portion of the drill bit) of an article (a drill bit) as its ‘design.’” (discussing 617 F.2d 261, 268 (C.C.P.A. 1980))); *Drill Tool or the Like*, U.S. Patent No. D257,511 (issued Nov. 11, 1980).

90. See generally Burstein, *Shape*, *supra* note 7, at 568 n.60 (“That’s not to say that fragments of articles can never be sold or used separately. For example, some vendors sell broken tile pieces for use in crafting. In that situation, the fragments become the products. But the actual shapes of those fragments were not ‘designed’ by the tile maker—and perhaps by no one (if, for example, the pieces are broken by randomly striking at the tiles with a hammer). And if someone did take tiles and cut them up into preconceived shapes, those shapes should be considered designs for tile fragments, not designs for tiles.” (internal citations omitted)).

91. See *id.* at 558 (defining a fragment as “any physical part of an article that is not, and was not manufactured as, a complete article”); see also *id.* at 568 (“[A] fragment is a physical part of an article that is less than a complete article”); *id.* at 570 (“[T]he question is not whether the part can (or even is intended to be) physically separated post-manufacture; the question is how it is manufactured.”).

92. This may prompt some to ask: If designs for components, which are parts of larger articles, can be considered “articles of manufacture,” why not designs for other parts, like fragments? It’s true that both components and fragments could be called “parts” of a larger product. But the mere fact that one could use the same linguistic label (“parts”) for both does not mean that they present the same

B. *The Numerator Problem*

When considering what might constitute a whole design, a second question is: “What counts as a *whole*?” We might refer to this as the numerator problem. Unlike the denominator problem, which focuses on the physical thing to which the design is applied, the numerator problem entails a conceptual inquiry into what constitutes the protectable “design” itself.

While some read *Zahn* as changing the denominator,⁹³ what it really did was change the numerator.⁹⁴ The CCPA ruled that a complete design could be one that dictated only the shape of a fragment.⁹⁵ And the CCPA didn’t put any limits on what parts or portions an applicant could claim.⁹⁶ Thus began the era of unbridled fragment claiming. But it doesn’t have to be that way. We don’t have to conceptualize the “whole” as “whatever the applicant wants to claim.”

Indeed, prior to *Zahn*, and at least for configuration designs, the answer seemed clear—the “design” was the whole shape.⁹⁷ Of course, that still left some questions open. For

legal and policy issues. For a discussion of some of those issues, see *infra* notes 215–218 and accompanying text.

93. Burstein, 1887, *supra* note 13, at 13 (stating that “some commentators have read *Zahn* as redefining ‘article of manufacture’ to include ‘part of an article’”); Kevin E. Mohr, *At the Interface of Patent and Trademark Law: Should a Product Configuration Disclosed in a Utility Patent Ever Qualify for Trade Dress Protection?*, 19 HASTINGS COMM. & ENT. L.J. 339, 357 n.69 (1997).

94. See Burstein, 1887, *supra* note 13, at 8–10, 13 (“[T]he CCPA’s decision in *Zahn* turned on the definition of the word ‘design’ . . .”); see also Janice M. Mueller, *Essay: The Supreme Court Reinstates Apportionment of Design Patent Infringers’ Total Profits for Multicomponent Products*, in 2 MUELLER ON PATENT LAW § 23.04[B] (2017), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2882765 [<https://perma.cc/A8QA-BXA9>] (“*Zahn* did not redefine ‘article of manufacture’ to mean something less than the complete product sold to consumers.”).

95. See *In re Zahn*, 617 F.2d 261, 267 (C.C.P.A. 1980) (holding that “a design for an article of manufacture may be embodied in less than all of an article”). The *Zahn* majority appears to have “invented the method-of-embodiment framing out of whole cloth.” Burstein, *Shape*, *supra* note 7, at 618.

96. See *In re Zahn*, 617 F.2d 261. The USPTO currently does not read *Zahn*—or any other binding precedent—as limiting what an applicant can claim in any meaningful way. See MPEP, *supra* note 11, § 1502 (allowing applicants to claim any “visual characteristics embodied in or applied to an article” as a separate “design”).

97. Indeed, the dissenting judges in *Zahn* found “ample judicial and administrative precedent to support a construction of s 171 [sic] providing patent protection only for the overall visual appearance of the article in which the design is embodied.” *In re Zahn*, 617 F.2d at 269–70 (Baldwin, J., dissenting). The majority did not respond to or acknowledge any of those precedents save for

example, some have asked if a design claim is like a “consisting” claim or a “comprising” claim in utility patent law.⁹⁸ In other words, if a design patent claimed a shape for a plate that had three bumps, would it be infringed by a plate with four bumps? The better approach is not to think of these as “consisting” or “comprising” claims but as “design” claims—they are totally different types of claims covering totally different types of inventions.⁹⁹

So where does that leave us? What is a “whole” design? Visual design theory can help us answer that question. There are several longstanding principles that apply to all types of visual design, from painting to architecture to textile design.¹⁰⁰

Northup. See *id.* at 269. The majority’s analysis there, however, was flawed. See *id.* at 271 (“The majority dismisses *Northup* as ‘(o)ne board decision . . . not binding on the construction of a statute.’ I disagree. Faced with the Rules of Practice dating back to 1904 together with the earlier judicial precedents cited above, I am inclined to agree with the solicitor that the *Northup* view represents a uniform, consistent, long-standing view of the PTO and as such must be given consideration as an indicator of the meaning of the law.”); see also Burstein, *Shape*, *supra* note 7, at 623–28. Notably, a few years prior to the passage of the 1952 Act, the USPTO read the phrase “configuration of goods” in the Lanham act as referring “only the configuration of characteristic feature rather than the [shape of the whole] article itself” because the latter was design patentable subject matter. *Ex parte* Mars Signal-Light Co., 85 U.S.P.Q. 173 (Comm’r Pat. & Trademarks Apr. 25, 1950). The historical practice with respect to surface designs is somewhat less clear, in part due to changes in the rules for drawings and disclosures. See generally Burstein, *Shape*, *supra* note 7, at 626–27 (“In contemporary law and practice, a number of conceptually distinct concepts—statutory subject matter, disclosure, claim, and scope—have all basically collapsed in on top of each other. . . . But it has not always been that way. The USPTO’s rules for how designs can be claimed and how they have to be disclosed (including, but not limited to the rules for drawings) have changed over time.” (footnotes omitted)). Of course, past USPTO practices or decisions are not binding on courts interpreting the law. But in this case, the past practice—at least, as it seems to have been with respect to configuration designs—seems to be a better fit with the statutory text and with the goals of the design patent regime. See *infra* Section IV.A.

98. Cf. MPEP, *supra* note 11, § 2111.03 (“The transitional phrases ‘comprising’, ‘consisting essentially of’ and ‘consisting of’ define the scope of a claim with respect to what unrecited additional components or steps, if any, are excluded from the scope of the claim. The determination of what is or is not excluded by a transitional phrase must be made on a case-by-case basis in light of the facts of each case.”).

99. Burstein, *Visual Invention*, *supra* note 73, at 173–74 (“Design, like engineering, involves problem-solving. . . . However, while the engineer is engaged in technical invention, the designer’s process may be referred to as ‘visual invention.’”).

100. See, e.g., MARJORIE ELLIOTT BEVLIN, *DESIGN THROUGH DISCOVERY* v (1st ed. 1966) [hereinafter BEVLIN, 1966] (stating that her book will “explore the

For example, one textbook author explains that “[d]esign is the organization of parts into a coherent whole.”¹⁰¹ In creating a coherent whole, “[c]ertain underlying elements and principles guide the designer in every field . . . first, the *elements of design*—space, line, shape, mass, color, texture, and pattern; then the *principles of design*—unity, variety, balance, emphasis, rhythm, proportion, and scale.”¹⁰² Thus, to designers, elements like shapes and lines are tools of design—not “designs” in and of themselves. And principles like proportion and scale are key elements of a total design.

One core concept in visual design theory is the figure-ground relationship.¹⁰³ This terminology can be traced back to the *Gestalt* school of psychology¹⁰⁴ but, once understood, is “so

general principles of design” that apply to a wide range of “specific fields of design”); *id.* at ix–xi (listing “line,” “texture,” “color,” “size,” “shape,” and “mass” as the “basic ingredients of design” that apply to “decorative design,” “design for living” (including architecture), “design for environment” (including interior design), “design in pottery and glass,” “design in fabrics,” “design in wood and metal,” “design in fashion,” “design in books,” “design for selling” (including advertising and packaging design), “painting,” “sculpture,” and “design in photography”); BEVLIN, 1977, *supra* note 86, at xi (expanding that list to include “graphic design,” “industrial design,” and others). Bevin referred to all of these as “fields of art.” See BEVLIN, 1966, *supra*, at 371. Whether one thinks of any particular field of design as “art” or not, these general principles still apply.

101. BEVLIN, 1977, *supra* note 86, at 3; see also WALLACE S. BALDINGER, THE VISUAL ARTS 4 (1960) (“A work of art is a unity and every element it contains needs the help of other elements to bring it into being, even as nerve cells need the help of blood cells and other cells to make the body function.”). Of course, this is not the only definition of “design.” See Burstein, *The Patented Design*, *supra* note 20, at 166–71. But this kind of definition, which focuses on the thing produced, is the kind that is most relevant to the current discussion.

102. BEVLIN 1977, *supra* note 86, at 33. Luckily for the clarity of this discussion, Bevin seems to use “elements” in the same sense as previously defined in this Article. See *infra* note 204 and accompanying text. The exact terms used and how these concepts are grouped can change a bit from writer to writer, but the general concepts the same. See, e.g., HENRY N. RASMUSEN, ART STRUCTURE: A TEXTBOOK OF CREATIVE DESIGN 8 (1950) (“Line, tone, space, color, and texture, the aesthetic tools of painting, are also those of sculpture, architecture, interior decoration, and the other visual arts . . .”).

103. See WILLIAM LIDWELL, KRITINA HOLDEN, & JILL BUTLER, UNIVERSAL PRINCIPLES OF DESIGN 12, 96–97 (2010) (selecting the concept of the “figure-ground relationship” as one of 125 “key principles of design across disciplines”).

104. According to *Gestalt* principles of perception, “the human perceptual system separates stimuli into either figure elements or ground elements. Figure elements are the objects of focus, and ground elements compose an undifferentiated background.” *Id.* at 96.

basic that we have been able to take it for granted all along.”¹⁰⁵ In a visual composition, the “ground” is “a plain or patterned mass of color on which a figure appears and takes shape” and “[a] figure is any object that stands out as a unit and without confusion against the ground.”¹⁰⁶ To the viewer, “the ground appears to be behind the figure even in a purely two-dimensional design.”¹⁰⁷ Sometimes, the figure-ground “relationship is ambiguous and can be interpreted in different ways.”¹⁰⁸ This is the principle behind optical illusions like the Rubin vase.¹⁰⁹ You can also see this on a simple chessboard: “the pattern may be taken as black squares on a white ground, or as white squares on a black ground, depending on which squares you place foremost in your attention.”¹¹⁰

Since at least the mid-twentieth century, it has been customary “to speak of the area of the figure on a ground as *positive space* and the areas of ground . . . as *negative space*.”¹¹¹ Depending on the context, these may also be referred to as

105. STEPHEN C. PEPPER, PRINCIPLES OF ART APPRECIATION 209 (1949). *See generally* Michael D. Murray, *Mise En Scène and the Decisive Moment of Visual Legal Rhetoric*, 68 U. KAN. L. REV. 241, 296 n.245 (2019) (“The Gestalt theory of cognitive psychology concerns the perception and interpretation of visual input.” (internal citations omitted)); *id.* (“The connotation of ‘gestalt’ as used in cognitive psychology is that the ‘form’ or ‘shape’ referred to as the ‘Gestalt’ is a whole that is constituted by smaller parts, but the whole (or the meaning of the whole) is greater than the sum of the individual parts, and dissembled parts would not convey the meaning that the whole conveys.” (internal citations omitted)); *id.* at 297 (“A separate part of Gestalt psychology and perception is the analysis of the figure-ground relationship of the subjects to the ‘grounds’ (background, middle ground, foreground) of the image.” (footnote and internal citations omitted)); Michele G. Falkow, *Visual Literacy and the Design of Legal Web Sites*, 97 L. LIBR. J. 435, 437 (2005) (“Gestalt theory posits that human beings follow certain universal laws of perception, all of which organize visual information into ‘groupings’ so that disparate visual stimuli form a coherent whole.” (internal citations omitted)).

106. PEPPER, *supra* note 105, at 210 (emphasis omitted).

107. *Id.* (emphasis omitted).

108. LIDWELL ET AL., *supra* note 103, at 96.

109. *See id.* at 97.

110. PEPPER, *supra* note 105.

111. *Id.* at 211; *see also* LOIS FICHNER-RATHUS, FOUNDATIONS OF ART AND DESIGN 56 (2d ed. 2015) (“In a two-dimensional composition, the shape is referred to as figure and the empty area surrounding it—or the area that is distinct from it—is referred to as ground. The figure is regarded as a positive shape in a composition, and the ground is viewed as a negative shape.” (emphasis omitted)).

positive and negative “forms,”¹¹² “shapes,”¹¹³ or “areas.”¹¹⁴ This Article will use those terms interchangeably.

A positive area is one that “appears to be occupied or filled, in contrast to a negative area, which appears empty or unoccupied.”¹¹⁵ While some refer to negative space as “white space,” it doesn’t have to be white. And the positive space is not necessarily the worked area—that is, the part where the artist drew on, etched into, or otherwise manipulated the surface.¹¹⁶ Imagine drawing the following image on a white piece of paper with a black pen:

112. See, e.g., BEVLIN, 1977, *supra* note 86, at 50 (noting that, when we look at a sculpture, “we are more aware of the positive forms than of the negative ones (or spaces) but we also cannot help taking note, perhaps unconsciously, of the latter”).

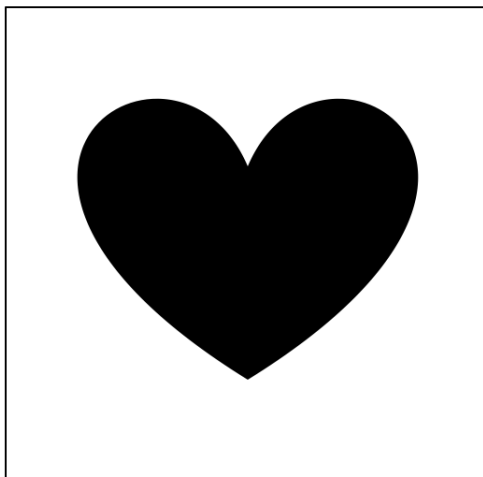
113. See, e.g., FICHNER-RATHUS, *supra* note 111.

114. See, e.g., ZELANSKI & FISHER, *supra* note 34, at 68 (referring to positive and negative “areas” of a composition).

115. *Id.*; OTTO G. OCVRK ET AL., ART FUNDAMENTALS: THEORY AND PRACTICE 309 (12th ed. 2012) (defining “negative area” as “[t]he unoccupied or empty space left over after the positive images have been created by the artist. Consideration of negative areas is just as important to the organization of form as the positive areas.”); *id.* at 310 (defining “positive area” as “[t]he subject . . . which is produced by the art elements (shape, line, etc.) or their combination”); WUCIUS WONG, PRINCIPLES OF FORM AND DESIGN 347 (1993) (defining “negative form” as “[a] hollowed shape surrounded by solidly filled areas”); *id.* (defining “negative space” as “[s]pace that is not filled or occupied”); *id.* (defining “positive form” as “[a] form that is filled with color, pattern, and/or texture and that occupies space”); *id.* (defining “positive space” as “[s]pace that is occupied by a filled shape or positive form”).

This should not be confused with the use of the term “negative space” to describe “areas in which creation and innovation thrive without significant protection from intellectual property law.” See Elizabeth L. Rosenblatt, *A Theory of IP’s Negative Space*, 34 COLUM. J.L. & ARTS 317, 317 (2011); see also Kal Raustiala & Christopher Sprigman, *The Piracy Paradox: Innovation and Intellectual Property in Fashion Design*, 92 VA. L. REV. 1687, 1764 (2006) (“The fashion industry is interesting because it is part of IP’s ‘negative space.’ It is a substantial area of creativity into which copyright and patent do not penetrate and for which trademark provides only very limited propertization.”).

116. ZELANSKI & FISHER, *supra* note 34, at 68 (“The positive area of a design, however, is not always the area worked with a medium.”).



The viewer will perceive the worked portion, the black heart, as the positive area (the figure) and the unworked portion, the white paper, as the negative area (the ground). But the heart would still be perceived as the positive area even if the artist used their pen to color in the background instead, leaving the heart as the unworked space:



According to visual design theory, negative spaces are just as important as positive spaces.¹¹⁷ This is true for both two-

117. OCVIRK ET AL., *supra* note 115, at 30–32 (“Although positive areas may seem tangible and more explicit, the negative areas are just as important to total picture unity.”); *id.* at 309 (“Consideration of the negative areas is just as important to the organization of form as the positive areas.”); *see also* ZELANSKI & FISHER, *supra* note 34, at 69 (“In effective design, unworked areas are as active as

and three-dimensional designs.¹¹⁸ Just because a space may appear to be empty doesn't mean it's not part of the design. Indeed, "[i]n an effective design, unworked areas are as active as anything else; they just happen to be made of the surface with which the designer started."¹¹⁹

All of this teaches us that, in considering what constitutes a whole design, we should not just focus on the worked portions. In two-dimensional and low-relief works, the design includes both the worked and unworked areas.¹²⁰ Leaving an area unworked is not to leave it undesigned; leaving an area unworked is a specific design choice. In three-dimensional works, the design includes both the positive shapes and the voids. This also means that the placement, relative size, and

anything else; they just happen to be made of the surface with which the designer started."); PEPPER, *supra* note 105, at 211 ("There is a natural tendency to place most attention on positive spaces (the figures) and neglect negative spaces (the areas of ground left between the figures). But one of the signs of excellent composition is the consideration of the shapes of negative spaces."); BALDINGER, *supra* note 101, at 11 ("Any area becomes a 'positive' space on a plane when it is defined in some shape and perhaps filled in by the artist. The areas then left over around this 'positive' space become the 'negative' spaces. As surplus intervals, we might be inclined to ignore the 'negative' spaces, but in reality the artist owes them as much attention as he owes the 'positive' spaces, and he knows that what he does with his 'negatives' can actually make or ruin his work."); *see also id.* at 32 (defining "work of art" to broadly include a "building, statue, picture, pot, or other product").

118. *See* ZELANSKI & FISHER, *supra* note 34, at 279 ("As in two-dimensional art, negative space may be just as important in a [three-dimensional] work as the positive or filled-in areas, sometimes more so."); *see also* BEVLIN, 1977, *supra* note 86, at 47 ("The layman tends to think of space as a void, a nothingness. Designers know better, for in creating form they must always manipulate space."); PEPPER, *supra* note 105, at 212 ("There are also three-dimensional negative spaces, namely, the unfilled open space in a volume within which objects are placed.").

119. *See* ZELANSKI & FISHER, *supra* note 34, at 69. For example, consider a motif carved into a chair. In that case, the carved area would be the worked area and the surrounding wood would be the unworked area.

120. Very few, if any, works are truly two-dimensional. *See* PEPPER, *supra* note 105, at 264 ("When a man picks up a sharp tool and scratches lines and shapes on . . . a surface, he has made the first step in sculpture. Being only lines on a plane surface, they submit to all the laws of pictorial composition, but being incised lines cut into the third dimension, they are technically sculptural."); RASMUSEN, *supra* note 102, at 24 ("Actually there can be no perfectly flat surface, visually speaking (outside a completely blank field), but only a relatively flat one, because the application of even the slightest line or color sets up a form-background relationship that gives the illusion of some degree of recessionary space. In some types of work, of course, the recession is extremely shallow, like think cardboards or papers applied one over another, but the depth dimension, however slight, is there."). Therefore, this Article will not adopt that as the dividing line between surface ornamentation and configuration designs.

repetition of the positive shapes are all essential parts of a design.¹²¹ Therefore, in determining what constitutes a whole design for an article of manufacture, both the positive and negative spaces should be taken into account.

III. THE NEW THEORY: APPLICATION WITH EXAMPLES

So far, this Article has argued that courts and the USPTO should interpret the statutory phrase “design for an article of manufacture” as protecting whole designs.¹²² It has argued that “article of manufacture” should be interpreted to mean a tangible item made by humans—other than a machine or composition of matter—that has a unitary structure and is complete enough that it could be used or sold separately.¹²³ And it has argued that, in conceptualizing what counts as a whole design, both the positive and negative areas should be considered.¹²⁴

U.S. design patent law has always recognized designs for “the configuration or shape of an article” and designs for “surface ornamentation applied to an article” as separate types of patentable designs and allowed applicants to direct their claims to one, the other, or a combination of both.¹²⁵ Therefore,

121. See, e.g., BEVLIN, 1977, *supra* note 86, at 48 (“When a mark is made on paper or on a canvas, [t]he shape relates to the space on all sides of it and to the rectangular field itself. This idea may seem very basic, but anyone who has ever tried to locate a shape on a blank piece of paper knows that it is not easy to find the ‘best’ solution.”); *id.* at 49 (“In graphic design, blocks of type become shapes to be arranged within the space of a page.”); *id.* at 48–49 (“In the end, the placement that seems most satisfying, most effective, will be the one that creates the best spatial relationship between the shape of the words and the space of the page.”); see generally Burstein, *The Patented Design*, *supra* note 20, at 209 (“[T]wo-dimensional designs are also, in some important senses, product-specific. A surface design created for use on drinking glasses would not necessarily be appropriate for use on an armchair—or at least, not without making significant creative design choices on issues such as scale, repetition, and placement. That type of creative adaptation, as with product configuration, is the type of innovation that design patent law should encourage, not prohibit.”).

122. See *supra* note 56 and accompanying text.

123. See *supra* Section II.A.

124. See *supra* Section II.B.

125. See MPEP, *supra* note 11, § 1502 (“Since a design is manifested in appearance, the subject matter of a design patent application may relate to the configuration or shape of an article, to the surface ornamentation applied to an article, or to the combination of configuration and surface ornamentation.”); *In re Schnell*, 46 F.2d 203, 209 (C.C.P.A. 1931) (interpreting the language of the 1902 Act, which enacted the language used in § 171 today, as being at least as broad as

this Article will use these three longstanding types of designs as a starting point for exploring the issue of what might constitute a whole “design for an article of manufacture.”¹²⁶

This Article will leave aside, for now, the question of whether there are more than three types of properly patentable designs.¹²⁷ But it is important to recognize that fragment claims are not, as the CCPA has suggested, different “types” of designs in the same way that a shape design is different from a surface design.¹²⁸ A claim directed to just a part of an article’s

its predecessor and thus protecting “at least three kinds of designs for articles of manufacture. First, a design for an ornament, impression, print or picture to be applied to an article of manufacture; second, the design for a shape or configuration for an article of manufacture; third, a combination of the first two, that is, a design which consists of the shape or configuration of an article plus additional ornamentation.”); *Ex parte Gérard*, 1888 Dec. Comm’r Pat. 37, 40 (describing “the two classes of invention” in design patents as “shape and ornamentation”); *Gorham Mfg. Co. v. White*, 81 U.S. 511, 525 (1871) (“It is the appearance itself, therefore, no matter by what agency caused, that constitutes mainly, if not entirely, the contribution to the public which the law deems worthy of recompense. The appearance may be the result of peculiarity of configuration, or of ornament alone, or of both conjointly . . .”); *see also* 1 WILLIAM C. ROBINSON, *THE LAW OF PATENTS FOR USEFUL INVENTIONS* § 204 (1890) (explaining that a “design may consist in the simple configuration of a substance the form given to it as a whole, or in the ornamentation imposed upon it without reference to its general form, or in such configuration or ornamentation both” in a section entitled “Design may Consist in Configuration or Ornamentation or Both”).

126. To be clear, this Article is not arguing that because these three types have always been recognized as design patentable subject matter, they all must always be considered design patentable subject matter. It is merely acknowledging that these three types of designs are—and have always been—design patentable subject matter and using them as a starting place to discuss what might constitute a whole “design for an article of manufacture.”

127. For example, it’s debatable whether graphical user interfaces and other projected designs should be considered design patentable subject matter. *Cf.* *Burstein*, 1887, *supra* note 13, at 14 (noting that, although the USPTO considers “[c]omputer-generated icons, such as full screen displays and individual icons” to be statutory subject matter, that “interpretation of the statute is based on questionable logic and has not been tested in litigation or ratified by any court” (footnote omitted) (quoting U.S. PATENT & TRADEMARK OFFICE, *MANUAL OF PATENT EXAMINING PROCEDURE* § 1504.01(a)(I) (9th ed. 7th rev., Nov. 2015))). But if there are other types of properly patentable designs, they should be claimed and protected as wholes, not in the fragmentary manner we so often see today. *See, e.g.*, *Display Screen Or Portion Thereof With Graphical User Interface*, U.S. Patent No. D722,071 (issued Feb. 3, 2015) (claiming only a few lines and rectangles in a larger screen design); *Display Screen with Graphical User Interface*, U.S. Patent No. D706,281 (issued June 3, 2014) (claiming just a few small rectangles as part of what is, presumably, a larger screen interface).

128. *See In re Zahn*, 617 F.2d 261, 268 (C.C.P.A. 1980) (“We note also that s 171 refers, not to the design of an article, but to a design for an article, and is inclusive of ornamental designs of all kinds including surface ornamentation as

shape is not different in kind from one directed to the article's whole shape; it is different only in scope. The point of a fragment claim is to cover multiple shapes, not to protect some conceptually distinct type of visual innovation.¹²⁹

So, what might constitute a whole configuration, surface ornamentation, and combination design?¹³⁰ A configuration "design for an article of manufacture" would be a design that dictates the entire shape of that article, including all positive and negative spaces. A surface "design for an article of manufacture" would be one that dictates the appearance of the entire surface, including all positive and negative areas. And a combination "design for an article of manufacture" would be one that dictates all of the above.¹³¹

Under this theory, a design for the configuration of a smartphone screen with a hole for a "home" button would not be the same as a design for the configuration of a smartphone

well as configuration of goods."); Burstein, *Shape*, *supra* note 7, at 591–92 (critiquing this portion of *Zahn*).

129. Indeed, this was exactly what the applicant in *Zahn* wanted—a single patent that would cover "a potentially infinite number of" drill shapes. See Appellant's Brief at 5–6, *In re Zahn*, 617 F.2d 261 (Fed. Cir. July 13, 1979) ("If this position were upheld, appellant would be forced, in the present instance, to file patent applications showing the drill tool shank in combination with every conceivable twist or cutting portion, a potentially infinite number of applications.").

130. Some may argue that neither configuration nor surface ornamentation designs can ever be "whole" because they are, in a certain sense, "parts" of combination designs. But even combination designs, as long understood under U.S. design patent law, are not perfectly whole; for example, applicants have never been required to claim color, a key element of visual design. See, e.g., BEVLIN, 1966, *supra* note 100, at 75 ("Color is the music of the graphic arts. Great art can be created without color but its presence brings a mood and a depth of experience that cannot be achieved any other way."); WONG, *supra* note 115, at 43 (listing color as one of "the most prominent part[s] of a design"); SIMON KING & KUEN CHANG, UNDERSTANDING INDUSTRIAL DESIGN: PRINCIPLES FOR UX AND INTERACTION DESIGN 23 (2016) ("Along with form giving, industrial designers craft sensorial experiences by utilizing the building blocks of color, materials, and finish . . ."). But these three things have always been considered separate types of patentable designs. That is not to say they always must be. But they are at least conceptually distinct. And, most importantly, the fact that configuration and surface ornamentation designs could be considered "parts" of combination designs does not mean that the statutory subject matter must also include fragment designs or anything else that might, linguistically, be described as a "part" of some other design.

131. If there are, as the CCPA suggested in *Zahn*, other types of protectable designs, the same general principles would apply. However, a full discussion of whether there are other types of protectable designs is beyond the scope of this Article.

screen with an uninterrupted flat surface, because the former would include a negative space not found in the latter (the space around the button) and a visually separate positive space (the button itself).¹³²

For surface-ornamentation designs, the application of this theory may be less intuitive. In this area, neither history nor past practice are much help. Drawing conventions and disclosure rules have changed over time, making apples-to-apples comparison difficult.¹³³ Although “surface ornamentation” has been recognized as a type of patentable design for as long as we’ve had design patents,¹³⁴ that category is ill-defined and undertheorized.¹³⁵ Today, the USPTO takes an expansive view of this category, calling it “surface treatment” and defining it to include “any indicia, contrasting color or materials, graphic representations, or other ornamentation applied to the article.”¹³⁶ Thus, it appears that—at least in contemporary design patent practice—the

132. This is contrary to contemporary USPTO practice. *See, e.g.*, Electronic Device, U.S. Patent No. D593,087 (issued May 26, 2009) (apparently allowing Apple to claim these sorts of variants as separate “embodiments” of the same “design”).

133. As I’ve noted before: “The USPTO’s rules for how designs can be claimed and how they have to be disclosed (including, but not limited to the rules for drawings) have changed over time. And there appears to have been some variation, at least at some points, in how different courts interpreted and applied various design patent claiming conventions. Therefore, in evaluating pre-*Zahn* design patents, one cannot simply assume that any particular claiming convention (e.g., dotted lines) would have had the same meaning and effect that it does today.” *See* Burstein, *Shape*, *supra* note 7, at 627–28.

134. *See infra* note 17 and accompanying text.

135. This may be due to Congress’ expansion of copyrightable subject matter during the Nineteenth Century. *See* LIBRARY OF CONGRESS, COPYRIGHT OFFICE, COPYRIGHT ENACTMENTS: LAWS PASSED IN THE UNITED STATES SINCE 1783 RELATING TO COPYRIGHT 25 (1973) (noting that Congress expanded copyright protection to cover “historical or other print[s]” in 1802); Benjamin W. Rudd, *Notable Dates in American Copyright 1783–1969*, 28 Q.J. LIBR. CONGRESS 137, 138 (1971), <http://www.copyright.gov/history/dates.pdf> [<https://perma.cc/P3MF-M44X>] (referring to Act of Feb. 3, 1831, 4 Stat. 436, ch. 16) (noting that Congress expanded copyright protection to “any print or engraving” in 1831); *id.* at 140 (noting that Congress expanded copyright protection to paintings, drawings, and sculptures in 1870).

136. The USPTO uses the phrase “surface treatment.” *See* MPEP, *supra* note 11, § 1503.02 (“The ornamental appearance of a design for an article includes its shape and configuration as well as any indicia, contrasting color or materials, graphic representations, or other ornamentation applied to the article (‘surface treatment’).”).

phrase “surface ornamentation” refers to a range of things that might be more accurately referred to as “surface design.”¹³⁷

Those not trained in art or design may intuitively adopt what we might call a “decals theory” of surface designs—that is, they may think of “the design” as just the worked portion of the surface, as something that is stuck on to the article like a decal. But as discussed before, the unworked portions of a surface are just as much a part of a surface design as the worked portions.¹³⁸ And the positive areas may be either worked or unworked.

Perhaps we could think of surface designs like a rolled fondant that the designer drapes around a configuration, like a cake decorator might do with a cake.¹³⁹ Conceptually, the designer could place the positive shapes in the same places and leave the rest of the surface as negative areas, even though the

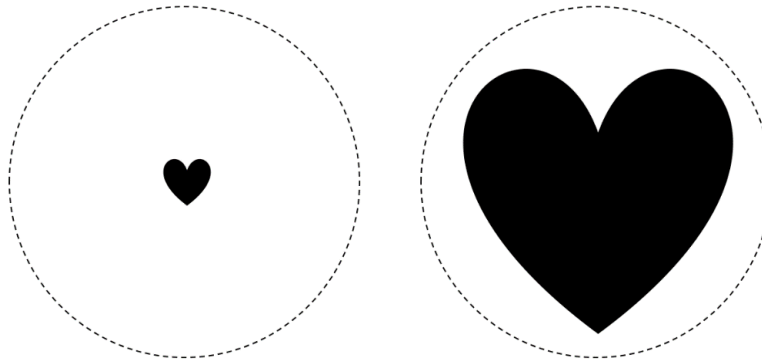
137. This is not to say that the USPTO’s reading is a fair or good interpretation of the statute or that it is consistent with historical practice (if you’re into that kind of thing). It is merely to acknowledge the existing state of affairs. A full investigation into this change in terminology and apparent expansion of the category is, however, beyond the scope of this Article. For now, it is worth noting that the USPTO’s expansive view of “surface ornamentation” is not an unalloyed good for patent applicants. For example, if trademarks or other textual matter can be part of an article’s “surface ornamentation,” then infringement can be avoided when such matter is incorporated into a pictorial surface design. *See generally* *Columbia Sportswear N. Am., Inc. v. Seirus Innovative Accessories, Inc.*, 942 F.3d 1119, 1131 (Fed. Cir. 2019) (“A would-be infringer should not escape liability for design patent infringement if a design is copied but labeled with its name. But *L.A. Gear* does not prohibit the fact finder from considering an ornamental logo, its placement, and its appearance as one among other potential differences between a patented design and an accused one.” (referring to *L.A. Gear, Inc. v. Thom McAn Shoe Co.*, 988 F.2d 1117, 1125 (Fed. Cir. 1993))); Sarah Burstein, *Columbia v. Seirus: The Sky Is Not Falling*, PATENTLYO (Feb. 10, 2020), <https://patentlyo.com/patent/2020/02/columbia-v-seirus-the-sky-is-not-falling.html> [<https://perma.cc/6HKN-X3TR>] (noting that *Columbia v. Seirus* “is consistent . . . with the USPTO’s current treatment of logos, brand names, etc. in the prosecution context. Logos, brand names, etc. can—and are—claimed as (or as part of) ‘surface treatments.’ . . . It would be odd to say that these kinds of elements count as ‘designs’ (or parts thereof) for the purposes of patentability but must be ignored entirely when it comes to infringement.”). In some ways, this is a version of the numerator problem discussed above—which means matter on the surface should be considered part of the “surface ornamentation”? But a full discussion of these issues is beyond the scope of this Article.

138. *See supra* Section II.B.

139. *See generally* Desiree Smith, *How to Cover a Cake with Fondant*, WILTON BLOG (May 29, 2019), <https://blog.wilton.com/how-to-cover-a-cake-with-fondant/> [<https://perma.cc/22BM-M93N>].

precise shape of those negative areas would change according to the shape of the underlying article.¹⁴⁰

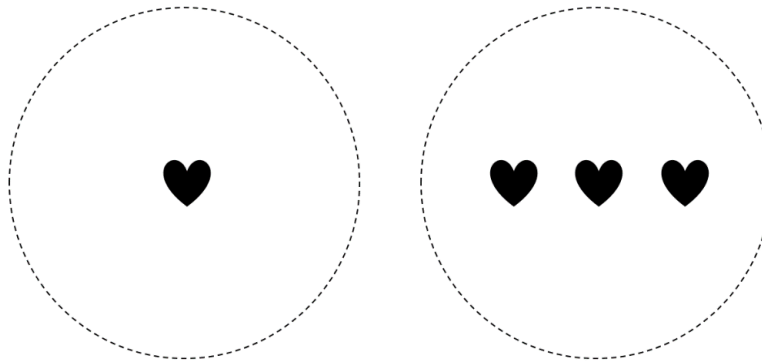
Consider, for example, these hypothetical plate designs. In these designs, the black indicates the worked portions and the white indicates the unworked portions. Under the fondant theory, these would be considered different surface-ornamentation designs because the positive areas are in different locations, creating different negative shapes—even though the same heart motif is used in both:¹⁴¹



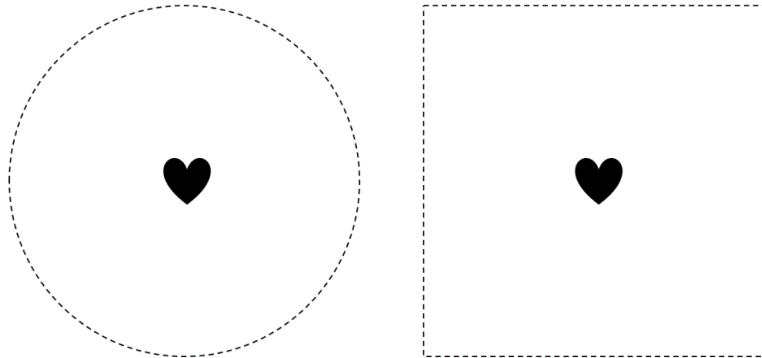
140. This would account for other important design principles like placement. *See infra* note 121 and accompanying text. This is of course, not the only way we could conceptualize surface designs. This is just one way that we might take positive and negative spaces seriously. It may be that, under a strict interpretation, separate surface “designs for articles of manufacture” don’t really exist—outside, perhaps, of certain all-over repeating patterns. That would not be the worst result; copyright might well be a better home for surface designs than design patent. But a full discussion of that issue is beyond the scope of this Article.

141. For the purposes of this example, I am using dotted lines to show the contours of the (unclaimed) plate shape. For any readers who are concerned that this seems unfair or unjust, it is worth noting that any design motifs that are sufficiently creative will—regardless of how we conceptualize a patentable “design”—be automatically protected by copyright. *See generally* Burstein, *The Patented Design*, *supra* note 20, at 209. If, counterfactually, this heart was sufficiently creative to merit copyright protection, then either of these plate designs would infringe a copyright in that work. *See id.* (noting that copyright protects designs *per se*).

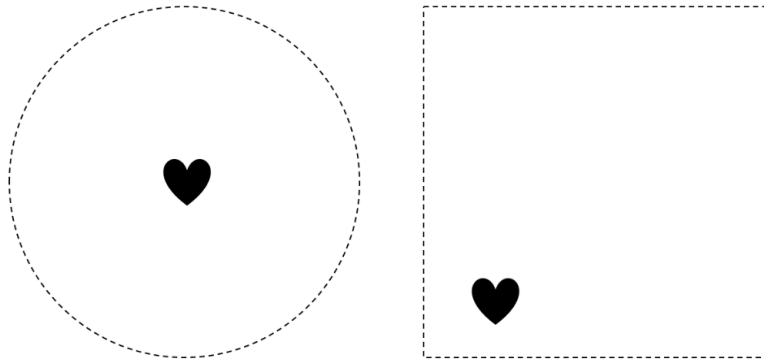
For the same reasons, these would also be considered different surface-ornamentation designs:



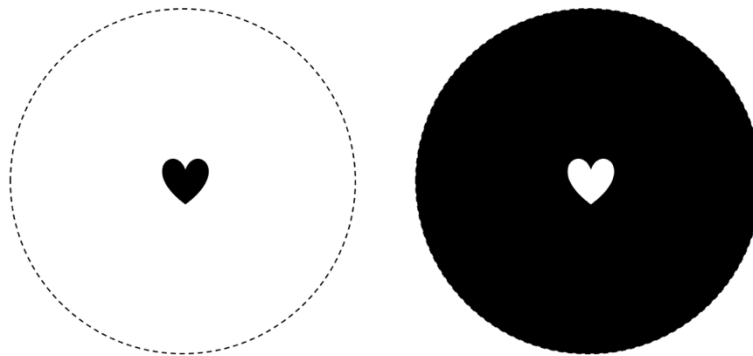
Because these are surface-ornamentation designs, not combination designs, the shape of the underlying plate wouldn't matter. But the worked areas would have to be the same—and stay in the same relative places—and the rest would have to be left as negative areas (in this case, unworked areas), or else it would create a different design. So, for example, the same design might be applied to a round and square plate as follows:



Although the precise shape of the negative space has changed due to the change in the shape of the underlying plate, it is still negative space. And the shape and placement of the positive areas have remained the same; therefore, these should be considered different embodiments of the same design. By contrast, the patterns shown below would not be the same design because the location of the positive areas is different, creating different relative negative areas:

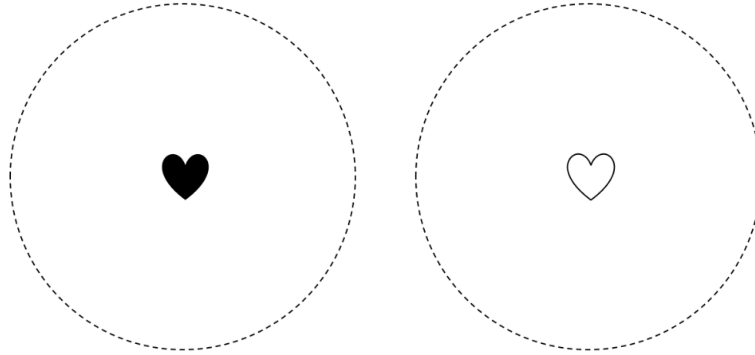


Because the positive areas can be either worked or unworked, these would be considered the same design.¹⁴²



142. Assuming, of course, that color was not claimed as part of the design and other aspects of the worked areas (such as texture) were unclaimed.

These, however, would not be the same design because one has a heart made of solid positive space and the other has negative space inside the outline of the heart:



The question of whether any of these should be considered obvious variants over another is a separate issue.¹⁴³ The same principles apply to combination designs, except that both the shape and surface-ornamentation would be included.

Under this new conception of a “design for an article of manufacture,” an applicant could still file for separate protection of the configuration, surface design, and a combination thereof. But they could no longer claim something less than an entire configuration or surface design as a freestanding “design”—either in an original application or in a continuing application. As a practical matter, that would mean applicants could no longer use broken lines (or other drawing conventions) to disclaim visible portions of a product’s appearance.

IV. EVALUATING THIS NEW THEORY

This Part will explain the major benefits of this new approach and discuss some potential objections.¹⁴⁴

143. See generally Burstein, *Visual Invention*, *supra* note 73 (discussing the application of patent law’s nonobviousness requirement to designs).

144. The system proposed here would also make it easier and cheaper to file a design patent application. The biggest costs for applicants are drawing and attorneys’ fees. See Burstein, *Costly Designs*, *supra* note 15, at 123–24 (discussing these costs). Because the approach proposed here would simplify the drawing

A. *Benefits of The Whole-Designs Approach*

1. Better Fit with the Statutory Text and History

The whole-designs approach fits better with the text of section 171 and with historical practices and understandings. It also would realign the special “total profits” remedy with its original intent. This Section will discuss those benefits in turn.

a. *Statutory Text*

Zahn’s interpretation of the Patent Act—that is, that a design for the shape of a fragment of a drill bit could be considered a design “for” the whole drill bit—is contrary to the plain text of the statute.¹⁴⁵ Section 171 provides that “[w]hoever invents any new, original and ornamental design for an article of manufacture may obtain a patent therefor, subject to the conditions and requirements of this title.”¹⁴⁶ In plain English, it would be strange to refer to the design claimed in *Zahn* as a “design for a drill bit.” After all:

In plain English, when we refer to a thing, we usually mean the whole thing unless otherwise specified. It’s not necessary to add the word “whole” (or “complete” or the like) because the “whole” is implied. If someone says, “I ate an orange,” we would understand them to mean they ate the whole orange, not just a piece of one. Similarly, if someone says they will be “gone for a week,” we would most naturally understand that to mean a whole week, not just a few days.

conventions and the strategy involved, both of those costs should go down. Some may see this as a benefit. *See, e.g.,* Susanna Monseu, *The Challenge of Protecting Industrial Design in a Global Economy*, 20 TEX. INTELL. PROP. L.J. 495, 530–31 (2012) (decrying the fact that, “for most designers, the time and expense of applications . . . preclude the use of design patents to protect their designs.”). But making applications cheaper is not necessarily a good thing. The high cost of design patents—at least, as compared to copyright and trade dress protection—may “actually serve[] a beneficial function in screening out at least some bad design patents.” Burstein, *Costly Designs*, *supra* note 15, at 109. Nonetheless, the system would be better on the whole if fragment claiming were eliminated, even if that meant lowering the costly screen somewhat. *See generally id.* at 138–39 (using a fragment claim as an example of the kind of bad design patent claim the costly screen could help weed out).

145. Burstein, *Shape*, *supra* note 7, at 616–21.

146. 35 U.S.C. § 171(a) (2018).

Thus, in plain English, the phrase “design for an article of manufacture” would most naturally refer to a whole “design for an article of manufacture.”¹⁴⁷

The whole-designs approach would better align design patentable subject matter with the statutory text by only granting a design patent for a “design for a drill bit” when the shape (or surface design) of the whole drill bit is claimed.¹⁴⁸

Because section 171 refers to designs “for” articles, not designs “of” articles, some argue that *Zahn* was correct.¹⁴⁹ As Janis and Du Mont have noted:

For Judge Rich, the critical point was that the statute authorized the protection of designs “for” articles of manufacture; it was not limited to designs “of” articles of manufacture. While the latter formulation might hint at a requirement for including the article in the design claim, the former, according to Judge Rich, supported the view that the claimed design need not be for a design for an entire article.¹⁵⁰

This logic, however, is highly questionable.

147. Burstein, *Shape*, *supra* note 7, at 616.

148. It's true that patent English sometimes diverges from plain English. See, e.g., Arti K. Rai, *Engaging Facts and Policy: A Multi-Institutional Approach to Patent System Reform*, 103 COLUM. L. REV. 1035, 1046 (2003) (“[U]nder long-established patent case law, patent claims are not directed at the ordinary speaker of English; rather, they are directed at the” person having ordinary skill in the art to which the patent pertains); John M. Golden, *Construing Patent Claims According to Their “Interpretive Community”: A Call for an Attorney-Plus-Artisan Perspective*, 21 HARV. J.L. & TECH. 321, 369–70 (2008) (arguing that, for patent examiners, attorneys, and agents, “their most fluent lingua franca is likely to be ‘patent claim English,’ that peculiar dialect that has resulted from practice, precedent, and USPTO rules”); Greg Reilly, *Judicial Capacities and Patent Claim Construction: An Ordinary Reader Standard*, 20 MICH. TELECOMM. & TECH. L. REV. 243, 254 (2014) (“[B]ecause claims describe technical content but have legal effect, they are often ‘an amalgam of multiple vocabularies and perspectives,’ using ordinary English, conventions of claim drafting (i.e., ‘patentese’), and scientific or technical words.” (quoting Peter S. Menell, Matthew D. Powers & Steven C. Carlson *Patent Claim Construction: A Modern Synthesis and Structured Framework*, 25 BERKELEY TECH. L.J. 711, 720 (2010))). But that does not always have to be true, especially with respect to statutory construction.

149. See *In re Zahn*, 617 F.2d 261, 268 (C.C.P.A. 1980) (“We note also that § 171 refers, not to the design *of* an article, but to a design *for* an article . . .”).

150. Du Mont & Janis, *supra* note 4, at 115 (discussing *In re Zahn*, 617 F.2d at 268).

Prior to 1902, “Congress set forth the types of patentable designs in long, detailed lists.”¹⁵¹ The first design patent act listed, among other categories of protectable designs, “any new and original design *for* a manufacture” and “any new and original shape or configuration *of* any article of manufacture.”¹⁵² In 1902, Congress amended “the statute to state that design patents could be obtained for ‘any . . . design for an article of manufacture.’”¹⁵³ It appears that Congress made this change to make it clear that the statute was meant to promote “ornamental” designs as opposed to “useful” ones.¹⁵⁴ There is no indication that, in making this change, Congress meant to alter—let alone greatly expand—the universe of protectable “designs.” Thus, it appears that Judge Rich was reading an elephant into a mousehole.¹⁵⁵

In any case, Congress’s choice to use “for” instead of “of” is still a distinction without a difference.¹⁵⁶ It may be that Congress was trying to distinguish between designs that had actually been reduced to practice and those that had not.¹⁵⁷ Or

151. Burstein, 1887, *supra* note 13, at 7 (discussing how this language has changed over time).

152. Act of Aug. 29, 1842, ch. 263, § 3, 5 Stat. 543, 543–44 (1842) (emphasis added); *see also* Burstein, *The Patented Design*, *supra* note 20, at 216 n.274 (“The first design patent act actually used both prepositions.”).

153. Burstein, 1887, *supra* note 13, at 8 (citing Act of May 9, 1902, ch. 783, 32 Stat. 193, 193). The same language is used today. *See* 35 U.S.C. § 171 (2018).

154. *See* Janice M. Mueller & Daniel Harris Brean, *Overcoming the “Impossible Issue” of Nonobviousness in Design Patents*, 99 KY. L.J. 419, 458 (2011) (“The minimal legislative history for the 1902 amendment of Revised Statutes § 4929 focuses on the reasons for substituting the word ‘ornamental’ for ‘useful.’” (citing H.R. Rep. No. 57-1661, at 1–2 (1902))); *see also* Mark P. McKenna & Katherine J. Strandburg, *Progress and Competition in Design*, 17 STAN. TECH. L. REV. 1, 38 (2013) (“To further clarify that design patents were not substitutes for utility patents, Congress in 1902 amended the design patent statute, removing the word ‘useful,’ and replacing it with the word ‘ornamental.’”).

155. *See* *Bilski v. Kappos*, 561 U.S. 593, 645 (2010) (Stevens, J., concurring) (“We generally presume that Congress ‘does not, one might say, hide elephants in mouseholes.’” (quoting *Whitman v. American Trucking Assns., Inc.*, 531 U.S. 457, 468 (2001))).

156. *See, e.g.*, BERTRAM, *supra* note 87 (using the phrase “a design *for* something” to refer to “a drawing made in the studio by a designer” and using the word “design” to refer to “the thing itself” and “with that drawing, the preceding idea of the thing and the succeeding process of manufacture all implicit”).

157. *See id.* (“[I]f there is any meaningful distinction between a design “of” and “for” an article of manufacture, it would seem to relate most naturally to whether or not the article has actually been manufactured.”). “An actual reduction to practice occurs when the inventor builds the product or performs the process for

Congress may just have been trying to construct an elegant sentence. Prior versions of the statute used both “of” and “for” to refer to designs.¹⁵⁸ But it would have been strange for Congress to say “a design of or for an article of manufacture.” It is more likely that Congress decided that “design for” was sufficient to cover the entire existing universe of protectable designs.

b. History

For those who care about a statute’s original intent or historical practice, this approach appears to be consistent with historical practice prior to *Zahn* and around the time of the 1952 Act.¹⁵⁹ There’s no reason to believe that, in enacting the current statutory language, Congress intended to change the three longstanding categories of patentable designs or to open the door to *Zahn*-style fragment claiming.¹⁶⁰ To be clear, the argument made here does not depend on the accuracy of these historical claims. Even if this reading of history were wrong, the approach proposed here would still be preferable to the status quo for all the other reasons discussed herein.

c. “Total Profits”

The rise of fragment claiming has distorted the design patent “total profits” remedy from what Congress originally intended.¹⁶¹ That remedy, codified in 35 U.S.C. § 289, allows a

which she wishes to file an application” Christopher A. Cotropia, *The Folly of Early Filing in Patent Law*, 61 HASTINGS L.J. 65, 120 (2009).

158. See, e.g., Act of Aug. 29, 1842, ch. 263, § 3, 5 Stat. 543, 543–44 (listing, among other types of patentable designs, “any new and original design *for* a bust, statue, or bas relief or composition in alto or basso rilievo” and “any new and original shape or configuration *of* any article of manufacture”) (emphasis added).

159. See Burstein, *Shape*, *supra* note 7, at 619 n.271 (“[A]ccording to the author’s research to date, reading this language to refer to whole design is perfectly consistent with the law and practice at the time that language was added to the statute in 1902. It also appears to be consistent with USPTO practice at the time of the 1952 Act.” (internal citation omitted)).

160. See *supra* Section IV.A.1. As explained previously, the Supreme Court’s decision in *Gorham v. White* does not compel a contrary result. See Burstein, *Shape*, *supra* note 7, at 628–33 (discussing *Gorham Co. v. White*, 81 U.S. 511, 528 (1871)).

161. See Burstein, *Shape*, *supra* note 7, at 609–10 (“When this special remedy was enacted in 1887, there was no *Zahn*-style fragment claiming. *Zahn*’s introduction of fragment claiming distorted the presumptive effect of—and

design patent owner to credibly claim that they are entitled to an infringer's total profits for an infringing product, even when the patent only covers a small, immaterial, or otherwise unimportant part of that product.¹⁶² The Supreme Court rejected the Federal Circuit's *Apple v. Samsung* test in 2016, but the Federal Circuit has not yet adopted a new test for determining the extent of profits that are available under section 289.¹⁶³ Even if the court adopts a sensible test, fragment claiming will still present overcompensation problems.¹⁶⁴ As Bernard Chao has noted, “[a]llowing patentees a disproportionately large remedy harms innovation by disincentivizing others from developing complementary technology that either builds on or works with other technology.”¹⁶⁵ That is a problem.

Eliminating fragment claiming would return this remedy to the narrower scope that Congress originally intended. As long as we are sure to conceptualize a design for a whole component as a “design *for*” that component—not a “design *for*” some larger product—component claims will not raise the worst overcompensation problems with the section 289 “total

justification for—this special remedy. . . . By allowing patent applicants to claim such small parts as a separate ‘design,’ the current regime has fundamentally altered this special design patent remedy by opening the door for damages awards far in excess of what was originally intended by Congress and far beyond any economic justification.” (footnotes omitted)).

162. For one recent example, see *id.* at 609–14 (discussing Order Regarding Post-Trial Motions at 7–8, *Microsoft Corp. v. Corel Corp.*, No. 5:15-cv-05836, 2018 WL 2183268 (N.D. Cal. May 8, 2018), ECF No. 357).

163. See Burstein, *Today*, *supra* note 23, at 783 (2018) (“[N]ow, lower courts must determine how to ‘identify the relevant article’—i.e., ‘the “article of manufacture” to which the infringed design has been applied’—at Samsung step one. To date, the Federal Circuit has not weighed in.” (footnote omitted)). In the most recent case to raise it, the court did not reach the issue. See *Columbia Sportswear N. Am., Inc. v. Seirus Innovative Accessories, Inc.*, 942 F.3d 1119, 1131–32 (Fed. Cir. 2019) (“The parties raise additional issues regarding the court’s damages award under 35 U.S.C. § 289. . . . Both of these issues are important, but we do not reach them because we have vacated the infringement finding.”).

164. See Burstein, *Today*, *supra* note 23, at 837 (“In these instances of fragment claiming, the approach proposed by this Article will, admittedly, result in a windfall to the patent owner.”).

165. Bernard Chao, *Lost Profits in a Multicomponent World*, 59 B.C. L. REV. 1321, 1342 (2018) (citing Suzanne Scotchmer, *Standing on the Shoulders of Giants: Cumulative Research and the Patent Law*, J. ECON. PERSP., Winter 1991, at 29, 32–33; Amy L. Landers, *Patent Claim Apportionment, Patentee Injury, and Sequential Invention*, 19 GEO. MASON L. REV. 471, 504–09 (2012)).

profits” remedy.¹⁶⁶ That’s not to say there will be no overcompensation at all. Nor is it to say that the reforms proposed here will convert section 289 into an optimal remedy.¹⁶⁷ But it would be better.

2. Better Fit with Design Theory

Just as historical rules and practices should not rigidly bind design patent law, not all facets of design theory should necessarily constrain design patent law. However, like the historical lessons discussed above, there are principles of visual design theory that are helpful and worth learning from. In addition to the previously discussed concepts like positive and negative spaces,¹⁶⁸ it’s worth noting that designers focus on unity and wholeness when they talk about “design.”¹⁶⁹

Contemporary design theory and practice “focuses on enhancing the appearance and functionality of a product as a whole.”¹⁷⁰ When designers use the word “design” as a noun,¹⁷¹

166. See Burstein, *Today*, *supra* note 23, at 835–38 (discussing the overcompensation problems that arise from the contemporary fragment claiming regime).

167. Many will still likely argue that § 289 is not economically justified, regardless of how the statutory “design” is defined, because § 289 does not require apportionment between the utilitarian and aesthetic aspects of an article. See, e.g., Thomas F. Cotter, *Reining in Remedies in Patent Litigation: Three (Increasingly Immodest) Proposals*, 30 SANTA CLARA HIGH TECH. L.J. 1, 20 (2013) (“[T]he non-apportionment rule has . . . from an economic perspective, too much bite, assuming that the profits Samsung earned from the sales of its devices were attributable in part to other, noninfringing features of the Samsung devices. In this regard, U.S. design patent law arguably raises a potential for substantial overcompensation and overdeterrence.”).

168. See *supra* Section II.B.

169. At least, they do this when they use that word as a noun. See Burstein, *The Patented Design*, *supra* note 20, at 166 (“The word ‘design’ is mercurial . . . in contemporary usage, it ‘is a verb as well as a noun; the word can refer to a process as well as an object.’”); see, e.g., BEVLIN, 1966, *supra* note 100, at 3 (“[A] design is, first of all, a plan for order.”); see also *id.* at 35 (“Such elements as color, texture, size, shape, and form are combined by means of rhythm, variety, and balance into a unified whole . . .” (emphasis added)).

170. Brief of 26 Design Educators as Amici Curiae in Support of Appellee Apple Inc. at 3, *Apple Inc. v. Samsung Elecs. Co., Ltd.*, Nos. 2014-1335, 2014-1368, 2014 WL 4079446 (Aug. 4, 2014), ECF 99; see also Burstein, *The Patented Design*, *supra* note 20, at 170 (“Design has always, fundamentally, been about blending form and function. And it has always been a product-focused activity.”).

171. See Burstein, *The Patented Design*, *supra* note 20, at 166 (noting that “[t]he word ‘design’ is mercurial; it has multiple meanings that have ebbed and flowed over time. . . . But in contemporary usage, it ‘is a verb as well as a noun;

they use it to refer to “a cohesive and integrated whole that connects all of the product’s parts in a meaningful way,” as opposed to “a hodgepodge of discrete elements.”¹⁷² Under this view, a design “for” a product includes the product’s entire shape and surface design—including the color, texture, materials, and any other visible elements.¹⁷³ U.S. law has never required design patent applicants to claim all of these visual attributes at once.¹⁷⁴ As discussed above, U.S. law has always allowed a design patent applicant to claim three different types of “designs”: (1) a design for just the

the word can refer to a process as well as an object.”). Today, most designers think of “design” as a process instead of a product. *See, e.g.*, IDSA, *What Is Industrial Design?*, <http://www.idsa.org/events/what-id> (last visited Sept. 17, 2018) [<https://perma.cc/53B6-PD TT>] (“Industrial Design is the professional practice of designing products used by millions of people around the world every day.”). However, the statute contemplates a “design” in the noun sense. *See* 35 U.S.C. § 171 (2018); *see also* *Gorham Mfg. Co. v. White*, 81 U.S. 511, 525 (1871) (“It is the appearance itself, therefore, no matter by what agency caused, that constitutes mainly, if not entirely, the contribution to the public which the law deems worthy of recompense [via design patent]. The appearance may be the result of peculiarity of configuration, or of ornament alone, or of both conjointly, but, in whatever way produced, it is the new thing, or product, which the patent law regards. To speak of the invention as a combination or process, or to treat it as such, is to overlook its peculiarities.”). Any new and useful processes of design can, of course, be protected by utility patents. *See* 35 U.S.C. § 101 (2018) (defining utility patent subject matter).

172. *See* Brief of 26 Design Educators as Amici Curiae in Support of Appellee Apple Inc. at 17, *Apple Inc. v. Samsung Elecs. Co., Ltd.*, Nos. 2014-1335, 2014-1368, 2014 WL 4079446 (Aug. 4, 2014), ECF 99.

173. *See, e.g.*, *OCVIRK ET AL.*, *supra* note 115, at 307 (defining “design” as “[t]he organizing process or underlying plan on which artist base their total work. In a broader sense, design may be considered synonymous with the terms form and composition.” (emphasis omitted)); *see also id.* (defining “form,” in the relevant sense, as “[t]he total appearance, organization or inventive arrangement of all the visual elements . . . in the artwork; composition.”); *id.* at 306 (defining “composition” as “[t]he arranging and/or structuring of all the art elements . . . that achieves a unified whole. Often used interchangeably with the word design.” (emphasis omitted)).

174. Applicants can, however, choose to do so. *See, e.g.*, *MPEP*, *supra* note 11, § 1503.02(V) (“Drawings in design applications may be submitted in black and white or in color. . . . If color photographs or color drawings are filed with the original application, color will be considered an integral part of the disclosed and claimed design.”). They can also claim “transparent, translucent and highly polished or reflective surfaces” using oblique lines. *Id.* § 1503.02(II). The USPTO has also allowed applicants to limit their claims to particular materials. *E.g.*, *Credit or Stored Value Card with Wood Layer*, U.S. Patent No. D505,450 (issued May 24, 2005) (claiming “[t]he ornamental design for a credit or stored value card with wood layer, as shown and described”). And, as discussed above, an “article of manufacture” is not the same as a “product.” *See supra* note 68.

configuration or shape of an article of manufacture; (2) a design for just surface ornamentation of an article; or (3) a design for both the surface ornamentation and configuration of an article (hereinafter, a “combination design”).¹⁷⁵ It seems unlikely that courts would rule that any of these long-accepted types of designs no longer qualifies as a “design for an article of manufacture.”¹⁷⁶ Nonetheless, the idea of a design as an “integrated whole” does suggest that “a design for an article of manufacture” should be a design for a whole article of manufacture.

3. Better Promote Competition

The whole designs approach promotes competition in at least three ways. It gives competitors (and the public) better notice about the claims a design originator¹⁷⁷ could make, it limits the ability of savvy design patent originators to extend the effective term of their patent protection, and it better matches the scope of a design patent to the designer’s actual contribution.

Consider this design patent, which claims a design for a “Shoe Midsole”:¹⁷⁸

175. See *supra* note 17 and accompanying text. The understanding of what constitutes a “configuration” and what constitutes “surface ornamentation” has, however, changed over time. See Burstein, 1887, *supra* note 13, at 8 n.36. Nonetheless, these three categories have always been recognized as types of protectable “designs.” See *id.*

176. Of course, that is not to say one could not make that case. Indeed, three scholars recently suggested that design patent applicants should have to make their claims using photos in order to provide more visual detail. See Buccafusco et al., *supra* note 7, at 134.

177. The design owner is not, after all, always the design patent owner. This Article will use the word “design originator” to refer to those who create designs on their own as well as those who solicit the creation of them through their employees or other assignors.

178. Shoe Midsole, U.S. Patent No. D840,137 fig.1 (issued Feb. 12, 2019).



Under current design patent law and practice, this claim only extends to the part shown within the dotted-line rectangle in the lower left.¹⁷⁹ In other words, the “design” claimed is just this:¹⁸⁰



So, under contemporary law and practice, this patent would be infringed if another shoe included this same small

179. As noted above, applicants can use drawings or photos to claim designs. See *supra* note 27 and accompanying text. The USPTO also allows applicants to use dotted lines and other visual techniques to disclaim parts of photos, as shown in this example. See *Shoe Midsole*, U.S. Patent No. D840,137 at Description (issued Feb. 12, 2019) (“The broken lines represent an unclaimed boundary of the claimed design. The broken lines immediately adjacent to shaded areas represent unclaimed boundaries of the claimed design. The areas within the color photographs surrounded by broken lines and partially obscured with translucent shading form no part of the claimed design. The remainder of the shoe shown in broken lines is for environmental purposes only and forms no part of the claimed design.”).

180. *Shoe Midsole*, U.S. Patent No. D840,137 fig.2 (issued Feb. 12, 2019).

portion, no matter what the rest of the shoe looked like. It could be covered in ladybug spots. It could be a high heel. It would still infringe. There is no good reason to give anyone such a broad exclusionary right.¹⁸¹ If a shoe, when considered as a whole, looks materially different to an ordinary observer, then that shoe should be allowed to compete in the marketplace.

The same is true for the relevant component—the sole. It might make sense to grant protection for a whole sole, since that piece would be complete enough that it could be sold or used in a totally different shoe. But there’s no good reason to bar competitors from creating different shoes or soles that contain the same small part. There’s no reason to think that the first person to come up with this fragment design is in the best position to develop the best overall designs for shoes or soles. And there’s no good reason to prohibit competitors from making their own improved shoes or soles, even if they incorporate this design element. This type of fragment claiming gives design patent owners rights that far exceed their actual design contributions. That is the whole reason why design patent applicants want these kinds of claims. They want to be able to stop their competitors from making articles that do not look the same, overall, as whatever they manufacture or invented.¹⁸²

This example also raises the issue of public notice. Who would look at this shoe and think that anyone might claim just this part as a separate “design”? It seems unlikely that any ordinary designer (or competitor) would think so.¹⁸³ An experienced design patent prosecutor would see the risk. But that’s not the same as effective public notice.¹⁸⁴

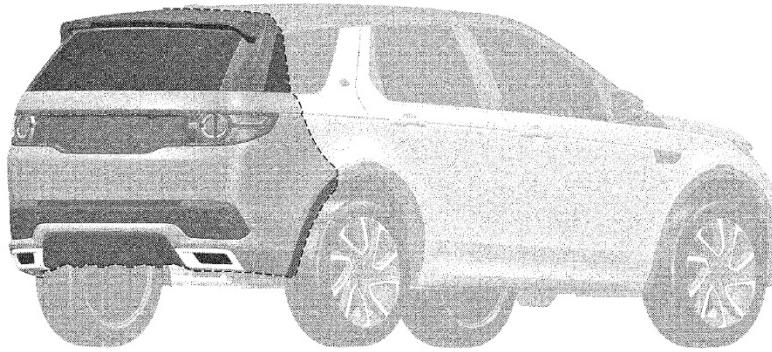
181. For a discussion of why the most prominent arguments to the contrary are unconvincing, see *infra* Section IV.B.1.

182. Some may argue that they need broad, expandable rights to fight “knockoff artists,” but what they want is not the same as what we, as a society, need. See *infra* Section IV.B.1.

183. Cf. *In re Owens*, 710 F.3d 1362, 1365–66 (Fed. Cir. 2013) (noting that § 112 issues are decided from the perspective of the ordinary designer).

184. After all, in patent law, the public we care most about is the ordinary artisan—or, for designs, the ordinary designer. See generally Timothy R. Holbrook, *Patent Prior Art and Possession*, 60 WM. & MARY L. REV. 123, 192 (2018) (“As patent law’s ‘reasonable person,’ the [ordinary artisan] provides the lens for many important doctrines, such as claim construction, the doctrine of equivalents, and whether something qualifies as prior art.”); see also, e.g., Kelly Casey Mullally, *Patent Hermeneutics: Form and Substance in Claim Construction*,

The example shown above is not an isolated example; design patents claiming apparently totally random fragments issue on a regular basis. Here's just one more example:¹⁸⁵



Who—other than a small number of design patent attorneys—would look at this vehicle and think that the part shown within the dotted lines would be considered by anyone to constitute its own freestanding “design”?

Under the whole-designs approach, a competitor could examine a marketed product and discern which parts, if any, were manufactured as separate components, giving them notice about what claims the design originator might make (or might have already made) before that competitor invests time and money in its own product designs.¹⁸⁶ Any given product has only so many components, but every product has an infinite number of potential fragments. A fragment claiming system—especially one that allows fragment claims to be made after a competitor designs around existing patents—lets sophisticated design patentees chill legitimate competition for years or even decades.¹⁸⁷ If a competitor makes a product with any

59 FLA. L. REV. 333, 367 (2007) (“[T]he relevant ‘public’ in public notice is the hypothetical objective person who is central to the claim construction task. Certainty should be evaluated from the perspective of a person of ordinary skill in the art, rather than, for example, from a lay attorney’s standpoint.”).

185. Rear End of Vehicle, U.S. Patent No. D784,231 fig.2 (issued Apr. 18, 2017).

186. Of course, a design patent owner does not have to sell any product at all. See *Cont’l Paper Bag Co. v. E. Paper Bag Co.*, 210 U.S. 405, 429 (1908) (noting that the working requirement was repealed in 1836).

187. See Burstein, *Costly Designs*, *supra* note 15, at 115–16 (explaining this technique and arguing that there are reasons to be particularly concerned about it

fragment—no matter how small or immaterial—that is a visual match, that competitor will potentially be at risk. By making it at least reasonably clear what the potential design patent claims for any given product could be, this approach gives other designers the freedom to innovate without undue fear of litigation.¹⁸⁸ And, by limiting the number of potential design claims, this approach would limit the potential number of years that design patent protection could attach to a single article.¹⁸⁹

An analogy to copyright and its prototypical subject matter may be helpful here. Allowing fragment claiming for designs is like letting an author lock up single words using copyright. We don't allow that in copyright because we want other people to be able to write books.¹⁹⁰ We don't think the first author to use a word in a novel should be allowed to prevent others from using that word in their own novels.¹⁹¹ And we generally don't

in the context of design patents); *see also id.* at 130–31 (“Even though a single design patent lasts for only 14–15 years, savvy design patent practitioners can use the PTO’s continuation rules to ‘evergreen’ design patent protection for a particular product for 30 or even 40 years by filing multiple applications covering different aspects of a product design.”). This ex post claiming is a problem in and of itself. But it is exacerbated by fragment claiming.

188. At least, of meritorious litigation. No matter how perfectly we calibrate the actual scope of design rights, there will always be those who overreach in enforcement. *Cf.* Mark A. Lemley & Mark P. McKenna, *Scope*, 57 WM. & MARY L. REV. 2197, 2197–98 (2016) (“[P]arties treat IP rights ‘like a nose of wax, which may be turned and twisted in any direction.’ When infringement is at issue, IP owners tout the breadth of their rights, while accused infringers seek to cabin them within narrow bounds. When it comes to validity, however, the parties reverse their positions, with IP owners emphasizing the narrowness of their rights in order to avoid having those rights held invalid and accused infringers arguing the reverse.”); Jeanne C. Fromer & Mark P. McKenna, *Claiming Design*, 167 U. PA. L. REV. 123, 193 (2018) (discussing *Star Athletica, L.L.C. v. Varsity Brands, Inc.*, 137 S. Ct. 1002, 1012 (2017)) (“Varsity Brands could claim its cheerleading uniform designs sufficiently narrowly to the Copyright Office—to establish validity—and then later in litigation claim its designs more broadly to capture *Star Athletica*’s designs.”).

189. As with many of these issues, the current system of ex post claiming is a separate problem but it is one that is exacerbated by fragment claiming. If there were only three potential claims for each article—configuration, surface, and combination—that would naturally limit how long applicants could “keep one in the oven.”

190. *Cf.* Justin Hughes, *Size Matters (or Should) in Copyright Law*, 74 FORDHAM L. REV. 575, 578 (2005) (“Another device in American copyright law is a long-standing Copyright Office rule that ‘[w]ords and short phrases such as names, titles, and slogans’ are not copyrightable. No court has ever expressly doubted the vitality of the rule.”).

191. As long as the rest of the novel is not substantially similar to the copied novel, of course.

assume that just because someone used a word in their novel, they must have been the one who coined that word.¹⁹² Some may argue that fragments are—or at least could be—creative enough to be more like short phrases or even paragraphs. But the point remains; at some point, the “grain size” is just too small.¹⁹³ Even larger fragments raise serious notice (and other) problems. And the costs of trying to distinguish between fragments that are more like words and those that are more like paragraphs would seem to far outweigh any benefits of any such regime. A bright line rule that excludes fragments would, on the whole, better promote competition and thus the progress of the decorative arts.¹⁹⁴

4. Eliminate Protection for Functional Features

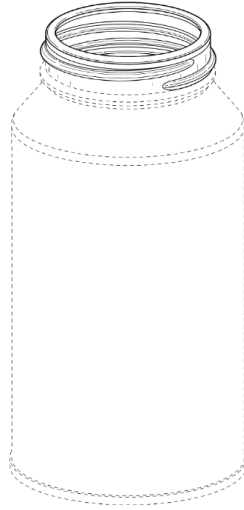
The approach proposed here would also stop design originators from using design patents to monopolize functional features. Consider this design patent, which claims a design for the threaded portion of a “Screw-Top Container”:¹⁹⁵

192. There are, of course, exceptions, like the names of alien races in some works of science fiction.

193. Cf. Pamela Samuelson, *Enriching Discourse on Public Domains*, 55 DUKE L.J. 783, 790 (2006) (“There may also be a granularity reason to exclude ideas and information from a public domain. That is, ideas and information may be too small in ‘grain size’ to be IP-protected or public domain works.”); J.H. Reichman & Pamela Samuelson, *Intellectual Property Rights in Data?*, 50 VAND. L. REV. 51, 155–56 (1997) (stating that, with respect to databases, “the objects of protection—raw or elaborated data—are functionally determined elements or particles of knowledge that fall well below the ‘grain size’ threshold of existing intellectual property laws”). This article argues that fragments are just “too small”—in the conceptual, if not the proportional sense—to be protected.

194. See generally *Gorham Mfg. Co. v. White*, 81 U.S. 511, 524 (1871) (“The acts of Congress which authorize the grant of patents for designs were plainly intended to give encouragement to the decorative arts.”).

195. Screw-top Container, U.S. Patent No. D703,057 fig.1 (issued Apr. 22, 2014).



Under current design patent law and practice, this claim only extends to the part shown in solid lines.¹⁹⁶ Therefore, this design patent would be infringed whenever the same threading design is used on a container—regardless of what the rest of the container looks like.¹⁹⁷ The body of the accused product could be shaped like a sphere or a skull or a rocket ship; as long as the portion shown in solid lines looked the same, the jar would infringe.¹⁹⁸ As discussed above, there's no good reason to give anyone dominion over such a wide range of products—even if, counterfactually, the claimed fragment were highly creative.¹⁹⁹ There's no reason to think that the first person to come up with this threading design is in the best position to develop the best overall designs for screw-top containers. And

196. See *supra* note 28 and accompanying text.

197. Some would argue that this patent is not limited to containers, making the claim even broader. See generally Burstein, *The Patented Design*, *supra* note 20 (discussing the open legal questions in this area). But that argument is belied by the logic of, if not the narrow holding in *Curver Luxembourg, SARL v. Home Expressions Inc.* See 938 F.3d 1334, 1340 (Fed. Cir. 2019) (“[L]ong-standing precedent, unchallenged regulation, and agency practice all consistently support the view that design patents are granted only for a design applied to an article of manufacture, and not a design per se . . .”). For more on that decision, see Burstein, *Design Patents After Curver Luxembourg*, *supra* note 85.

198. See *supra* note 29 and accompanying text.

199. See *supra* note 181 and accompanying text.

there's no good reason to prohibit competitors from making their own improved designs for screw-top containers.²⁰⁰

But this design patent raises another problem with fragment claiming—functionality. The threading claimed here is “functional” in any normal sense of that word.²⁰¹ Of course, functional doesn't mean the same thing in design patent law that it does in normal English.²⁰² But fragment claiming allows a design patent owner to stop others from using a product feature that is “functional” in the trade dress sense—that is, a feature that “is essential to the use or purpose of the article or [that] affects the cost or quality of the article.”²⁰³ As used here, the word *features* will be used “to refer to physical parts of a product,” *elements* will be used to refer to “visual subparts of a claimed design,” and *aspects* to “intangible attributes of an element, feature, product, or design.”²⁰⁴

Fragment claiming allows a patent owner to monopolize useful product features.²⁰⁵ That's not what design patents are

200. This type of design patent is not rare. And these kinds of functional fragment designs do get asserted in court. For example, JUUL Labs recently filed over 50 complaints alleging infringement of a design patent that claims a design for what appears to be the shape of the fragments of a vaporizer cartridge that make the cartridge fit in a JUUL vaporizer. *See, e.g.*, Complaint, Juul Labs, Inc. v. Mr. Fog, No. 1:20-cv-04083 (N.D. Ill. July 10, 2020), ECF 1 (asserting infringement of U.S. Patent No. D858,870); *see also* Vaporizer Cartridge, U.S. Patent No. D858,870 (issued Sept. 3, 2019).

201. This functionality problem is not limited to configuration designs; surface designs can also be “functional” in the sense discussed here. *See, e.g.*, Floor Surface Underlayment with Indicia, U.S. Patent No. D839,453 (issued Jan. 29, 2009) (claiming a design for an informational infographic, apparently intended to identify certain “cutting lines”). But the problem, at least right now, seems most acute with respect to configuration designs, so this Section will focus on them for now.

202. *See* Sarah Burstein, *Faux Amis in Design Law*, 105 TRADEMARK REP. 1455, 1457 (2015) (“[I]n design patent law, ‘functional’ essentially means ‘the only configuration that is fit for a particular purpose.’”).

203. *See* Traffix Devices, Inc. v. Mktg. Displays, Inc., 532 U.S. 23, 32 (2001) (quoting Qualitex Co. v. Jacobson Prods. Co., 514 U.S. 159, 165 (1995)) (stating one way that product-design trade dress can be deemed “functional”).

204. *See* Sarah Burstein, *Intelligent Design & Egyptian Goddess: A Response to Professors Buccafusco, Lemley & Masur*, 68 DUKE L.J. ONLINE 94, 109 (2019) (defining these terms).

205. At least, “useful” in the plain English sense of that word. The contemporary standard for usefulness in utility patents is very broad, probably unduly so. *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, 508 (2017) (noting that, “despite the widespread understanding that utility patent law is focused on technological innovation and the reflection of that

supposed to do.²⁰⁶ They are supposed to encourage the decorative arts, not the useful arts.²⁰⁷ If someone has created a useful invention, they should have to satisfy the requirements for a utility patent or get no patent at all.²⁰⁸

It's true that section 171 also requires that a patentable design be "ornamental."²⁰⁹ But the Federal Circuit has basically read this requirement out of the statute.²¹⁰ A claimed design will be deemed "ornamental" if there is any alternative design "that could provide the same or similar functionality"

understanding in a wide range of features of the patent system, in practice patent law (at least modern patent law) is actually not so constrained").

206. See Rebecca Tushnet, *Shoveling a Path After Star Athletica*, 66 UCLA L. REV. 1216, 1227 (2019) ("Right now, design patents can often protect de jure functional features; that shouldn't be true (functional innovations are the proper concern of utility patent, with its utility-specific standards), but it is."); Christopher Buccafusco & Mark A. Lemley, *Functionality Screens*, 103 VA. L. REV. 1293, 1304 (2017) ("Design patents are supposed to cover only ornamental features of products, not their functional attributes."); *id.* at 1374 (arguing that design patent owners should not be able to "leverage their design patents to control functions"); McKenna & Sprigman, *supra* note 205, at 500 ("Design patent (nominally) excludes functional designs not because they are not novel or nonobvious or ornamental, but because they perform a function and therefore belong to utility patent instead.").

207. See *Gorham Mfg. Co. v. White*, 81 U.S. 511, 524 (1871) ("The acts of Congress which authorize the grant of patents for designs were plainly intended to give encouragement to the decorative arts."); see also *id.* at 525 (ruling that design patents cover visual designs, not the processes that create them). By contrast, "[a]ccording to the Federal Circuit, 'the exclusive right [granted utility patents], constitutionally derived, was for the national purpose of advancing the useful arts—the process today called technological innovation.'" McKenna & Sprigman, *supra* note 205, at 503–04 (quoting *Paulik v. Rizkalla*, 760 F.2d 1270, 1276 (Fed. Cir. 1985)); see also *id.* ("Scholars also regularly equate the useful arts with technological innovation." (internal citations omitted)).

208. See 35 U.S.C. § 101 (2018) (providing for utility patent protection for useful inventions and improvements thereto); see also Buccafusco, et al., *supra* note 7, at 84 ("The utility patent regime is the principal home for scientific and technical inventions that improve the ways products work."); *id.* at 84–85 (noting that, because "a variety of utility patent law doctrines stringently police access to exclusive rights. . . . some innovators attempt to skirt the rigors of utility patent law by seeking protection through either the copyright or design patent regimes."); McKenna & Sprigman, *supra* note 205, at 500 ("[I]n defining the subject matter of design patents, courts have construed ornamental to mean non-functional, ostensibly to prevent parties from using design patent law to gain protection for the kinds of useful features that properly belong in utility patent.").

209. 35 U.S.C. § 171 (2018).

210. See Christopher Buccafusco, *Making Sense of Intellectual Property Law*, 97 CORNELL L. REV. 501, 527 (2012) ("In its anxiety about visual aesthetics, the Federal Circuit has effectively read out of the statute any affirmative requirement that the patentee's design contain aesthetic ornamental features.").

for the underlying article.²¹¹ Therefore, it is very difficult for the USPTO or courts to reject or invalidate any design patent claim as “functional.”²¹² To be clear, the argument here is not that design patent law should adopt the trade dress definition of “functionality.” The point is that the current Federal Circuit understanding of “ornamentality” puts the design patent system in significant conflict with the utility patent system.²¹³

The current case law on ornamentality should be revisited and revised in any case. But the current fragment claiming regime makes all of these problems worse. Going back to the screw-top container example, if the applicant had to claim the shape of the entire container, others would be free to use the

211. See *Ethicon Endo-Surgery, Inc. v. Covidien, Inc.*, 796 F.3d 1312, 1330 (Fed. Cir. 2015). In *Best Lock Corp. v. Ilco Unican Corp.*, a split panel ruled that a design for a key blank was invalid because it had to be in the claimed shape to fit a particular lock. 94 F.3d 1563 (Fed. Cir. 1996). Despite this case law, the USPTO keeps granting design patents for designs that would seem to be equally lacking in alternatives as the design in *Best Lock*. See, e.g., Connector, U.S. Patent No. D841,595 (issued Fed. 26, 2019) (just one of the many design patents Apple has obtained for its Lightning interface). This may be because, post-*Best Lock*, design patentees know not to include information in their application that indicates that the claimed design must fit with another. See *Auto. Body Parts Ass’n v. Ford Glob. Techs., LLC*, 930 F.3d 1314, 1320 (Fed. Cir. 2019), *cert. denied*, 140 S. Ct. 1298 (2020) (“*Best Lock* turned on the *admitted* fact that no alternatively designed blade would mechanically operate the lock” (emphasis added)). Or it may be that applicants hope to rely on Judge Newman’s dissent in *Best Lock* to persuade a future *en banc* court to change course. See generally *Best Lock*, 94 F.3d at 1569 (Newman, J., dissenting) (“[T]he fact that the key blade is the mate of a keyway does not convert the arbitrary key profile into a primarily functional design.”). In any case, it is interesting that *Best Lock* is not cited in the MPEP. See MPEP, *supra* note 11, ch. 1500. The issuance of design patents for interfaces is another problem that is bad enough on its own. See, e.g., Bernard Chao, *Horizontal Innovation and Interface Patents*, 2016 WIS. L. REV. 287, 287 (2016) (“[A]n interface patent that covers little or no meaningful advance can give a company the ability to extract rents and foreclose competition.”). But it is also exacerbated by fragment claiming, which allows the design originator to slice and dice the claim over time, expanding both the term of protection and its scope.

212. The Federal Circuit has also made it very difficult for design claims to be rejected—or invalidated—based on novelty and nonobviousness. See *Burstein, Too Lax?*, *supra* note 15, at 625–26 (“This analysis further suggests that the Federal Circuit should reconsider its tests for ornamentality and nonobviousness. As discussed above, having a high novelty bar makes sense in light of the (appropriately) narrow scope of design patents. But the Federal Circuit’s interpretation of the statutory requirement of ornamentality and its test for nonobviousness are ripe for reconsideration.”).

213. The reverse is also true—the current breadth of what is considered “useful” in the utility patent system puts it in conflict with the design patent system. See generally *infra* note 205. But a full discussion of that issue is beyond the scope of this Article.

shape threaded portion to accomplish the same screw-top function as long as the overall design of their containers looked different to the ordinary observer. The applicant would not be able to use a design patent to monopolize just the useful feature.²¹⁴

It is true that the entire shape of a component—something that could be patented under the approach proposed here—might also be unduly functional.²¹⁵ But design patents that claim functional designs for components are still less problematic than those that claim functional designs for

214. Some might argue that the approach proposed here does allow design patent claims to cover useful aspects or portions of an article or design. See Buccafusco & Lemley, *supra* note 206, at 1375 (arguing that when useful features or elements aren't screened out of the scope of a product, that allows "design protection to control the functional aspects of a product"). It is true that, if the whole container shape were claimed, the shape of threaded portion would be included in the scope of the claim. But that does not mean that shape itself or its functionality *per se* is protected. The hypothetical whole-container claim posited here would only be infringed if another container looked the same, overall, to an ordinary observer. See *supra* note 29 and accompanying text. It would not be infringed if just the shape of the threading feature were duplicated. So the claim would not "cover" the threading in that sense. Others would be free to use the threading shape as long as the rest of the container looked different.

Others have argued that functional features or elements or aspects, as those terms are defined here, should be "filtered out" of design patent claims. See, e.g., Buccafusco et al., *supra* note 7, at 126 (arguing that the Supreme Court "should reintroduce an effective form of functionality screening to design patents" and that "[a]pplying *Richardson* (which rejected patents on functional aspects of tools) and rejecting *Coleman* (which allowed patents on functional elements of a flotation device) would be a good start" (referring to *Richardson v. Stanley Works, Inc.*, 597 F.3d 1288 (Fed. Cir. 2010); *Sport Dimension, Inc. v. Coleman Co.*, 820 F.3d 1316, 1318 (Fed. Cir. 2016))). I am skeptical that this approach is feasible as a practical matter, as a single element or feature may have both aesthetic and functional aspects. And opening the door to any disclaimer may do more harm than good, especially when the current infringement test, properly understood and applied, already can address any feature-functionality concerns. See Burstein, *supra* note 204, at 108–14 (arguing against a filtration approach); see also Sarah Burstein, *Design Patent Claim Construction: More from the Federal Circuit*, PATENTLYO (Apr. 15, 2016), <https://patentlyo.com/patent/2016/04/construction-federal-circuit.html> [<https://perma.cc/X54B-Z6RM>] (discussing both *Richardson* and *Coleman* and arguing that, "Even for designs that are not plainly dissimilar, the Egyptian Goddess test for infringement should serve to narrow claims appropriately where elements are truly functional because one would expect those elements to appear in the prior art. So once again, one is forced to ask what the Federal Circuit is trying to accomplish with these 'claim construction functionality' rules—and whether the game is worth the candle.").

215. Or useful, depending on what term you want to use.

fragments because their scope is much more limited.²¹⁶ Functional designs for components also don't raise the same public notice and time-extension concerns discussed above.²¹⁷ After all, while a component only has one overall shape, it has innumerable potential fragments. At most, under the approach proposed here, an applicant could claim three "designs" for the component—the whole configuration, the whole surface design, and the whole combination. It could not keep continuation applications "in the oven" for decades.²¹⁸ While the whole-designs approach would not solve the problem of unduly functional components or other articles, it would solve a number of problems in the current regime.

5. Helps Unravel Doctrinal and Conceptual Problems

The status quo has also led to several doctrinal quandaries, including the question of what the difference is between an independent design and an "embodiment" thereof. As noted above, a design patent can only include one claim.²¹⁹ However, an applicant is allowed to include multiple "embodiments" of the same design in the same claim.²²⁰ According to the USPTO, "such embodiments may be presented only if they involve a single inventive concept according to the nonstatutory double patenting practice for designs."²²¹ If an applicant successfully persuades the examiner that different versions of their design are actually just embodiments of the

216. Cf. Lemley & McKenna, *supra* note 188, at 2284 ("Virtual identity seems a logical test to apply to a variety of works in which creativity is highly constrained . . .").

217. See *supra* Section IV.A.3.

218. See Perry J. Saidman, *The Crisis in the Law of Designs*, 89 J. PAT. & TRADEMARK OFF. SOC'Y 301, 319 (2007) (providing a detailed explanation of this strategy).

219. MPEP, *supra* note 11, § 1504.05.

220. *In re Rubinfeld*, 270 F.2d 391, 395 (C.C.P.A. 1959) ("[W]e are of the opinion that it cannot be stated as an invariable rule that a design application cannot disclose more than one embodiment of the design."); *id.* at 396 ("Such embodiments can be presented only if they involve a single inventive concept; and such a concept can be protected by a single claim.").

221. MPEP, *supra* note 11, § 1504.05 (citing *In re Rubinfeld*, 270 F.2d 391); see also *In re Maatita*, 900 F.3d 1369, 1377 (Fed. Cir. 2018) (discussing the "analysis used for obviousness-type double patenting situations, in which multiple drawings are submitted with a single application to illustrate multiple embodiments and the examiner must compare the overall visual impression of the submitted drawings to see whether they are distinct").

same inventive concept, they will obtain broader protection while paying “a single filing, examination, search, and issue fee.”²²² But seeking protection for multiple putative embodiments comes with a potential cost:

If an applicant submits multiple purported embodiments but the examiner concludes that they are actually distinct inventions, the examiner will issue a restriction requirement. If the applicant cannot—or chooses not to try to—overcome that requirement, the applicant must choose which design it will continue to prosecute in that application.²²³

In this situation, the applicant has the option to pursue design patents for the other (or “unelected”) designs by filing divisional applications and paying additional fees. If the applicant does not obtain separate design patent protection for the unelected design(s), they will be barred from asserting their original patent against products covered by the unelected design(s).²²⁴

Therefore, the question of what constitutes an independent design versus an embodiment of a design is an important one with very real consequences for the scope of a patent. While the USPTO’s rules regarding embodiments and restriction may seem straightforward, applying those rules is not “quite as easy as it may sound.”²²⁵ And the likelihood that an examiner will determine something to be an independent design, as opposed

222. See Bruce A. Kugler & Craig W. Mueller, *A Fresh Perspective on Design Patents*, COLO. LAW., July 2009, at 71, 76 (“The benefit of filing an application with multiple embodiments is that many versions of the claimed design may be captured by one application. This single application would have a single filing, examination, search, and issue fee.”).

223. Burstein, *Costly Designs*, *supra* note 15, at 113.

224. See *Pac. Coast Marine Windshields Ltd. v. Malibu Boats, LLC*, 739 F.3d 694, 704 (Fed. Cir. 2014) (“[T]he surrender resulting from a restriction requirement invokes prosecution history estoppel if the surrender was necessary . . . ‘to secure the patent.’” (quoting *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 736 (2002))); *id.* (“Prosecution history estoppel only bars an infringement claim if the accused design fell within the scope of the surrendered subject matter.” (citing *Wang Labs., Inc. v. Mitsubishi Elecs. Am., Inc.*, 103 F.3d 1571, 1578 (Fed. Cir. 1997))).

225. *Du Mont & Janis*, *supra* note 7, at 1672.

to an embodiment, is not reasonably predictable *ex ante*.²²⁶ According to one experienced design patent attorney, the real test seems to be: “What can you get past the examiner?”²²⁷

These conceptual difficulties are inextricably linked to the question of statutory subject matter. As Mark Janis and Jason Du Mont have noted, it’s worth asking whether it’s even possible to “meaningfully speak of multiple ‘embodiments’ of a single design for design patent purposes, especially given the fact that only designs, not design concepts, are eligible for design patent protection.”²²⁸ It may well be, as Janis and Du Mont suggested, that the CCPA simply made a mistake when it imported the idea that there can be “multiple embodiments” of a single “inventive concept” from utility patent law to design patent law.²²⁹ These conceptual difficulties highlight the need to have a clear concept of what constitutes a patentable design.²³⁰

6. Helps Define a Domain for Design Patents

The United States currently has a full-cumulation system for designs.²³¹ A design owner can seek concurrent—or

226. See *id.* at 1672–74 (discussing the examiner’s application of these rules in the prosecution of the patent at issue in *Malibu Boats*, 739 F.3d 694); *id.* at 1674 (“[E]ven accepting the PTO’s restriction rules, a reasonable analysis might lead to a conclusion that there are seven designs—or one design—or five.”).

227. This is a paraphrase of multiple private conversations I’ve had with practicing attorneys.

228. Du Mont & Janis, *supra* note 7, at 1670.

229. See *id.* at 1674. (“Utility patent rhetoric, which draws on notions that there are such things as ‘embodiments’ of designs, only lends further confusion to the analysis.”); see also *id.* at 1670 (“A threshold legal question is whether the inclusion of plural embodiments in a design patent would offend restrictions on eligible subject matter. But the C.C.P.A. summarily rejected this argument long ago.” (footnote omitted) (referring to *In re Rubinfeld*, 270 F.2d 391, 393 (C.C.P.A. 1959))).

230. See *id.* at 1674 (arguing that contemporary restriction practice, among other disclosure issues, shows that design patent law needs to “arrive at a coherent notion of the protected subject matter”); see also *id.* (noting that “it is remarkably difficult to extract from the PTO’s restriction practice any clear conception of what constitutes the design subject matter in a given design patent”).

231. Cf. Estelle Derclaye, *Introduction*, to *THE COPYRIGHT/DESIGN INTERFACE: PAST, PRESENT AND FUTURE* 6 (Estelle Derclaye, ed. 2018) (defining a “full cumulation” system of copyright and design protection as one where both rights “can subsist if the protection requirements are fulfilled and the two laws apply in tandem whether it raises regime clashes and/or overprotection, or not”).

consecutive—protection under at least three regimes: design patent, trademark, and copyright.²³² Under trademark law, a product design is protectable if it is nonfunctional²³³ and has acquired secondary meaning—that is, if the design’s “primary significance, in the minds of the public, is to identify the product’s source rather than the product itself.”²³⁴ Under copyright law, “a feature incorporated into the design of a useful article is eligible” for protection as a pictorial, graphic, or sculptural work if that feature is “separable” from the useful article itself.²³⁵ The U.S. Copyright Office interprets the leading case on this issue as holding that the entire shape of a useful article cannot qualify as a protectable “design of a useful article.”²³⁶

The United States has not always had a full cumulation system.²³⁷ In the past, design owners had to choose a

232. Some applicants also use utility patents to protect their aesthetic designs. *See, e.g.*, Multi-Use Garment, U.S. Patent No. 10,694,791 at col. 2 l. 35 (issued Jun. 30, 2020) (claiming a design for a convertible dress and noting that one benefit of the claimed invention is the garment’s “attractive appearance”).

233. Notably, “nonfunctional” does not mean the same thing in trademark law that it does in design patent law. *See* Burstein, *supra* note 202, at 1459.

234. Wal-Mart Stores, Inc. v. Samara Bros., 529 U.S. 205, 205–06 (2000). Product packaging may also be protected under trademark law but, in that case, no showing of secondary meaning is required. *See id.* at 215.

235. *Star Athletica, L.L.C. v. Varsity Brands, Inc.*, 137 S. Ct. 1002, 1007 (2017). Notably, a “useful article” is not the same as an “article of manufacture,” at least as those terms are defined by the Copyright Act and the Supreme Court, respectively. *Compare* 17 U.S.C. § 101 (2018) (defining “useful article”), *with* *Samsung Elecs. Co. v. Apple Inc.*, 137 S. Ct. 429, 435 (2016) (“An article of manufacture . . . is simply a thing made by hand or machine.”). Designs for things that would not qualify as useful articles under the Copyright Act, such as statues, have always been considered design patentable subject matter. *See, e.g.*, Act of Aug. 29, 1842, ch. 263, § 3, 5 Stat. 543, 543–44 (providing protection for, *inter alia*, “any new and original design for a bust, statue, or bas relief or composition in alto or basso relieve”).

236. *See, e.g.*, U.S. Copyright Office, *Public Draft for the Compendium of U.S. Copyright Office Practices* § 924.3(B) (public draft Mar. 15, 2019), <https://copyright.gov/comp3/draft.html> [<https://perma.cc/Z924-3JKX>] (“The Supreme Court made it clear that ‘the separated feature [must] qualify as a nonuseful pictorial, graphic, or sculptural work on its own.’ The feature cannot ‘be a useful article’ in and of itself.” (internal citations omitted) (quoting *Star Athletica*, 137 S. Ct. at 1013, 1010)).

237. *See, e.g.*, *Kellogg Co. v. Nat’l Biscuit Co.*, 305 U.S. 111, 119 (1938) (ruling that the plaintiff could not have the right, under unfair competition law, “to sell shredded wheat in the form of a pillow-shaped biscuit” because that was “the form in which shredded wheat was made under [a utility] patent” and because “a design patent was taken out to cover the pillow-shaped form”); *id.* at 119–20 (“[U]pon expiration of the patents the form . . . was dedicated to the public.”); *Ex*

regime.²³⁸ There are many reasons to be concerned about the rise of full cumulation.²³⁹ For example, there is a tension—if not an outright conflict—between trademark protection, which can potentially last forever,²⁴⁰ and design patent law, which is only supposed to last for “limited Times.”²⁴¹ Unfortunately, contemporary courts only seem to take that conflict seriously in connection with utility patents, not with design patents.²⁴²

parte Mars Signal-Light Co., 85 U.S.P.Q. (BNA) 173 (Comm’r Pat. & Trademarks Apr. 25, 1950) (interpreting the phrase “configuration of goods” in Section 23 of the Lanham Act to refer “only the configuration of characteristic feature rather than the [shape of the whole] article itself” so that there would be no overlap with design patentable subject matter).

238. See Buccafusco et al., *supra* note 7, at 127 (“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.”).

239. For one thing, it does not appear that the status quo was the result of intentional Congressional deliberation; rather, it appears to be the result of the independent expansion of copyright and trademark subject matter. Of course, one could argue that if Congress were bothered by the overlap, it could revise the statutes.

240. Specifically, trademark rights last as long as the mark is used in commerce. See, e.g., *Qualitex Co. v. Jacobson Prod. Co.*, 514 U.S. 159, 164–65 (1995) (“If a product’s functional features could be used as trademarks, however, a monopoly over such features could be obtained without regard to whether they qualify as patents and could be extended forever (because trademarks may be renewed in perpetuity).” (citing *Kellogg Co. v. National Biscuit Co.*, 305 U.S. 111, 119–20 (1938); *Inwood Labs, Inc. v. Ives Labs, Inc.*, 456 U.S. 844, 863 (1982) (White, J., concurring in result))).

241. See U.S. CONST. ART. I, § 8. cl. 8; see also *Qualitex*, 514 U.S. at 164–65. Not everyone agrees that there is such a conflict. See, e.g., Jane C. Ginsburg, *No “Sweat”? Copyright and Other Protection of Works of Information After Feist v. Rural Telephone*, 92 COLUM. L. REV. 338, 371 (1992) (“One may therefore contend that the Commerce Clause-dependent Lanham Act does not run afoul of Patent-Copyright Clause limitations, for the federal trademarks law governs conduct different from that at issue in patent and copyright laws.”). However, a full debate of this issue is beyond the scope of this Article.

242. Compare *TraFFix Devices, Inc. v. Mktg. Displays, Inc.*, 532 U.S. 23, 35 (2001) (acknowledging, though not directly resolving, this issue with respect to utility patents), with *Kohler Co. v. Moen Inc.*, 12 F.3d 632, 644 (7th Cir. 1993) (“[W]e perceive no unavoidable conflict between the [design] patent law and federal trademark law as applied to product configurations.”). But see *Kohler*, 12 F.3d at 645 (Cudahy, J., dissenting) (“In adopting the position that the configuration or design of products themselves may be the subject of federal trademark protection, the Federal Circuit and the courts that have followed it seem to have taken lightly the emphasis placed on the right to copy by decisions of the Supreme Court not only recently but stretching back for a century.” (internal citations omitted)); see also *Mazer v. Stein*, 347 U.S. 201, 217 (1954) (“As we have held the statuettes here involved copyrightable, we need not decide the question of their patentability. Though other courts have passed upon the issue as to whether allowance by the election of the author or patentee of one bars a grant of the other, we do not.”).

Allowing overlapping or consecutive design patent and copyright protection also presents potential “limited Times” issues, especially if we think that the (much) shorter design patent term is a better fit for designs.²⁴³ The overlap between design patents and copyright is concerning if—as appears to be the case—applicants are using design patent law to subvert the low bar for copyright protection that was set by the Supreme Court in *Feist Publications, Inc. v. Rural Telephone Service Co.*²⁴⁴

The full cumulation regime also allows design creators and their assignees to subvert time limits in the different regimes. Copyright law encourages prompt registration.²⁴⁵ Once a

243. For example, back when the copyright term was much shorter, Barbara Ringer argued it was “much too long for designs.” Barbara A. Ringer, *The Case for Design Protection and the O'Mahoney Bill*, 7 BULL. COPYRIGHT SOC'Y U.S.A. 25, 30 (1959) (“Fifty-six years protection is much too long for designs.”). Today, copyright lasts at least seventy years from fixation. 17 U.S.C. § 302 (2018) (setting forth the current copyright terms); see also *Eldred v. Ashcroft*, 537 U.S. 186, 243 (2003) (Breyer, J., dissenting) (describing the current copyright term as “not limited, but virtually perpetual”). Design patents, by contrast, last fourteen to fifteen years from issuance. See 35 U.S.C. § 173 (2018) (“Patents for designs shall be granted for the term of 15 years from the date of grant.”); see also Burstein, *The Patented Design*, *supra* note 20, at 172 n.48 (“Design patents that mature from applications filed on or after May 13, 2015 have a term of fifteen years; design patents that matured from applications filed prior to that date have a term of 14 years.”). Because the design patent term runs from issuance, the actual length of time that a particular product is protected can be more than fifteen years. See Burstein, *Costly Designs*, *supra* note 15, at 130–31 (“[S]avvy design patent practitioners can use the PTO’s continuation rules to ‘evergreen’ design patent protection for a particular product for 30 or even 40 years by filing multiple applications covering different aspects of a product design.” (footnote omitted)). But that doesn’t have to be the way we calculate design patent terms. And forty years is still much less than seventy-plus.

244. See 499 U.S. 340, 345 (1991) (“To qualify for copyright protection, a work must be original to the author. Original, as the term is used in copyright, means only that the work was independently created by the author (as opposed to copied from other works), and that it possesses at least some minimal degree of creativity.” (internal citations omitted)); *id.* at 362 (“The standard of originality is low, but it does exist.”) I’ve been told by design patent prosecutors that, especially with respect to computer-generated designs, their clients want design patents precisely because they do not think the designs are creative enough to survive *Feist*. Indeed, many design patents have been issued for designs that would not be copyrightable under *Feist*. See, e.g., *Compute[r] Display With Graphical User Interface*, U.S. Patent No. D892,135 (issued Aug. 4, 2020) (claiming a design for a blank form with no minimally creative pictorial or graphic content); *Can Panel*, U.S. Patent No. D889,978 (issued July 14, 2020) (claiming a generic canine paw-print representation as a design).

245. See, e.g., 17 U.S.C. § 412 (limiting certain remedies to copyright owners who register their works in certain time periods).

design is made sufficiently public, there is only a one-year window in which the creator or assignee can file an initial application for a patent.²⁴⁶ Trademark law, however, has no such time limits. Someone who thinks they own protectable trade dress can file a trademark registration application—or file a lawsuit alleging infringement under § 43(a)—any time while the mark is being used in commerce. So, a design that was dedicated to the public domain (by the failure to apply for a design patent or by the expiration of a granted one), can be yanked back out of the public domain by trademark law at any time.²⁴⁷

There is no reason why “design for an article of manufacture,” “design of a useful article,” and “product-design trade dress” have to be interpreted as synonyms. The mere fact that each of these key phrases includes the word “design” does not mean that each regime has to protect the same kinds of things.²⁴⁸ What constitutes a “whole design” in design patent could be quite different than what constitutes a “whole design” in copyright or a “whole design” in trademark.²⁴⁹

But, in a world where design patents protect anything that could in any sense be called a “design” (and any subpart thereof), these conflicts seem to be inevitable. Having a clearer theory of what constitutes design patent subject matter—defining the domain of design patents, so to speak—could add clarity to discussions about these conflicts and perhaps resolve some or all of them.²⁵⁰

246. See 35 U.S.C. § 102 (2018).

247. See, e.g., *Groeneveld Transp. Efficiency, Inc. v. Lubecore Int’l, Inc.*, 730 F.3d 494, 509 (6th Cir. 2013) (“Groeneveld has no patent on the design of its grease pump. That is why it has pursued a trade-dress claim under the Lanham Act.”).

248. For more on the history and malleability of the word “design,” see Burstein, *The Patented Design*, *supra* note 20, at 166–71.

249. This assumes that product design trade dress continues to be recognized as a category of trademarks. For a persuasive argument that it should not be, see Mark P. McKenna & Caitlin Canahai, *The Case Against Product Configuration Trade Dress*, in *TRADEMARK LAW AND THEORY: REFORM OF TRADEMARK LAW* (Graeme Dinwoodie & Mark Janis, eds.) (forthcoming 2020), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3336366 [<https://perma.cc/BS84-GYYJ>].

250. Cf. McKenna & Sprigman, *supra* note 205, at 493 (“[W]e can’t coherently build a system that is designed to keep certain features out of non-patent forms of protection on the ground that they belong to utility patent unless we understand what kinds of features are in the domain of utility patent.”); *id.* at 494 (“Lack of a clear sense of utility patent law’s boundaries undermines the very idea of

If, as argued here, only some types of “designs” should be patentable, the conflicts with other IP regimes could be lessened—if not outright eliminated. For example, if copyright protection is not available for the entire shape of a product or component,²⁵¹ and if design patent protection should only be available for the entire shape of an entire product or component, then there would be no conflict between those two regimes with respect to shape designs.²⁵² With respect to surface designs, it may be that most—or even all—surface designs fit better in copyright than design patent.²⁵³

Defining a clear domain for design patents could also help eliminate current conflicts between design patents and trade dress. For example, if we were to reconceptualize trade dress as the “total image and *overall* appearance” of a product,²⁵⁴ then there would be little to no conflict with design patents, since most design patents do not claim colors, materials, or similar aspects of a product’s overall appearance.²⁵⁵

channeling.”); *see also id.* at 540 (arguing that, for channeling to be effective, “IP needs principles to distinguish the subject matter of each system”).

251. *See supra* note 236 and accompanying text.

252. At least no conflict between design patents and useful articles. There would still be overlap between “works of artistic craftsmanship,” at least as that term is currently understood by the Copyright Office. According to the Copyright Office, “[a] work of artistic craftsmanship is a ‘work of art’ that primarily serves a decorative or ornamental purpose, but ‘might also serve a useful purpose.’” U.S. COPYRIGHT OFFICE, COMPENDIUM OF U.S. COPYRIGHT OFFICE PRACTICES § 925.1 (3d ed. 2017) [hereinafter COMPENDIUM III]. The examples that the Copyright Office gives are “textiles, jewelry, decorative glassware, pottery, wall plaques, toys, dolls, and stuffed toy animals.” *Id.* § 903.1. Some of these would appear to fall under the statutory definition of “articles of manufacture.” *Compare id.*, with 17 U.S.C. § 101. And all of these examples would qualify as “articles of manufacture” for the purposes of contemporary design patent law. *Compare* COMPENDIUM III, *supra*, § 903.1, with *Samsung Elecs. Co. v. Apple Inc.*, 137 S. Ct. 429 (2016).

253. By “fit better,” I mean conceptually. The ones that would not survive *Feist* should not be given any form of IP protection.

254. *Cf.* U.S. DEP’T OF COMMERCE, PATENT & TRADEMARK OFFICE, TRADEMARK MANUAL OF EXAMINING PROCEDURE § 1202.02 (Oct. 2018) [hereinafter “TMPEP”] (“Trade dress originally included only the packaging or ‘dressing’ of a product, but in recent years has been expanded to encompass the design of a product. It is usually defined as the ‘total image and overall appearance’ of a product, or the totality of the elements” (quoting *Two Pesos, Inc. v. Taco Cabana, Inc.*, 505 U.S. 763, 764 n.1 (1992))).

255. One interesting question is whether product packaging, as opposed to product design, should be the exclusive domain of trade dress. There is at least some precedent for this. *See Pratt v. Rosenfeld*, 3 F. 335, 337 (C.C.S.D.N.Y. 1880).

Some may argue that it's not a problem for these different regimes to protect the same kinds of designs. But if design patents only protect designs that are protected by other regimes, then it is a superfluous system and we need to ask whether it has outlived its usefulness.²⁵⁶ Of course, as a practical matter, design owners like having a system with many layers of IP protection. But that doesn't mean the law should give it to them.

B. Potential Objections

1. What About Knock-offs?

Some may argue that innovators need to be able to independently protect different parts of their designs, and make those claims *ex post* in order “to give patentees a reasonable shot against knock-off artists, who . . . purposely make a colorable imitation of a patented design but never copy it exactly.”²⁵⁷ In other words, there may be a concern that others will “free ride” on innovators by copying their designs

256. See Daniel H. Brean, *Enough Is Enough: Time to Eliminate Design Patents and Rely on More Appropriate Copyright and Trademark Protection for Product Designs*, 16 TEX. INTELL. PROP. L.J. 325, 328 (2008) (“Promoting artistic designs and preventing consumer deception are the twin goals of the design patent system, and those can now be more appropriately addressed without design patents. Therefore, design patents should be phased out of existence.”). *But see* Dennis D. Crouch, *A Trademark Justification for Design Patent Rights* 2 (UNIV. OF MO. SCH. OF LAW, Research Paper No. 2010-17, 2010), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1656590 [https://perma.cc/WC34-NDRC] (arguing “that the trademark-like distinctiveness function that helps eliminate customer confusion is the most compelling policy justification for the continued protection of design patent rights in the US”).

257. See Saidman, *supra* note 218, at 303; *see also id.* (suggesting that patent owners need to be able to claim “[i]ndividual parts” of a design to “deal[] with knock-off artists who cleverly avoid infringement of” a patent for an entire design). Saidman argues that applicants must be allowed to not only claim separate parts but to do so using the daisy-chaining technique described above. *See id.* at 323 (“[T]his flexibility is crucial, since no design owner has been able to predict with any degree of certainty what the later knock-offs will look like, which design features will be copied and which will not. So the continuation ‘keep one in the oven’ strategy is the best way, in lieu of 20-20 foresight, to combat knock-offs.”). Of course, copying is neither necessary nor sufficient to support a finding of design patent infringement. *See generally* Sarah Burstein, *Not (Necessarily) Narrower: Rethinking the Relative Scope of Copyright Protection for Designs*, 3 IP THEORY 114 (2013) (comparing the tests for design patent and copyright infringement).

but will avoid liability for infringement by making small changes to those designs.²⁵⁸

Focusing on the size of any changes or differences, however, misses a key point. When it comes to design, quantitatively small changes can make a big qualitative impact. If a competitor designs an article that, considered as a whole, does not look the same to an ordinary observer,²⁵⁹ then that innovation should be encouraged, not deterred. It is true that the current test for design patent infringement requires a high degree of visual similarity.²⁶⁰ But the test for design patent infringement has never required “the possibility of being struck from the same die, which, of course, cannot be if there exists the slightest variation in a single line.”²⁶¹ And if the real concern animating the “knock-off” arguments is about the test for infringement, then we should discuss that issue directly.²⁶²

It is also worth noting that even if we disallow protection via design patents, a truly creative fragment design can still be protected by copyright. That is not to say that the law should

258. I do not mean to adopt or endorse “the rhetoric of free riding in intellectual property” which, as Mark Lemley has noted, is “fundamentally misguided.” Mark A. Lemley, *Property, Intellectual Property, and Free Riding*, 83 TEX. L. REV. 1031, 1032 (2005); see also Rochelle Cooper Dreyfuss, *Expressive Genericity: Trademarks as Language in the Pepsi Generation*, 65 NOTRE DAME L. REV. 397, 405 (1990) (identifying and critiquing the fallacy of “if value, then right”). This does, however, match many of the arguments I’ve heard from design patent attorneys over the last few years.

259. See *Egyptian Goddess, Inc. v. Swisa, Inc.*, 543 F.3d 665, 678 (Fed. Cir. 2008) (en banc) (setting forth the current test for design patent infringement). For more on the *Egyptian Goddess* test, see Burstein, *supra* note 204, at 96–105.

260. See Burstein, *supra* note 204, at 96–105.

261. *Gorham Mfg. Co. v. White*, 81 U.S. 511, 531 (1871); see also *Litton Sys., Inc. v. Whirlpool Corp.*, 728 F.2d 1423, 1444 (Fed. Cir. 1984) (“We recognize that minor differences between a patented design and an accused article’s design cannot, and shall not, prevent a finding of infringement.”).

262. It is difficult, however, to see any significant incentives justification for fragment claiming. See Burstein, *Costly Designs*, *supra* note 15, at 139 (“One might argue that the availability of this type of ex post partial claiming is necessary to incentivize the creation of the entire chair. That seems unlikely.”); see also Buccafusco & Lemley, *supra* note 206, at 1374–75 (expressing skepticism at the proposition “that industrial design suffers from enormous incentive risks if under-protected and virtually zero competition risks if over-protected” and “that designers will not create new product designs unless given substantial IP incentives to do so and that allowing those designers to claim rights will not substantially hinder the interests of other designers and the public”). It seems highly unlikely that valuable design innovation would, in fact, be deterred if design patent applicants were forced to claim whole designs. After all, it’s not like Americans never created good designs before 1980.

make IP protection available for every creative thing, it is merely to say that design patent law does not exist in a vacuum.

2. What About “The Back of the Refrigerator”?

Some have suggested that fragment designs must be protectable because, otherwise, a competitor could avoid infringement by changing the appearance of “the back of the refrigerator.” It is true that many articles have portions that are not visible in everyday use.²⁶³ And, assuming that a design for an entire refrigerator—or at least the outer portions—were patentable, it does seem wrong to condition a finding of infringement on portions that are hidden in everyday use.²⁶⁴ But this “back of the refrigerator” problem could be dealt with in several ways that do not require the allowance of any and all fragment claiming.

For example, this issue could be dealt with in the infringement analysis.²⁶⁵ The courts could modify the infringement test so that the factfinder would only consider the appearance of the type of article at issue as seen in its everyday use. This could create some issues of fact, especially where

263. Talking about visibility and the “intended use” of an article is a bit tricky because of a line of Federal Circuit cases starting with *In re Webb*. See 916 F.2d 1553, 1555 (Fed. Cir. 1990). In that case, the court “construe[d] the ‘normal and intended use’ of an article to be a period in the article’s life, beginning after completion of manufacture or assembly and ending with the ultimate destruction, loss, or disappearance of the article.” *Id.* at 1557–58. The idea I’m trying to get at here is something much narrower—namely, the day-to-day decorative purpose to which an article is put. For example, for clothing the “everyday use” would be as worn. The inside of a shirt might be visible when you put it on or take it off. But most people don’t buy shirts for how the inside looks when they’re putting it on or taking it off. It’s not the relevant decorative use, so perhaps visibility at that time should not be relevant to design patentability or infringement.

264. We will cabin, for a moment, the question of whether machines should be considered articles of manufacture.

265. As I’ve previously noted, “[i]n contemporary law and practice, a number of conceptually distinct concepts—statutory subject matter, disclosure, claim, and scope—have all basically collapsed in on top of each other. In the wake of *Zahn*, the ‘design’ (statutory subject matter) is whatever is claimed, claiming is done mostly through drawings, and the patent is given scope commensurate to what is claimed. To oversimplify a bit, under contemporary law, the design, the claim, and the scope is whatever is shown in the drawings. But it has not always been that way.” Burstein, *Shape*, *supra* note 7, at 626. And it does not always have to be that way.

product usage varies. But courts are used to dealing with issues of fact, so that problem does not seem insurmountable.

Alternatively, we could view this as a new dimension of the numerator problem. Design patents protect visual designs; it would be both natural and appropriate to consider visibility in deciding what constitutes a whole design.²⁶⁶ Perhaps the relevant surfaces of an article are only those that are visible in everyday use. There is precedent for omitting non-visible portions of an article from design claims. Design patent applicants have never been required—and, indeed, are generally not allowed—to claim internal structures in configuration or combination designs.²⁶⁷ And the USPTO allows applicants to omit drawings of any surfaces of an article “that are flat and include no surface ornamentation.”²⁶⁸ For example, “[i]f the design has a flat bottom, a view of the bottom may be omitted if the specification includes a statement that

266. See, e.g., *Ex parte Kohler*, 1905 C.D. 192, 192, 116 O.G. 1185 (Comm’r Pat. 1905) (“The drawing should illustrate the design as it will appear to purchasers and users, since the appearance is the only thing that lends patentability . . . under the design law.”); see generally *Gorham Mfg. Co. v. White*, 81 U.S. 511, 525 (1871) (“It is the appearance itself, therefore, no matter by what agency caused, that constitutes mainly, if not entirely, the contribution to the public which the law deems worthy of recompense.”). Explicit visibility requirements are also not unknown in worldwide design law; at least one other major design-protection regime, the European Community Designs system, has one for the protection of certain types of designs. See, e.g., Estelle Derclaye, *The British Unregistered Design Right: Will It Survive Its New Community Counterpart to Influence Future European Case Law?*, 10 COLUM. J. EUR. L. 265, 276 (2004) (“For the design of a component part to be protected [by the unregistered Community Design right], the component part will have to be visible during the normal use of the product and its features must have individual character and be novel.”) (citing Paras. (2) and (3) of art. 4 of the Council Regulation EC No. 6/2002, 12 December 2001)).

267. See MPEP, *supra* note 11, § 1503.02(I) (“Sectional views presented solely for the purpose of showing the internal construction or functional/mechanical features are unnecessary and may lead to confusion as to the scope of the claimed design. The examiner should object to such views and require their cancellation.”) (citing *Ex parte Tucker*, 1901 C.D. 140, 97 O.G. 187 (Comm’r Pat. 1901); *Ex parte Kohler*, 1905 C.D. 192, 116 O.G. 1185 (Comm’r Pat. 1905)); *Ex parte Tucker*, 1901 C.D. at 141 (“It is well settled that design inventions have reference merely to the external appearance of the article and not to its interior construction. . . .”); *Ex parte Kohler*, 1905 C.D. at 192 (affirming the examiner’s rejection of a drawing showing a cross-section of the relevant article and that view would not be seen by purchasers or consumers).

268. MPEP, *supra* note 11, § 1503.02(I); see also *id.* § 1504.04(I)(A) (“The undisclosed surfaces not seen during sale or use are not required to be described in the specification even though the title of the design is directed to the complete article because the design is embodied only in those surfaces which are visible.”) (citing *Ex parte Salsbury*, 38 U.S.P.Q. 149, 1938 C.D. 6 (Comm’r Pat. 1938)).

the bottom is flat and devoid of surface ornamentation.”²⁶⁹ The USPTO does not allow applicants to use the term “unornamented” for “visible surfaces which include structure that is clearly not flat.”²⁷⁰ But of course, the problem with the back of the refrigerator is not that it is flat or necessarily that it is “unornamented.” The problem is its lack of visibility during the product’s everyday, decorative use. Limiting design patent protection to designs visible in everyday use would be a way to address this problem without opening the floodgates to any and all fragment claiming.²⁷¹ However this problem is best addressed, it is not an insurmountable one. And it certainly does not require the rejection of the approach proposed here.

3. What About Surface Designs?

It has been suggested that the category of “designs for articles of manufacture” can’t be limited to whole designs—in the sense described above—because this category has always included “surface ornamentation.”²⁷² The intuition seems to be that surface designs are only applied to part of an article—whether that “part” is viewed as “the surface” of the article or the portion of the surface which has been “printed, painted, cast” or otherwise worked by the article’s decorator.²⁷³ The

269. MPEP, *supra* note 11, § 1503.02(I).

270. *Id.* (citing *Philco Corp. v. Admiral Corp.*, 199 F. Supp. 797, 131 U.S.P.Q. 413 (D. Del. 1961)).

271. *See generally* Burstein, *Shape*, *supra* note 7, at 622 (“[E]ven if we accept the premise that ‘[a]n article may . . . have portions which are immaterial to the design claimed,’ it does not follow that any and all portions must be equally capable of being deemed ‘immaterial,’ let alone that the decision of materiality must be left to the sole discretion of the patent applicant.” (quoting *In re Zahn*, 617 F.2d 261, 267 (C.C.P.A. 1980) (alteration in original))); *id.* at 622 n.289 (“For example, a rational design patent system might deem parts of an article that are not visible in everyday use to be ‘immaterial.’”).

272. This point has been made to me in multiple workshops and other discussions. There is also one sentence of *In re Zahn* that might be read as making this suggestion. *See* 617 F.2d at 268 (“We note also that s 171 refers, not to the design of an article, but to a design for an article, and is inclusive of ornamental designs of *all kinds including surface ornamentation* as well as configuration of goods.” (emphasis added)).

273. *See generally* 1 REVISED STATUTES OF THE UNITED STATES 954 (2d ed. 1878) (reprinting Rev. St. § 4929) (stating that a design patent could be obtained for “any new and original impression, ornament, [pattern], print, or picture to be printed, painted, cast, or otherwise placed on or worked into any article of manufacture”); *Ex parte Gérard*, 1888 Dec. Comm’r Pat. 37, 40 (“Shape must relate to the outward form or contour [of an article], the surface ornamentation

latter view seems to conceptualize “the design” as only consisting of the worked portion of the surface.²⁷⁴ In other words, the intuition seems to be that where a lily is painted on a teacup, the “surface ornamentation” of the teacup consists only of the paint, or perhaps the painted portion of the surface. But, as discussed above, that is not the only way we can conceptualize “surface ornamentation.”²⁷⁵

It is true that, in some sense, surface designs are only “applied to” the surface of an article. But it’s also true of configuration and combination designs, which have never been required to—and have at times been banned from—describing or claiming any internal structure.²⁷⁶ So in this respect, surface designs are not actually different from the other longstanding types of patentable designs.

Moreover, surface designs are different than configuration designs and they raise different policy and legal issues.²⁷⁷ Just because a design for a fragment of a configuration and a design for surface ornamentation could, in some sense, be called “partial designs” does not mean we need to treat them the same way. The fact that surface designs have always been separately patentable does not mean the law must also protect designs for the shapes of fragments.

4. What About Utility Patents?

Finally, some may argue that fragment claiming should be allowed because it is “standard and well-accepted patent gamesmanship” and a “weapon that utility patent owners have had for years.”²⁷⁸ Of course, just because something is allowed in utility patent practice does not mean it must be allowed in design patent practice. Utility patents and design patents are different types of patents that protect different types of innovations using different types of claims; there is no reason

relates to illustrations and delineations that are printed or impressed upon or woven into it.”).

274. See *supra* note 116 and accompanying text.

275. See *supra* Part III.

276. See *supra* note 267 and accompanying text.

277. For example, most surface designs don’t raise the functionality issues discussed *supra* Section IV.A.5.

278. Saidman, *supra* note 218, at 319.

that principles or practices from one regime should be blindly imported into the other.²⁷⁹

Moreover, even if the useful equivalent of fragment claims are allowed in utility patents, there is a textual reason to treat design patents differently: “[U]tility patent claims directed to something less than an entire ‘process, machine, manufacture, or composition of matter’ can still qualify as utility patentable subject matter as ‘improvements’ thereto. Section 171, unlike section 101, does not authorize the issuance of patents for ‘improvements.’”²⁸⁰ The canon of *expressio unius est exclusio alterius* thus indicates that design patents should not be available for “improvements” to designs.²⁸¹ And fragment designs are, at most, improvements to whole designs. This is yet another reason to reject fragment claiming and the argument that utility patent practice requires that fragment claiming be allowed.

CONCLUSION

The patentable “design” needs to be retheorized. This Article has proposed that the statutory phrase “a design for an article of manufacture” should be read to refer to a design for an entire article of manufacture.²⁸² Specifically, it argues that

- a configuration “design for an article of manufacture” would be a design that dictates the entire shape of that article, including all positive and negative spaces;

279. Our system gives utility patent applicants so much latitude in claiming because useful inventions must be described in words. *See Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 731 (2002) (noting that “the nature of language makes it impossible to capture the essence of a thing in a [utility] patent application”). That is not true of design patents; they can, and long have been, claimed using pictures.

280. Burstein, *Shape*, *supra* note 7, at 620–21.

281. *See Russello v. United States*, 464 U.S. 16, 23 (1983) (“[W]here Congress includes particular language in one section of a statute but omits it in another section of the same Act, it is generally presumed that Congress acts intentionally and purposely in the disparate inclusion or exclusion.” (quoting *United States v. Wong Kim Bo*, 472 F.2d 720, 722 (5th Cir. 1972))).

282. That’s not to say that smaller visual units may not be “designed” in some sense of the word, just that they should not be considered “designs for articles of manufactures.”

- a surface “design for an article of manufacture” would be one that dictates the appearance of the entire surface, including all positive and negative areas; and
- a combination “design for an article of manufacture” would be one that dictates both.²⁸³

This Article also argues that courts should interpret the statutory term “article of manufacture” more narrowly. Specifically, it should be interpreted as referring to a tangible item made by humans—other than a machine or composition of matter—that has a unitary structure and that is complete enough that it could be used or sold separately. Although that would be the best definition, the general theory set forth here should work with any definition of “article of manufacture” that does not include fragments.

This approach is more consistent with historical practice, at least for configuration designs. That historical practice provides a sensible and workable solution for the problem of how to conceptualize a “design for an article of manufacture.”²⁸⁴ Additionally, the approach proposed here would better promote the progress of the decorative arts by, among other things, allowing greater breathing room for downstream designers and better matching the patentee’s exclusive rights with what they have actually contributed. This is a redesign whose time has come.

283. As noted above, we perhaps might modify these principles further to specify that only surfaces visible in everyday use should be claimed. *See supra* Section IV.B.2. But that issue need not be definitively resolved today.

284. Again, this Article does not argue that design patent law or policy should blindly follow past practice, only that we should learn lessons from history when they are helpful and beneficial.