

(R)EVOLUTION IN DESIGN PATENTABLE SUBJECT MATTER: THE SHIFTING MEANING OF “ARTICLE OF MANUFACTURE”*

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CITE AS: 17 STAN. TECH. L. REV. 183 (2013)
<http://stlr.stanford.edu/revolutionindesignpatent.pdf>

ABSTRACT

Design patents protecting electronic designs, including computer-generated imagery (CGI), have rapidly become an important and valuable intellectual property asset class. Designs for CGIs have enjoyed design patent protection since 1996, when the United States Patent and Trademark Office (USPTO) reversed its original position that CGI were not design patent eligible. Previously, the USPTO consistently rejected design applications claiming CGI for failure to meet the “design for an article of manufacture” requirement of 35 U.S.C. § 171. This USPTO policy change proved prescient and important, as the focus of design innovation has shifted from traditional, tangible articles of manufacture to designs, such as CGIs, intended mainly for evanescent, electronic display. However, the USPTO’s allowance of CGI design patents continues to be hotly debated among design patent practitioners and scholars. Remarkably, no court has directly upheld the USPTO’s determination that CGI can qualify under the “article of manufacture” requirement of § 171. Furthermore, granting design patent protection for CGI has introduced tensions into the intellectual property protection for visual subject matter law by altering the balance that had previously prevailed among copyright, trademark, and design patent protection. This Article reexamines the USPTO’s 1996 determination to permit design patents claiming CGI, considers the relative benefits and costs attending the pre- and post-1996 policies, compares the treatment of CGI under the design protection laws of other countries, and analyzes whether or not design patent law allows protection for electronic (and other evanescent) designs, such as CGI. It

* William J. Seymour and Andrew W. Torrance wish to thank Cliff Brazil and Robert Stites for their excellent research assistance with this Article.

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explores the policy rationales behind the “design for an article of manufacture” requirement in § 171, and undertakes a comprehensive review of historical cases interpreting the metes and bounds of the requirement. Then, it analyzes problems raised by CGI design patents in contemporary cases, with a particular focus on Apple v. Samsung. The Article concludes by considering whether design patent protection is a socially beneficial mechanism for incentivizing and regulating innovation in electronic designs, especially CGI.

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INTRODUCTION

The United States began offering patent protection for designs in 1842.¹ The United States Patent and Trademark Office (“USPTO”) and its predecessors have issued more than 630,000 design patents since then.² In 1842, the very first design patent was issued to George Bruce, inventor of a new “Type” font.³ Over the years inventors have received design patent

1. See Patent Act of 1842, ch. 263, 5 Stat. 543.

2. See *U.S. Patent Statistics Chart*, U.S. PAT. & TRADEMARK OFF. (June 7, 2013), http://www.uspto.gov/web/offices/ac/ido/oeip/taf/us_stat.htm (showing number of design patents granted annually from 1963 to 2012) [hereinafter *U.S. Patent Statistics Chart*]; see also *Table of Issue Years and Patent Numbers Since 1836*, U.S. PAT. & TRADEMARK OFF. (Mar. 15, 2013), available at <http://www.uspto.gov/web/offices/ac/ido/oeip/taf/issuyear.htm> [hereinafter *Table of Issue Years and Patent Numbers*].

3. U.S. Patent No. D1 (issued Nov. 9, 1842).

protection for a wide variety of designs, including the Statue of Liberty (D11,023 to Auguste Bartholdi, on February 18, 1879)⁴ and the glass Coca-Cola bottle (D48,160 to A. Samuelson, on November 16, 1915).⁵ Although not as popular a means for protecting inventions as utility patents, design patents have recently experienced a surge in popularity, leading to marked increase in both applications and issuances since the late 2000s.⁶ This has occurred despite the fact that design patent terms last only fourteen years from date of grant.⁷ This contrasts with utility patents, whose terms last twenty years from application filing date.

One category of particular growth has been design patents claiming computer-generated imagery (“CGI”). Computer icons have been especially popular as the subjects of design patent protection. With the rise in filings, infringement disputes involving design patents claiming CGI are beginning to appear on court dockets. The *Apple, Inc. v. Samsung Electronics Co.* case provides a vivid illustration of this phenomenon.⁸ Although merely one battle amidst the ongoing intellectual property war between Apple and Samsung, not to mention the broader smart phone war, design patents have figured prominently. In fact, Apple was awarded more than one billion dollars in damages from Samsung in part for infringing an Apple design patent: U.S. D604,305 (the “‘305 patent”).⁹

The ‘305 patent (its image is shown on the right), entitled “Graphical User Interface for a Display Screen or Portion Thereof,”¹⁰ claims “[t]he ornamental design for a graphical user interface for a display screen or portion thereof, as shown and described.”¹⁰ The ‘305 design patent was challenged in litigation on the grounds of invalidity (e.g., impermissibly functional). However, no statutory subject matter challenge was made to this CGI design patent.



4. U.S. Patent No. D11,023 (filed Jan. 2, 1879).

5. U.S. Patent No. D48,160 (filed Aug. 18, 1915).

6. STEVEN L. OBERHOLTZER, THE BASIC PRINCIPLES OF INTELLECTUAL PROPERTY LAW 6 (2d ed. 2009); see also *U.S. Patent Statistics Chart*, *supra* note 2.

7. *But see* Patent Law Treaties Implementation Act of 2012, Pub. L. No. 112-211, § 102(7), 126 Stat. 1527, 1532 (amending 35 U.S.C. § 173 “by striking ‘fourteen years’ and inserting ‘15 years’”).

8. 926 F. Supp. 2d 1100 (N.D. Cal. 2013); see also *infra* Subpart III.B.

9. *Apple*, 926 F. Supp. 2d at 1103. *But see id.* at 1108-09 (granting motion for a new trial because jury granted damages based on too long a period).

10. U.S. Patent No. D604,305 (filed June 23, 2007).

Historically, to be eligible subject matter for a design patent, a design had to be, or be part of, a tangible, physical, human-made object. The Patent Act, in 35 U.S.C. § 171, offers protection for “any new, original and ornamental design for an *article of manufacture*.”¹¹ This has long been the rule in the USPTO and federal courts. When CGI was first claimed in a design patent application, it was initially held to be unpatentable subject matter. Then, in 1996, the USPTO abruptly altered its rules to allow the patentability of CGI designs. However, the legal justification offered for this rule change was and is controversial, and no court has expressly endorsed it.

The design patentability of CGI remains uncertain despite having become a popular subject matter for design patent applications, and a growing source of patent litigation. Why was the issue of statutory subject matter not an issue in the recent litigation between Apple and Samsung? Since both companies own many design patents claiming CGI, such a challenge might have seemed counterproductive to both companies. Nevertheless, the lack of formal federal court validation of the USPTO’s rules regarding CGI patentability leaves their status somewhat precarious. Design patents claiming CGI await, and need, their own *Diamond v. Chakrabarty*¹² decision.

I. DESIGN PATENTS REQUIREMENTS

The Patent Act enumerates several distinct requirements for obtaining a design patent. These can be found in 35 U.S.C. § 171:

Patents for designs

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.

The provisions of this title relating to patents for inventions shall apply to patents for designs, except as otherwise provided.¹³

Section 171 has been interpreted as requiring that a claimed design must be (1) “new [and] original,” (2) “ornamental,” and (3) “for an article of manufacture.”¹⁴ The first two requirements are briefly described in this Part. The “article of manufacture” requirement is the subject of Part III below.

A. *Newness and Originality*

The statutory provisions “new” and “original” have not generally been

11. 35 U.S.C. § 171 (2011) (emphasis added).

12. 447 U.S. 303, 308-418 (1980) (holding that human-made microorganisms are patentable subject matter).

13. 35 U.S.C. § 171.

14. *Id.*

interpreted as requirements endemic to design patent law.¹⁵ Instead, they have usually been construed as corresponding to the newness, novelty, and nonobviousness requirements found in 35 U.S.C. §§ 101, 102, and 103, respectively. In *New York Belting & Packing Co. v. New Jersey Car Spring & Rubber Co.*, the Supreme Court described a claimed design as “not new unless it embodies a new impression or effect produced by an arrangement or configuration of lines which introduces new elements of color or form.”¹⁶ In 2009, the Court of Appeals for the Federal Circuit noted that “the courts have not construed the word ‘original’ as requiring that design patents be treated differently than utility patents.”¹⁷ Both the newness and originality requirements of the design patent statute appear to be subsumed within the requirements imposed by §§ 102 and 103(a).

1. Novelty

Both design and utility patents must satisfy § 102 to be patentable. Nevertheless, judging the novelty of designs and utility inventions differs somewhat. A prior art reference image anticipates a claimed design if the two are “substantially the same.”¹⁸ The perspective used to make this determination of substantial similarity is that of the “ordinary observer.”¹⁹ To apply the “ordinary observer test,” the ordinary observer is “deemed to view the differences between the patented design and the accused product in the context of the prior art.”²⁰ As the Federal Circuit pointed out in *Door-Master Corp. v. Yorktowne, Inc.*, “[t]wo designs are substantially the same if their resemblance is deceptive to the extent that it would induce an ordinary observer, giving such attention as the purchaser usually gives, to purchase an article having one design supposing it to be the other.”²¹ The “ordinary observer test [is] the sole test for anticipation.”²² All categories of prior art and statutory bars covered by

15. See, e.g., *N.Y. Belting & Packing Co. v. N.J. Car Spring & Rubber Co.*, 137 U.S. 445, 449 (1890) (noting that the word “original” has an ambiguous meaning, having been interpreted variously as corresponding to §§ 102(f) and 103(a)); *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. In any event, the courts have not construed the word ‘original’ as requiring that design patents be treated differently than utility patents.” (footnote and citations omitted)).

16. 137 U.S. at 449.

17. *Int’l Seaway*, 589 F.3d at 1238.

18. *Gorham Co. v. White*, 81 U.S. (14 Wall.) 511, 528 (1871).

19. *Id.*

20. *Egyptian Goddess, Inc. v. Swisa, Inc.*, 543 F.3d 665, 676 (Fed. Cir. 2008) (en banc).

21. 256 F.3d 1308, 1313 (Fed. Cir. 2001).

22. *Int’l Seaway*, 589 F.3d at 1237.

§ 102 are available in the analysis of anticipation and loss of right of a claimed design.

2. *Nonobviousness*

Both design and utility patents must satisfy the requirements of nonobviousness in § 103(a). Considered broadly, there are two steps to nonobviousness analysis in the design patent context. First, “one skilled in the art [determines] whether to combine earlier references to arrive at a single piece of art for comparison with the [claimed] design or to modify a single prior art reference.”²³ Second, “[o]nce that piece of prior art has been constructed, obviousness, like anticipation, requires application of the ordinary observer test, not the view of one skilled in the art.”²⁴ The tests for both anticipation and obviousness compare designs in *gestalt* rather than individual, isolated aspects of designs.²⁵

B. *Ornamentality*²⁶

In its earliest statutory formulation, U.S. design patent law lacked an overt requirement of aesthetic attractiveness. The Patent Act of August 29, 1842 failed to explicitly require any quantum of aesthetic appeal in a design patent.²⁷ Neither did the most influential U.S. Supreme Court case to interpret design patent law, *Gorham Co. v. White*, create or discuss such a requirement.²⁸ Instead, the *Gorham* decision focused on design novelty and economic worth: “The law manifestly contemplates that giving certain new and original appearances to a manufactured article may enhance its salable value”²⁹

Some later interpretations of design patent law did begin to require that designs possess pleasing visual characteristics. The Court of Customs and Patent Appeals (“CCPA”) noted in *In re Hruby* that the purpose of protected designs was “for enjoyment by the beholder, which is the ultimate purpose of all ornamental design.”³⁰ The Second Circuit Court of Appeals was more explicit in *Blisscraft of Hollywood v. United Plastics Co.*, mandating that “[a

23. *Id.* at 1240.

24. *Id.*

25. *See OddzOn Products, Inc. v. Just Toys, Inc.*, 122 F.3d 1396, 1405 (Fed. Cir. 1997).

26. This Subpart is adapted from Andrew W. Torrance, *Beauty Fades: An Experimental Study of Federal Court Design Patent Aesthetics*, 19 J. INTELL. PROP. L. 389 (2012).

27. *See* Patent Act of 1842, ch. 263, 5 Stat. 543.

28. 81 U.S. 511 (1871).

29. *Id.* at 525.

30. *In re Hruby*, 373 F.2d 997, 1001 (C.C.P.A. 1967).

design must] be the product of aesthetic skill and artistic conception”.³¹ In its most recent consideration of the design patents, *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, the U.S. Supreme Court forcefully asserted that, to be patentable, designs must be visually attractive.³² As the court explained, “[t]o qualify for protection, a design must present an aesthetically pleasing appearance that is not dictated by function alone, and must satisfy the other criteria of patentability.”³³ The legal requirement that a design patent be “ornamental” was generally interpreted to necessitate artistry or an aesthetically pleasing effect.

Notwithstanding these Supreme Court dicta, lower courts appear gradually to have abandoned aesthetic appeal as a requirement of design patentability since the inception of the Federal Circuit in 1982. Just prior to the creation of the Federal Circuit, the Eighth Circuit Court of Appeals reduced the requirement of aesthetics to a de minimis level, distinguishing concerns of industrial design from those of esoteric artistry.³⁴ The court explained that:

[D]esign patents are concerned with the industrial arts, not the fine arts. The statute refers to “any . . . ornamental design for an article of *manufacture*.” Perhaps it is too much to expect that a trash-can dolly be beautiful. It is enough for present purposes that it is not ugly, especially when compared to prior designs.³⁵

This contrasts sharply with the opinion in *Blisscraft*, where the Second Circuit found the design of a beverage pitcher invalid for lack of artistry:

Plaintiff’s pitcher has no particularly aesthetic appeal in line, form, color, or otherwise. It contained no dominant artistic motif either in detail or in its overall conception. Its lid, body, handle, and base retain merely their individual characteristics when used in conjunction with each other without producing any combined artistic effect. The reaction which the pitcher inspires is simply that of the usual, useful and not unattractive piece of kitchenware.³⁶

In *Seiko Epson Corp. v. Nu-Kote International, Inc.*, the Federal Circuit crystallized the trend away from aesthetic considerations in design patent validity, holding that “the ‘ornamental’ requirement of the design statute means that the design must not be governed solely by function”³⁷ So well accepted has the non-artistic interpretation of the law become that law firms now generally counsel their clients that aesthetic considerations hold little relevance for design patents. To illustrate how well accepted this principle is, consider the following statement about design patent law in *The Basic*

31. 294 F.2d 694, 696 (2d Cir. 1961).

32. 489 U.S. 141, 148 (1989).

33. *Id.*

34. *See* *Contico Int’l, Inc. v. Rubbermaid Commercial Prods., Inc.*, 665 F.2d 820 (8th Cir. 1981).

35. *Id.* at 825 (alteration in original) (citation omitted) (quoting 35 U.S.C. § 171).

36. 294 F.2d at 696.

37. 190 F.3d 1360, 1368 (Fed. Cir. 1999).

Principles of Intellectual Property Law, a primer of intellectual property law freely distributed to potential clients by the venerable law firm Brinks Gilson & Lione: “There is no requirement that the design be artistic or pleasing to the eye.”³⁸

The trend away from aesthetic interpretations of the ornamentality requirement has brought U.S. design patent law closer to that in other jurisdictions, of which the European Union and Canada may serve as representative illustrations. Empirical evidence has also noted a trend in U.S. design patent law away from an aesthetics interpretation of “ornamental” and towards an interpretation of non-functionality.³⁹

II. THE ARTICLE OF MANUFACTURE REQUIREMENT

A. *Historical Case Law*

1. *The fixation requirement*

The “article of manufacture” requirement has existed in design patent law from its inception. When Congress enacted the first design patent statute in 1842, it created a new form of intellectual property for “any new and original design for a manufacture” or “shape or configuration of any article of manufacture.”⁴⁰ The original statute provided protection for designs and configurations for articles of manufacture generally, but also delineated specific categories of protected articles of manufacture, including textiles, statues, and ornaments, as well as patterns, prints, and pictures “worked into or worked on, or printed or painted or cast or otherwise fixed on, any article of manufacture.”⁴¹ Thus, from the beginning, the design patent statute expressly provided that design patents were only intended to cover designs that either

38. OBERHOLTZER, *supra* note 6, at 7.

39. Torrance, *supra* note 26, at 398-408.

40. Patent Act of 1842, ch. 263, § 3, 5 Stat. 543, 543. The original subject matter for design patents was specified as follows:

Any citizen . . . who by his, her, or their own industry, genius, efforts, and expense, may have invented or produced any new and original design for a manufacture, whether of metal or other material or materials, or any new and original design for the printing of woolen, 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, or any new and original impression or ornament, or to be placed on any article of manufacture, the same being formed in marble or other material, or any new and useful pattern, or print, or picture, to be either worked into or worked on, or printed or painted or cast or otherwise fixed on, any article of manufacture, or any new and original shape or configuration of any article of manufacture not known or used by others before his, her, or their . . . invention or production thereof . . . may make application in writing . . . to the Commissioner of Patents . . . and the Commissioner . . . may grant a patent therefor . . .

Id.

41. *Id.*

comprised the article of manufacture itself, or designs that formed a permanent part of the underlying article of manufacture, fixed within or worked onto its physical structure.

Subsequent amendments to the design patent statute consistently preserved the article of manufacture requirement. In both 1861 and 1870, the design patent statute was amended, and only insubstantial changes were made to the article of manufacture requirement.⁴² As amended, section 4929 of the Revised Statutes still allowed for the protection of “any new and original design for a manufacture” but eliminated the word “fixed” from portions of the statute.⁴³ Nevertheless, the Revised Statutes still required that any protectable “impression, ornament, patent, print, or picture . . . be printed, painted, cast, or otherwise placed on or worked into any article of manufacture.”⁴⁴

Under every amended version of the design patent statute, a fixation requirement has been strictly enforced, and mere proximity of a design to an article of manufacture has been considered insufficient. In one exemplary case, *Pratt v. Rosenfeld*, the court addressed a design patent for a card upon which pearl buttons were presented to consumers.⁴⁵ The cards were “divided into spaces, covered with foil by narrow bands with a dozen of pearl buttons in rows of three by four two each space.”⁴⁶ The district court invalidated the design patent as constituting ineligible subject matter because the design at issue had not been worked into the underlying article of manufacture—the pearl buttons:

In this case, the buttons are to be used by the purchaser, but the card is not, either with them or by itself. The design does not apply to the manufacture proper, but only to the arrangement of it for sale. Putting an article into a more conventional form for sale, without changing its qualities or properties, is not patentable as an improvement in the article. So, merely changing the mode of keeping and presenting an article for sale, without changing its form or appearance, will not support a patent for a design. There should be something affecting the article itself.⁴⁷

In another case, *Bergner v. Kaufmann*, the court addressed a patent for an “an album case set on a base-board in an upright or nearly vertical position, having on its exterior an oval, ornamental frame with an open center.”⁴⁸ There, the Southern District of New York also held that the patent was invalid under section 4929 because such an ornament could only be patented either separately or if it was “worked into such articles,” but that the statute does not provide for

42. See Act of Mar. 2, 1861, ch. 88, § 11, 12 Stat. 246, 248; Act of July 8, 1870, ch. 230, § 71, 16 Stat. 198, 209.

43. 60 REV. STAT. § 4929 (1874).

44. *Id.*

45. 3 F. 335, 335 (C.C.S.D.N.Y. 1880).

46. *Id.*

47. *Id.* at 337 (citation omitted).

48. 52 F. 818, 818 (C.C.S.D.N.Y. 1892).

“the mere placing of an ornament on such articles.”⁴⁹

In 1902, Congress again amended the design patent statute, this time simplifying the description of patentability requirements, including statutory subject matter.⁵⁰ The 1902 Act reduced previously lengthy legal provisions into a more concise form, providing design patent protection for “[a]ny person who has invented any new, original, and ornamental design for an article of manufacture”⁵¹ Notably, the 1902 Act abandoned any express fixation requirement. Although the design patent statute was again amended in 1939 and 1952, the above wording of the 1902 Act lives on in § 171, which offers design patent protection for “any new, original and ornamental design for an article of manufacture.”⁵²

Although the 1902 Act omitted any explicit requirement that a protected design be fixed within an article of manufacture, contemporary courts interpreted the amendments as continuing to include a fixation requirement. In *Ex parte Fulda*, a 1913 decision by Patent Commissioner Moore, the Commissioner was asked whether the 1902 Act allowed an applicant to apply for a design for an article of manufacture in the abstract or whether it must still be shown fixed in a particular article of manufacture.⁵³ There, the applicant, Megrath, applied for a design patent for a design that could be applied to any article of manufacture, generally.⁵⁴ Although the Commissioner ultimately reversed the rejection, he also concluded that “Congress did not, in amending the act in 1902, intend to omit as proper subjects for a design patent ‘any new and original impression, ornament, patent, print, or picture to be printed, painted, cast, or otherwise placed on or worked into any article of manufacture.’”⁵⁵ Several years later, in *Ex parte Cady*, the Commissioner clarified that an applicant for a design patent must specify at least one particular article to which the claimed design has been applied.⁵⁶ In his 1920 digest of patent cases, W.L. Pollard noted that “[a] design patent may be granted only for a design embodied in a material article.”⁵⁷ The Commissioner’s reasoning in *Ex parte Fulda* was cited with approval by the

49. *Id.* at 818-19.

50. *See* Act of May 9, 1902, Pub. L. No. 57-109, 32 Stat. 193, 193.

51. *Id.*

52. 35 U.S.C. § 171 (2011).

53. *Ex parte Fulda*, 1913 Dec. Comm’r Pat. 206 (discussing the statutory history of the 1902 Act).

54. *Id.* at 206 (quoting applicant as stating only that “[m]y design may be stamped, printed, imprinted, embossed, or worked on or in or cut upon or in any suitable paper, cloth, or any other fabric, or upon any metal or any other suitable material, and may be produced on or in or attached to any desired article of manufacture”).

55. *Id.* at 207 (emphasis added) (quoting 60 REV. STAT. § 4929 (1874)).

56. *See Ex parte Cady*, 1916 Dec. Comm’r Pat. 62, 63.

57. W.L. POLLARD, DIGEST OF DECISIONS OF LAW AND PRACTICE IN THE PATENT OFFICE AND THE UNITED STATES COURTS IN PATENTS, TRADE-MARKS, COPYRIGHTS AND LABELS, 1912-1919, at 15 (1920).

CCPA eighteen years later in *In re Schnell*.⁵⁸ Thus, although Congress omitted an express fixation requirement under the 1902 Act, the courts nevertheless interpreted § 173 and similar provisions in subsequent statutes still to require that a claimed design, to be patentable, either comprise the article of manufacture or be physically worked into its structure.

The fixation requirement also appears to have endured in modern cases under § 171. In a 1987 case, *Pioneer Photo Albums, Inc. v. Holson Co.*, the Central District of California held that a design patent for a greeting card which contained two internal flaps for holding personal photographs was invalid.⁵⁹ The court reasoned that the underlying design elements of the card itself were either functional or obvious, and thus unworthy of protection.⁶⁰ In response, Holson argued that the space for photographs rendered the design patentable because the addition of a photograph constituted an additional surface ornamentation.⁶¹ The court dismissed this argument, reasoning that “Holson has not cited the Court to any case or other authority which even suggests that adding mere graphics to the surface of the ‘article’ can render patentable an otherwise unpatentable ‘design for an article of manufacture.’”⁶² Because the surface ornamentation was merely placed on the card and was not integral to the card, it could not render the card eligible for design patent protection. The court noted that the design patent at issue

demonstrate[d] the importance of distinguishing between a “design for an article of manufacture,” where the *design of the article itself* produces an aesthetically distinctive overall visual impression in a novel and non-obvious way, and a design which . . . produces aesthetically distinctive visual effects only through the addition of graphics or other ornamental elements which are *not* part of the actual “design for an article of manufacture.”⁶³

58. See *In re Schnell*, 46 F.2d 203, 205-06 (C.C.P.A. 1931) (noting *Fulda* with approval); see also *id.* at 205 n.1 (citing *Ex parte Knothe*, 1903 Dec. Comm’r Pat. 42, and *Ex parte Cady*, 1916 Dec. Comm’r Pat. 62).

59. 654 F. Supp. 87, 88 (C.D. Cal. 1987).

60. *Id.* at 88-89.

61. *Id.* at 89.

62. *Id.* (footnote omitted).

63. *Id.* at 88; see also *Neo-Art, Inc. v. Hawkeye Distilled Prods. Co.*, 654 F. Supp. 90, 91 (C.D. Cal. 1987) (decided contemporaneously with *Pioneer Photo Albums* and including a similar statement of law); U.S. PATENT AND TRADEMARK OFFICE, MANUAL OF PATENT EXAMINING PROCEDURE § 1504.01 (8th ed. Rev. 5, Aug. 2006) [hereinafter MPEP], available at <http://www.uspto.gov/web/offices/pac/mpep/s1504.html#d0e152237> (“A picture standing alone is not patentable under 35 U.S.C. 171. The factor which distinguishes statutory design subject matter from mere picture or ornamentation, *per se* (i.e., abstract design), is the embodiment of the design in an article of manufacture. Consistent with 35 U.S.C. § 171, case law and USPTO practice, the design must be shown as applied to or embodied in an article of manufacture.”).

2. *The article of manufacture requirement*

Regardless of whether a design is fixed, the subject of the design patent must itself qualify as an article of manufacture. As one might expect, there was little doubt in the earlier cases as to what constituted an article of manufacture because manufactured goods then consisted almost exclusively of tangible, human-made items. Yet, some general principles are discernable from the few cases that have analyzed this requirement. First, it was, and is, “well settled that the term ‘an article of manufacture’ does not include *every* article of manufacture. . . . [A]rticles which are more or less hidden from view when in use are not the proper subject-matter for design patents.”⁶⁴ Design patent protection is also unavailable for articles of manufacture which, “owing to their nature, could be a matter of concern to no one.”⁶⁵ Furthermore, a design patent applicant may claim a design for a portion of an article of manufacture only.⁶⁶ Finally, a design may apply to more than one article of manufacture.⁶⁷

Aside from these general limitations, the article of manufacture requirement was traditionally construed broadly. In the 1913 decision of *Riter-Conley Mfg. Co. v. Aiken*, the Court of Appeals for the Third Circuit was asked whether a utility patent for a roof structure constituted a patentable “manufacture” for purposes of utility patent eligibility under the 1902 Act.⁶⁸ There, the court held that a roof structure qualifies as a manufacture which, under the patent statute, was “broadened into all means of treating raw

64. *In re Koehring*, 37 F.2d 421, 422-23 (C.C.P.A. 1930) (citing *Rowe v. Blodgett & Clapp Co.*, 112 F. 61 (2d Cir. 1901) (holding a horseshoe calk unpatentable); *Bradley v. Eccles*, 126 F. 945 (2d Cir. 1903) (holding a washer for a thill-coupling unpatentable); *Pashek v. Dunlop Tyre & Rubber Co.*, 8 F.2d 640 (N.D. Ohio. 1925) (holding an automobile tire tread unpatentable)).

65. *Id.* at 423 (citing *Theodore W. Foster & Bros. Co. v. Tilden-Thurber Co.*, 200 F. 54, 56 (1st Cir. 1912) (“It is also true now, as before the amendment, that among articles of manufacture there are some incapable of being the subjects of design patents, for want of reason to suppose that their appearance can ever really matter to anybody.”)).

66. *See In re Zahn*, 617 F.2d 261, 267 (C.C.P.A. 1980) (“[T]he gist [of the examiner’s rejection under § 171] is that a claim to a design which is embodied in less than all of an article of manufacture . . . is not permitted by the provision of § 171 authorizing a patent for ‘any new, original and ornamental design for an article of manufacture.’ We know of no reason for putting such a limited construction on that statute. We do not so construe it.” (quoting 35 U.S.C. § 171)).

67. *See In re Rubinfeld*, 270 F.2d 391, 393 (C.C.P.A. 1959) (“[W]e know of no statutory or other reason why he [a design applicant] may not be permitted to submit drawings of more than one article if his design applies to more than one article and if it seems necessary and essential to use more than one drawing in order that he may teach the manner of applying the same to different articles.” (second alteration in original) (quoting *In re Schnell*, 46 F.2d 203, 209 (C.C.P.A. 1931)) (internal quotation mark omitted)).

68. *See Riter-Conley Mfg. Co. v. Aiken*, 203 F. 699 (3d Cir. 1913) (discussing whether a roof structure constituted a “manufacture” for purposes of meeting the prerequisite for utility patent protection).

materials . . . by hand, by machinery, or by art.”⁶⁹ The court reasoned that the term “manufacture” was also a term of art in tariff taxation, commercial, and bankruptcy cases, where it was understood that a “[m]anufacture is transformation—the fashioning of raw materials into a change of form for use.”⁷⁰ As the Supreme Court had stated in another context:

The primary meaning of the word “manufacture” is something made by hand, as distinguished from a natural growth; but, as machinery has largely supplanted this primitive method, the word is ordinarily used to denote an article upon the material of which labor has been expended to make the finished product.⁷¹

Fourteen years after *Riter*, the court in *In re Hadden* found that a design patent drawn to a grandstand also qualified as an “article of manufacture” for purposes of the design patent statute.⁷² There the court relied heavily on *Riter*, reasoning, “We must not be misled by the factors of size and immobility. The pyramids, by reason of their bulk and solidity, are none the less a manufacture, as distinguished from a natural object.”⁷³ In his decision below, the Commissioner of Patents distinguished between a “manufacture,” as was discussed in *Riter*, and an “*article* of manufacture,” as required under the design patent statute.⁷⁴ The Commissioner stated that

[i]t is difficult to attempt a definition of an article of manufacture. Curiously enough, if the grandstand as made by appellant were of a toy character, one that could be picked up and carried around, purchased in a store and carried home, or delivered by the use of a delivery vehicle, the device would be an article of manufacture.⁷⁵

However, the CCPA dismissed this distinction, holding:

We attach no significance to the fact that in section 4886, R.S. [utility patents], the word “manufacture” is used alone, while in the section covering design patents, the word is used in connection with “article.” It is difficult to perceive how a thing may be a manufacture, without producing an article of manufacture.⁷⁶

Thus, under *Hadden*, an “article of manufacture” is to be interpreted broadly, and is synonymous with the term “manufacture” as used in connection with

69. *Id.* at 701-02 (internal quotation mark omitted).

70. *Id.* at 703 (quoting *Kidd v. Pearson*, 128 U.S. 1, 20 (1888)).

71. *Id.* (quoting *Tide Co. v. United States*, 171 U.S. 210, 216 (1898)); *see also* *Am. Patents Dev. Corp. v. Cabrice Corp. of Am.*, 38 F.2d 62, 64 (2d Cir. 1930) (“In thinking of an article of manufacture, one naturally thinks of a permanent contrivance, which does not operate upon a subject that is part of itself.”).

72. 20 F.2d 275 (D.C. Cir. 1927).

73. *Id.* at 276 (quoting *Riter-Conley*, 203 F. at 702); *see also* *Crier v. Innes*, 170 F. 324 (2d Cir. 1909) (holding that a sarcophagus monument was an article of manufacture, within the meaning of section 4929 of the Revised Statutes and proper subject for a design patent).

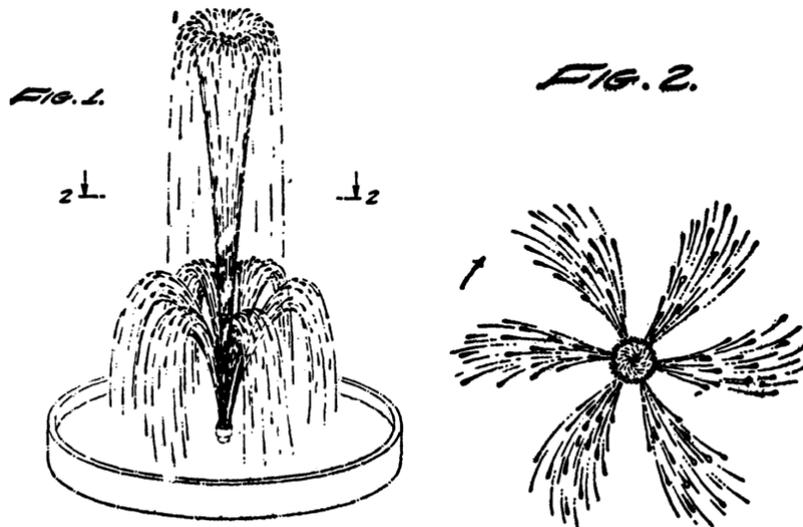
74. *Id.* (emphasis added).

75. *Id.*

76. *Id.*

utility patents.

The question of what constitutes an article of manufacture naturally becomes more challenging as one moves farther away from traditional, tangible, human-made objects. In 1967, in *In re Hruby*, the CCPA again addressed the scope of the article of manufacture requirement in connection with a design patent for the configuration of a water fountain⁷⁷ (as shown below in Figures 1 and 2 from D70,816⁷⁸). In a case of first impression, the court was asked to consider whether the application for the design of the water fountain was properly drawn to an article of manufacture.



The Board of Patent Appeals rejected many of the arguments put forth by the examiner for denying Hruby's application. First, the Board found that the shapes in the fountain were indeed "manufactured by man in the sense that water as a raw material is put into planned patterns of motion for accomplishment of a decorative purpose."⁷⁹ Second, the Board disagreed with the examiner that the water in the fountain constituted a "natural product," because to do so would mean that anything formed of a naturally occurring substance was ineligible for design patent protection.⁸⁰ Third, the Board disagreed with the examiner's reasoning that because the water droplets constantly changed position, the fountain could not be an article of

77. 373 F.2d 997 (C.C.P.A. 1967).

78. U.S. Patent No. D70,816 figs.1, 2 (filed June 16, 1926).

79. *In re Hruby*, 373 F.2d at 999.

80. *Id.*

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manufacture.⁸¹ However, the Board ultimately agreed with the examiner that the fountain was design patent-ineligible because “the pattern created [was] wholly a fleeting product of nozzle arrangements and control of operating pressure . . . ’ and . . . ‘the pattern exists only as a product or ‘effect’ of the mechanical organization during its continued operation”⁸²

On appeal, the CCPA disagreed with this basis for rejection and reversed, reasoning that although individual droplets may be fleeting, the overall design of the fountain was relatively permanent:

[T]he permanence of any design is a function of the materials in which it is embodied and the effects of the environment thereon. Considering the fact that the Romans and the French built now famous fountains hundreds of years ago which still produce the same water designs today, the notion that a fountain is “fleeting” is not one which will “hold water.”⁸³

The court then reflected on the problem presented by ephemeral designs, and considered in general, how such designs should be treated for purposes of design patent protection. The court concluded that it is the perception of a design that matters, not whether the design is comprised of tangible, solid matter:

The physicists and philosophers teach us that what we think we see is not really there at all; that the very concept of “solid” is something of an illusion and objects are mostly empty space, “substance” consisting of nuclei with electrons orbiting about them. In common parlance, however, what we see here are fountains, not droplets of water moving in space, any more than we see [*sic*] nuclei and electrons or atoms or molecules in solid objects.⁸⁴

However, the CCPA’s analysis in *In re Hruby* has been called into doubt since the Federal Circuit took a very different approach in the 2007 case of *In re Nuijten*.⁸⁵ A utility patent case, the main issue in *Nuijten* was whether or not an artificially-produced signal is patentable subject matter under § 101, which defines patent-eligible subject matter for utility patents as “any new and useful process, machine, *manufacture*, or composition of matter, or any new and useful improvement thereof.”⁸⁶ The claims at issue covered a signal encoded in a particular manner so as to include a “watermark,” which is “a technique by which an original signal (such as a digital audio file) is manipulated so as to embed within it additional data.”⁸⁷ Although inventive signals can typically be claimed as either methods or systems, *Nuijten* sought to patent the signal itself in a product claim.⁸⁸

81. *Id.*

82. *Id.* (last alteration in original).

83. *Id.*

84. *Id.* at 999-1000.

85. 500 F.3d 1346 (Fed. Cir. 2007).

86. 35 U.S.C. § 101 (2011) (emphasis added); *Nuijten*, 500 F.3d at 1348.

87. *Nuijten*, 500 F.3d at 1348.

88. *Id.* at 1351 (“Claim 14 of *Nuijten*’s application is the only independent claim of

The examiner rejected Claim 14, and several other dependent claims, as directed to nonstatutory subject matter under § 101. On appeal, the Board affirmed the examiner's § 101 rejection of Claim 14 on two grounds. First, it reasoned that "[t]he signal . . . has no physical attributes and merely describes the abstract characteristics of the signal and, thus, it is considered an 'abstract idea,'" which is unpatentable subject matter under the Supreme Court's decision in *Diamond v. Diehr*.⁸⁹ Second, the Board found that Claim 14 failed to satisfy any of the four statutory categories of patentable subject matter: "process, machine, manufacture, or composition of matter."⁹⁰ As the Federal Circuit explained, "In the Board's view, the claims were not directed to a process because they did not 'recite acts'; not a machine because 'the signal . . . has no concrete tangible physical structure'; and 'not composed of matter and [therefore] clearly not a 'composition of matter.'"⁹¹ With regard to whether the signal constituted a "manufacture," the Board noted that "[t]he signal does not have any physical structure or substance and does not fit the definition of a 'manufacture' which requires a tangible object."⁹²

On appeal, the Federal Circuit affirmed the decision of the Board, holding that "transitory embodiments are not directed to statutory subject matter."⁹³ With regard to whether the signal qualified as a "manufacture," the court conceded that "[t]he question of whether the claimed signals are 'manufactures' is more difficult."⁹⁴ The court also conceded that the signal met the broad definition of a manufacture, stating that the signal was "man-made, in the sense of having been encoded, generated, and transmitted by artificial means."⁹⁵ However, the court cautioned that artificiality was not the only distinguishing characteristic of a manufacture. The court cited *Diamond v. Chakrabarty*, where the Supreme Court defined a "manufacture" (in its verb form) as "the production of *articles* for use from raw or prepared materials by giving to these materials new forms, qualities, properties, or combinations, whether by hand-labor or by machinery."⁹⁶ The court further reasoned that the Patent Act refers to "manufacture" in its "noun form, and therefore refers to '*articles*' resulting from the process of manufacture."⁹⁷ The court then cited the same dictionary

the four rejected by the USPTO. It reads: 'A *signal* with embedded supplemental data, the signal being encoded in accordance with a given encoding process and selected samples of the signal representing the supplemental data, and at least one of the samples preceding the selected samples is different from the sample corresponding to the given encoding process.'" (quoting U.S. Patent Application Serial No. 09/211,928).

89. *Id.* at 1351-52 (citing *Diamond v. Diehr*, 450 U.S. 175, 185 (1981)).

90. *Id.* at 1352 (citing § 101).

91. *Id.*

92. *Id.*

93. *Id.* at 1353.

94. *Id.* at 1356.

95. *Id.*

96. *Id.* (quoting *Diamond v. Chakrabarty*, 447 U.S. 303, 308 (1980)).

97. *Id.* (emphasis added) (citation omitted).

used by the Supreme Court in *Diamond v. Chakrabarty*, and decided that it “defines ‘article’ as ‘a particular substance or commodity: as, an article of merchandise; an article of clothing; salt is a necessary article.’”⁹⁸ Based on these findings, the Federal Circuit held that the claimed signal did not qualify as a “manufacture” because it was intangible:

These definitions address “articles” of “manufacture” as being *tangible articles or commodities*. A transient electric or electromagnetic transmission does not fit within that definition. While such a transmission is man-made and physical—it exists in the real world and has tangible causes and effects—it is a change in electric potential that, to be perceived, must be measured at a certain point in space and time by equipment capable of detecting and interpreting the signal. In essence, energy embodying the claimed signal is fleeting and is devoid of any semblance of permanence during transmission.⁹⁹

However, the court, in a footnote, cautioned that it was not deciding whether Nuijten’s signal was eligible for design patent protection.¹⁰⁰ The court attempted to distinguish the CCPA’s holding in *Hruby*, reasoning that design patents are not required to have any practical utility:

Hruby dealt with a 35 U.S.C. § 171 design patent for an aesthetically pleasing water fountain rather than a § 101 utility patent, and is therefore of limited applicability to this case. The subject of a design patent need not have any practical utility. Compare § 101 (“new and useful”) with § 171 (“new . . . and ornamental”). We do not decide whether a signal of the sort addressed in this case would merit a design patent.¹⁰¹

Despite the Federal Circuit’s disclaimer about design patents, the applicability of *Nuijten* to designs for CGI claimed in design patents is strongly suggestive. First, the court expressly stated that the term “manufacture,” as used in § 101, means an “article of manufacture,” which is the phrase used in § 171. Second, even without the Federal Circuit’s explicit reference to “articles of manufacture,” its predecessor court, the CCPA, had previously held, in *Hadden*, that there is no legal distinction between “manufactures” as used in § 101 and “articles of manufacture” as used in § 101.¹⁰² Furthermore, the fact that design patents must be ornamental instead of useful is of no moment. The article of manufacture requirement is an independent, threshold requirement, as are the requirements of § 101.

Thus, while *Nuijten* did not specifically address CGI, the decision represents strong authority for the proposition that the term “article of manufacture” implies a substantial degree of tangibility and permanence.

98. *Id.* (emphasis added) (original emphasis omitted) (quoting 1 CENTURY DICTIONARY 326 (William Dwight Whitney ed., 1895)).

99. *Id.* (emphasis added).

100. *Id.* at 1356 n.9.

101. *Id.*

102. See *In re Hadden*, 20 F.2d 275, 276 (D.C. Cir. 1927); see also *supra* text accompanying notes 72-76 (discussing *Hadden*).

B. USPTO Treatment of Computer-Generated Icons

1. USPTO practice for CGI designs prior to 1996

It is against this historical backdrop (and without the benefit of *Nuijten*) that the USPTO took up the question of design patent-eligibility for CGI in the mid-1980's, as computer-generated graphics were just beginning to become an important new form of expression and ornamentation. The very first CGI application was filed by the Xerox Corporation.¹⁰³ Xerox's initial efforts were successful, and, in early 1988, the USPTO allowed several CGI design patents to Xerox.¹⁰⁴ By the end of 1988, the USPTO had issued at least twenty-one CGI design patents to Xerox.¹⁰⁵

Xerox's creative new design patents did not go unnoticed, though, and, in August of 1988, patent attorneys Daniel Kluth and Steven Lundberg published an article in *The Computer Lawyer* entitled "Design Patents: A New Form of Intellectual Property Protection for Computer Software."¹⁰⁶ According to Mr. Kluth, interest in his article "resulted in a single letter being written to the Commissioner of Patents and Trademarks opposing this [new] form of protection."¹⁰⁷ The letter that was sent to the Commissioner argued that CGI was only appropriate subject matter for copyright protection, and recommended that the USPTO undertake a comprehensive study of whether CGI constitutes design patent-eligible subject matter.¹⁰⁸ The Commissioner appears to have agreed with this letter, because, in 1989, the Commissioner "expressly authorized the rejection of design patents for software icons as being directed to non-statutory subject matter."¹⁰⁹ The USPTO reasoned:

[Embodiment] requires more than merely placing a picture temporarily on the surface of an article. [Embodiment] requires that the design be a concrete part of the article An image projected on a screen is no more embodied on the screen than is a photograph placed temporarily on a coffee table is embodied

103. See Lance L. Vietzke, *Software as the Article of Manufacture in Design Patents for Icons*, 21 AIPLA Q.J. 138, 146 (1993) (citing Robert Barr & Susan Hollander, *Design Patents Revisited: Icons as Statutory Subject Matter*, 9 COMPUTER LAW. 13 (1992)).

104. *Id.* at 146 n.49. As far as the authors can tell, the first CGI design patent is U.S. Patent No. D295,630 (filed Dec. 9, 1985), entitled "Icon for User Profile or the Like."

105. See Vietzke, *supra* note 103, at 146 n.49 (listing twenty-one CGI design patents issued to Xerox in 1988).

106. See Daniel J. Kluth & Steven W. Lundberg, *Design Patents: A New Form of Intellectual Property Protection for Computer Software*, 5 COMPUTER LAW. 1 (1988).

107. U.S. PATENT AND TRADEMARK OFFICE, PUBLIC HEARING ON USE OF THE PATENT SYSTEM TO PROTECT SOFTWARE-RELATED INVENTIONS: TRANSCRIPT OF PROCEEDINGS 67 (Feb. 11, 1994) (statement of Daniel J. Kluth, Chair, Software Prot. Comm. of the Minn. Intellectual Prop. Law Ass'n and Gov't Relations Comm. of the Minn. Software Ass'n), available at <http://www.uspto.gov/web/offices/com/hearings/software/arlington/vahrng.pdf>.

108. See Vietzke, *supra* note 103, at 147.

109. *Id.* at 147 n.58.

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in the table.¹¹⁰

Soon thereafter, the USPTO began rejecting Xerox's design applications for CGI under the authority of § 171.

The Xerox Corporation, however, disagreed with the Commissioner, and refused to accept the USPTO's determination. After two of its CGI design patents were finally rejected, Xerox appealed to the Board of Patent Appeals in the cases of *Ex parte Strijland*¹¹¹ and *Ex parte Donaldson*,¹¹² which, in the end, were both decided on similar grounds. The design patent application in *Strijland* claimed "[t]he ornamental design for an information icon for a display screen of a programmed computer system or the like, as shown and described."¹¹³ During prosecution, Xerox attempted to argue that the icon was an ornamental design for a "programmed computer," as the claim suggests.¹¹⁴ But the examiner disagreed, rejecting the application because it both failed to depict a "programmed computer," and was also merely surface ornamentation as opposed to a design for an article of manufacture.¹¹⁵

On appeal, the Board ruled in favor of the examiner. First, the Board agreed that even if a programmed computer could qualify as the underlying article of manufacture, the drawings at issue failed to depict said computer.¹¹⁶ But the Board went further, analyzing the historical basis for the article of manufacture requirement, and provided some guidance on what might distinguish a patentable computer-generated icon from a mere picture:

[W]e do not think that merely illustrating a picture displayed on the screen of a computer or other display device, such as a television or movie screen, is sufficient, alone, to convert a picture into a design for an article of manufacture. Mere display of a picture on a screen is not significantly different, in our view, from the display of a picture on a piece of paper. Only the medium of display is different. However, appellants have expressly stated in the specification and claim, as amended, that the article of manufacture which embodies or to which the claimed design is applied is a programmed computer system, and they have provided declaration evidence demonstrating that the icon is an integral part of the operation of a programmed computer.¹¹⁷

However, in a concurring opinion, Examiner-in-Chief Stahl strongly contested the suggestion that a computer could serve as the underlying article of manufacture for a CGI. Examiner-in-Chief Stahl agreed that the drawings failed to disclose an article of manufacture, but argued:

110. Mat D. Carlson, *Intellectual Property Protection for Computer Icons: The Trademark Alternative*, 31 U.S.F. L. REV. 433, 439 (1997) (quoting Barr & Hollander, *supra* note 103, at 14-15 (alterations in original)).

111. No. 92-0623, 26 U.S.P.Q.2D (BNA) 1259 (B.P.A.I. Apr. 26, 1993).

112. No. 92-0546, 26 U.S.P.Q.2D (BNA) 1250 (B.P.A.I. Apr. 26, 1993).

113. *Strijland*, 26 U.S.P.Q.2D (BNA) at 1259.

114. *Id.* at 1263.

115. *Id.* at 1261.

116. *Id.*

117. *Id.* at 1263.

It is my conclusion that the computer screen just like the articles of manufacture, such as a sheet of paper, an artist's canvas and a movie screen, are all articles of manufacture that are not normally ornamented by a design being placed thereon or more properly stated, in my opinion, *displayed* thereon. The computer display screen of the present claim is merely a different medium (article of manufacture) from a piece of paper, an artist's canvas or a movie screen for such design display and the computer screen. One must, to appreciate this distinction, understand the significant difference between the phrases *a design displayed on* and *a design applied to* an article of manufacture. Accordingly, in the case before us, since the computer display screen is only a medium for the display of the designed icon, the claim under review is merely directed to the designed icon and not an icon that is "applied to" . . . or "embodied in" . . . the article of manufacture as required by the decisions of our review courts. Where the article of manufacture functions as a mere display for a design of an icon and the article of manufacture is not ornamented by the displayed design, the claim is merely directed to the design per se and is not a design that is encompassed by 35 U.S.C. § 171.¹¹⁸

In other 1992 decisions of the Board, the majority position appeared to be more dominant within the USPTO. A notable example is *Ex parte Tayama*,¹¹⁹ in which the Board of Patent Appeals again upheld the rejection of a CGI design patent application titled "An Icon for a Set Up Operation." There, the 'examiner's position in rejecting the application was that "the design as claimed is merely a picture or surface ornamentation *per se* rather than a design applied to an article [and] that the specification d[id] not describe, claim or show the claimed design applied to any article of manufacture."¹²⁰ In response, the applicant argued that "the design should be considered to be surface ornamentation upon a computer system, with the computer system being an article of manufacture."¹²¹ In deciding the case, the Board examined historical precedent surrounding the phrase "new, original and ornamental design for an article of manufacture," and recognized "at least three kinds of designs: 1) a design for an ornament, impression, print or picture to be applied to an article of manufacture (surface ornamentation); 2) a design for the shape or configuration of an article of manufacture; and 3) a combination of the first two categories."¹²²

The Board found that only the first category was implicated by the applicant's computer-generated icon and determined that "the design must be shown not to be the mere invention of a picture, irrespective of its manner of use, but that the applicant should be required to show by an appropriate drawing the manner of its application."¹²³ According to the Board, the essential

118. *Id.* at 1265 (Stahl, Examiner-in-Chief, concurring) (citations omitted).

119. No. 92-0624, 24 U.S.P.Q.2D (BNA) 1614 (B.P.A.I. Apr. 2, 1992).

120. *Id.* at 1616.

121. *Id.*

122. *Id.* (citing *In re Schnell*, 46 F.2d 203, 209 (C.C.P.A. 1931)).

123. *Id.* at 1616 (quoting *Schnell*, 46 F.2d at 209).

element of a patentable design is an “applied design as distinguished from abstract design.”¹²⁴

Applying these principles to *Tayama*'s set up icon, the Board held that it was “merely a picture” and that *Tayama*'s specification did not “show or describe the claimed design embodied in any article of manufacture. Only pictures of the icon are shown or described.”¹²⁵ However, the Board clearly suggested that, had the design been presented along with the corresponding article of manufacture, it might have been patentable.

On the same day as *Tayama*, the Board also decided *Ex parte Donoghue*,¹²⁶ wherein the Board upheld the rejection of an application entitled “An Icon for an Object Adding Function or the Like” in an opinion that was substantially identical to their opinion in *Tayama*. However, in *Donoghue*, the applicant attempted to argue that the claimed computer-generated icon was analogous to the design for a water fountain allowed in *In re Hruby*.¹²⁷ The Board found the icon at issue distinguishable because the two design patent applications claimed distinct types of designs. In *Hruby*, the design comprised the article of manufacture itself, whereas CGI is merely surface ornamentation, and must be shown applied to an article of manufacture:

We do not think *Hruby* helps appellant under the circumstances of this case. In *Hruby* the court held that water fountains were configuration of goods-type designs eligible for protection under § 171. An illustration of a configuration type-design inherently discloses the article of manufacture defined by the shape of the design. . . . The designs here admittedly are surface ornamentation-type designs. . . . As we indicated above in order to bring a surface ornamentation-type design within the scope of the statute, it must be disclosed and shown in the specification applied to some article of manufacture Appellant has failed to make such a disclosure or showing. Accordingly, we affirm the examiner's rejection under 35 U.S.C. § 171.¹²⁸

Implicit in the Board's decisions in *Tayama* and *Donoghue* was the finding that the icons at issue could not, by themselves, constitute an article of manufacture, and that the design patent applications had not disclosed these CGI designs as being otherwise fixed into an underlying article of manufacture. As such, disembodied computer-generated icons were consistently rejected by examiners as failing to meet the “article of manufacture” prerequisite for design patent protection. Nevertheless, the Board appeared to be suggesting a framework for CGI design patent allowance. Although many expected the Federal Circuit to decide the scope of design patent eligibility on appeal,¹²⁹

124. *Id.* (quoting *In re Zahn*, 617 F.2d 261, 268 (C.C.P.A. 1980)).

125. *Id.* at 1617.

126. 26 U.S.P.Q.2D (BNA) 1266 (B.P.A.I. Apr. 2, 1992).

127. *Id.* at 1269.

128. *Id.* (citations omitted) (citing *In re Hruby*, 373 F.2d 997, 1001 (C.C.P.A. 1967)).

129. *See, e.g.*, Lawrence Evans, Design Patents, C805 Address at ALI-ABA 85 (Apr. 30, 1993) (discussing *Tayama* and noting that “[a] further appeal to the Federal Circuit is

neither *Strijland*, nor *Tayama*, nor *Donoghue* was ever heard by the Federal Circuit.

2. *The 1996 USPTO guidance for CGI design patents*

In October of 1995, the USPTO abruptly changed its policy regarding the design patentability of CGI and published interim guidelines for the examination and allowance of designs for computer-generated icons, generally adopting the Board's majority position in *Strijland*, *Tayama*, and *Donoghue*.¹³⁰ The interim guidelines stated that "[a] design for a computer-generated icon which is *embodied in an article of manufacture* is statutory subject matter for a design patent under Section 171. Thus, if an application claims a computer-generated icon embodied in a computer screen, monitor, other display panel, or a portion thereof, *that is drawn in solid lines*, the claim complies with the 'article of manufacture' requirement of Section 171."¹³¹ The interim guidelines also sought public comment for the final internal USPTO regulation regarding design patents for CGI.¹³²

On March 20, 1996, the USPTO issued its final "Guidelines for Examination of Design Patent Applications for Computer-Generated Icons."¹³³ The most significant change that was made to the guidelines in response to comments provided by the public was the elimination of the requirement that the icon be claimed in a computer or other article of manufacture with solid lines. Instead, "[t]he final guidelines simply require a depiction of an article of manufacture in either solid *or broken* lines."¹³⁴ Thus, in its final format, the USPTO established guidelines that allowed claims to CGI designs with nothing more than a dashed depiction of a computer screen surrounding it. However, because dashed lines do not form any part of the claim for a design patent, this requirement is, in practice, nothing more than a pictorial reference to a monitor that places no actual limits on the breadth of the design patent claim.

The USPTO's guidelines for examination of design patent applications for computer-generated icons were incorporated into the Manual of Patent Examining Procedure (MPEP) at section 1504.01(a), and they use *In re Hruby* to justify the allowability of CGI design patents:

We do not see that the dependence of the existence of a design on something outside itself is a reason for holding it is not a design "for an article of manufacture." The dependence of a computer-generated icon on a central processing unit and computer program for its existence itself is not a reason

likely").

130. See Interim Guidelines for Examination of Design Patent Applications for Computer-Generated Icons, 60 Fed. Reg. 52,170-01 (Oct. 5, 1995).

131. *Id.* at 5,2170 (emphasis added) (footnotes omitted).

132. *Id.*

133. See 61 Fed. Reg. 11,380-03 (Mar. 20, 1996).

134. *Id.* at 11381 (emphasis added).

for holding that the design is not for an article of manufacture.¹³⁵

Neither the MPEP nor the interim guidelines comment on the distinction between a design that comprises an article of manufacture and a design that is merely worked into an article of manufacture. This distinction between the water fountain of *In re Hruby* and a CGI design appears to have been abandoned by the USPTO without explanation.

C. Contemporary CGI Design Patent Cases

There are few court cases since 1996 asserting CGI design patents, and, of those, none appear to have raised the issue of patentable subject matter under § 171. One 1998 case, *Adobe Systems, Inc. v. Southern Software, Inc.*, addressed a series of six design patents claiming electronic fonts held by Adobe.¹³⁶ Southern Software asserted that Adobe's design patents were invalid because the font designs were non-statutory subject matter in violation of § 171 "in that none of the design patents discloses an article of manufacture."¹³⁷ However, the court disagreed, and, citing *In re Tayama*, found that type fonts enjoyed clear protection as the shape of the article of manufacture itself, and did not constitute a design applied to an article of manufacture.¹³⁸ The court cited *In re Tayama*'s distinction between fonts and computer-generated icons:

The phrase "type font" may be properly interpreted as referring to letter blocks or pieces used in a conventional printing press. The blocks or pieces constitute an article or articles of manufacture. Unlike the designs here, which are stated to be surface ornamentation, type font designs are reasonably interpreted to be the shape or configuration of the letter blocks. The fact that the meaning of "type font" may have expanded in usage to include letters or numbers appearing on paper or on a computer screen does not invalidate the long-standing interpretation of type font designs as configuration-type designs or pieces or blocks of type.¹³⁹

Thus, although *Adobe* appeared to have the makings of a CGI design case, the court resolved the issue on separate grounds, interpreting the patent to be a design for a type font as opposed to CGI. The 1842 design patent granted to George Bruce on a type font—D1—may have allowed the court to avoid the controversy surrounding CGI design patent eligibility.

To date, the only other case in which a true CGI design patent was asserted

135. MPEP, *supra* note 63, § 1504.01(a) (citation omitted) (citing *In re Hruby*, 373 F.2d 997, 1001 (C.C.P.A. 1967)).

136. No. C 95-20710 RMW, 1998 WL 104303 (N.D. Cal. Feb. 2, 1998).

137. *Id.* at *6.

138. *Id.* at *7.

139. *Id.* at *6 (internal quotation mark omitted) (quoting *Ex parte Tayama*, No. 92-0624, 24 U.S.P.Q.2d (BNA) 1614, 1618 (B.P.A.I. Apr. 2, 1992)). It is also worth noting that type fonts have enjoyed design patent protection since the days of the first design patent statute. Indeed, the very first design patent claimed a type font. See U.S. Patent No. D1 (issued Nov. 9, 1842).

was *Apple, Inc. v. Samsung Electronics Co.*, and, as discussed above in Part I, Apple elected not to challenge the validity of CGI design patents in that case.¹⁴⁰

III. THE PROBLEM WITH DESIGN PATENTS FOR COMPUTER-GENERATED ICONS

A. *Critique of the USPTO's Reversal on Computer-Generated Icons*

After the trial in *Apple v. Samsung*, and its massive damage award, it has become clear that CGI design patents are no longer a novelty within intellectual property law. Indeed, design patents now appear to offer a meaningful form of protection to CGI, capable of generating significant damage awards when applied to a popular product. In light of the doctrinal history of the “article of manufacture” requirement of design patent law, the availability of this form of protection represents evolution, if not revolution, in design patent-eligible subject matter. Since this apparent change in design patent doctrine was made by the USPTO, rather than a court or Congress, it would be prudent and valuable for a court to directly consider the question of whether CGI design patents legitimately fall within the scope of § 171. It is especially important for this to occur before years of applying this standard of design patentability in the absence of court challenges creates a circular justification for this particular form of design patent protection.¹⁴¹ Furthermore, if viewed in the light of historical design patent law and decisions regarding what constitutes an article of manufacture, it may be unlikely that CGI design patents would survive close judicial scrutiny.

1. *CGI does not constitute an article of manufacture*

As an initial matter, it is clear that the modern CGI design patent cannot be justified as a design for an article of manufacture, in and of itself. Whatever credence was once given to this theory of design patent eligibility, it can now, with confidence, be laid to rest. Computer-generated images arguably meet the broad definition of an “article of manufacture” because they are manufactured by humans, in the sense that they are not a naturally occurring phenomenon and are generated by human-made machines, such as a computer or display device. Nevertheless, even the USPTO has conceded that designs for computer-generated icons “are 2-dimensional images which alone are surface

140. See *supra* text accompanying notes 8-10.

141. See, e.g., David Schramm, *Patenting Your Website: It's All a Matter of Design*, 80 J. PAT. & TRADEMARK OFF. SOC'Y 892, 902 (1998) (declaring in 1998 that “[a]ny debate over the identification of the ‘article of manufacture’ for computer designs has been settled through the history of computer icon applications”).

ornamentation.”¹⁴² Thus, the USPTO has correctly adopted the view of the majority in *Ex parte Strijland* that “merely illustrating a picture displayed on the screen of a computer or other display device, such as a television or movie screen, is [not] sufficient, alone, to convert a picture into a design for an article of manufacture.”¹⁴³ As the Board also explained in *Ex parte Tayama*, “the design should be considered to be surface ornamentation upon a computer system, with the computer system being an article of manufacture.”¹⁴⁴

Even a creative reading of the C.C.P.A.’s decision in *In re Hruby* could not allow one to claim that a CGI, standing alone, constitutes an article of manufacture. In that decision, the court placed great emphasis on the permanence of the design of the water fountain. The court stated that “the permanence of any design is a function of the materials in which it is embodied and the effects of the environment thereon.”¹⁴⁵ When this reasoning is applied to a CGI, it becomes clear that there could be no analogy between a CGI that exists on a display or computer and the water fountain in *Hruby*. CGI have no real permanence within the computers or displays in which they exist. Most computer displays are intended to present an unlimited amount of graphical content, and the sole purpose of most icons is to direct a user to some other function, which would then change the display.

Furthermore, it cannot reasonably be argued that an icon permanently exists within the computer, absent the computer display, because such a dormant existence within memory or code would not satisfy the underlying purpose of design patent protection, which is to “to promote the decorative arts and to stimulate the exercise of inventive faculty in improving the appearance of articles of manufacture.”¹⁴⁶ Such an obscured existence for the article of manufacture could hardly justify design patent protection.¹⁴⁷

Finally, the Federal Circuit’s decision in *In re Nuijten* all but forecloses any possible argument that CGI is itself an article of manufacture. Although the Federal Circuit attempted to limit the effect of its holding to the subject matter requirement for utility patents, prior case law suggests that the “article of

142. MPEP, *supra* note 63, § 1504.01(a)(I)(A) (citing *Ex parte Strijland*, No. 92-0623, 26 U.S.P.Q.2D (BNA) 1259 (B.P.A.I. Apr. 26, 1993)).

143. *Ex parte Strijland*, No. 92-0623, 26 U.S.P.Q.2D (BNA) 1259, 1263 (B.P.A.I. Apr. 26, 1993).

144. *Ex parte Tayama*, No. 92-0624, 24 U.S.P.Q.2D (BNA) 1614, 1614 (B.P.A.I. Apr. 2, 1992).

145. *In re Hruby*, 373 F.2d 997, 999 (C.C.P.A. 1967).

146. *Hueter v. Compco Corp.*, 179 F.2d 416, 417 (7th Cir. 1950) (citing *Applied Arts Corp. v. Grand Rapids Metalcraft Corp.*, 67 F.2d 428 (6th Cir. 1933); *In re Eppinger*, 94 F.2d 401 (C.C.P.A. 1938)).

147. While some commentators previously suggested that the software could serve as the underlying article of manufacture, that theory has not received popular support and appears to have been abandoned because such a theory would not serve the purposes of design patent protection—to improve the appearance of articles of manufacture. *See generally* Vietzke, *supra* note 103.

manufacture” requirement under § 171 is coequal with the “manufacture” requirement under § 101.¹⁴⁸ Analyzing product claims for electronic signals carrying a specific “water mark,” the *Nuijten* court held that “transitory embodiments are not directed to statutory subject matter.”¹⁴⁹ The court reasoned, in part, that historical definitions previously used by the Supreme Court “address ‘articles’ of ‘manufacture’ as being tangible articles or commodities.”¹⁵⁰ Yet, much like an electronic signal, CGI “is fleeting and is devoid of any semblance of permanence” during display.¹⁵¹ One could not take a CGI off of the display and hold it in one’s hand. Under the Federal Circuit’s *Nuijten* decision, CGI cannot, standing alone, constitute an article of manufacture under § 171.¹⁵²

2. CGI is not fixed within or worked into displays

Because CGI does not constitute an article of manufacture, it could only be eligible for design patent protection if it were fixed or worked into an underlying article of manufacture. As stated above, the original fixation requirement for design patents required that a design be “worked into or worked on, or printed or painted or cast or otherwise fixed on, any article of manufacture.”¹⁵³ Although § 171 no longer includes an expressed fixation requirement, federal courts and the USPTO still interpret the design patent statute as requiring that a surface ornamentation be worked into the underlying article of manufacture.¹⁵⁴ Even as recently as 1987, federal courts have invalidated design patents at least in part because the purported design was in no way worked into the actual structure of the underlying article of manufacture.¹⁵⁵ Indeed, the USPTO’s own guidelines for CGI design patents

148. See *In re Hadden*, 20 F.2d 275 (D.C. Cir. 1927); see also *supra* text accompanying notes 72-76 (discussing *Hadden*).

149. *In re Nuijten*, 500 F.3d 1346, 1353 (Fed. Cir. 2007).

150. *Id.* at 1356.

151. *Id.*

152. But see Tom W. Bell, *Virtual Trade Dress: A Very Real Problem*, 56 MD. L. REV. 384, 437 (1997) (“[V]irtual environments no doubt qualify for protection from theft and copying. Copyrights, licenses, *design patents*, and various technological fixes can do most of that work.” (emphasis added)). However, it is unlikely, after *Nuijten*, that items that exist only in virtual reality should be considered “articles of manufacture” and qualify for design patent protection. For example, the design for a character in *World of Warcraft* could not be patented unless the designer intended to make a tangible action figure. Otherwise, the design patent would claim intangible electronic imagery.

153. Patent Act of 1842, ch. 263, § 3, 5 Stat. 543, 544.

154. *Ex parte Fulda*, 194 O.G. 549, 550 (1913); see also *In re Schnell*, 46 F.2d 203, 205 (C.C.P.A. 1931) (noting *Fulda* with approval).

155. See *Pioneer Photo Albums, Inc. v. Holson Co.*, 654 F. Supp. 87 (C.D. Cal. 1987) (noting that the design patent at issue “demonstrate[d] the importance of distinguishing between a ‘design for an article of manufacture,’ where the design of the article itself produces an aesthetically distinctive overall visual impression in a novel and non-obvious

acknowledge the fixation requirement, stating that “[s]ince a patentable design is inseparable from the object to which it is applied and cannot exist alone merely as a scheme of surface ornamentation, a computer-generated icon must be embodied in a computer screen, monitor, other display panel, or portion thereof, to satisfy 35 U.S.C. 171.”¹⁵⁶

However, after the Federal Court’s decision in *In re Nuijten*, it is doubtful that CGI could be described as fixed within a computer monitor or display. In *Nuijten*, the court held that “articles” of “manufacture” should be defined “as being tangible articles or commodities,” and that “[a] transient electric or electromagnetic transmission does not fit within that definition.”¹⁵⁷ However, if one assumes that CGI could not, itself, constitute an article of manufacture under *Nuijten*, it is difficult to understand how it could nevertheless be considered fixed within or onto an article of manufacture. When an ornamental design is embodied within a tangible object, the design itself becomes tangible too. An ordinary observer can touch paint or feel a pattern worked into a tangible object. But one cannot interact in any direct, physical way with CGIs. Although a design cannot exist separately from the article of manufacture, it nevertheless has a tangible effect on the article of manufacture that can be tangibly perceived by an ordinary observer.

Even setting *Nuijten* aside, it remains unclear whether the USPTO correctly applied the historical fixation requirement to the question of CGI design patents in the first place. Fixation, like the “article of manufacture” requirement itself, has historically required an element of permanence, which CGI designs lack. In *Hruby* for example, the Board had initially determined that the jets of the fountain could not be considered a design applied to the fountain because “the pattern created [was] wholly a fleeting product of nozzle arrangements and control of operating pressure . . . and that the pattern exists only as a product or ‘effect’ of the mechanical organization during its continued operation.”¹⁵⁸ With regard to fountains, the CCPA held that the design of the fountain was relatively permanent, reasoning that “the permanence of any design is a function of the materials in which it is embodied and the effects of the environment thereon.”¹⁵⁹ The court looked to the fact that ancient fountains still produced the same ornamental jets of water as proof that the water designs generated by the fountains were fixed in a sufficiently permanent shape.¹⁶⁰

way, and a design which . . . produces aesthetically distinctive visual effects only through the addition of graphics or other ornamental elements which are not part of the actual ‘design for an article of manufacture’” (emphasis omitted)).

156. MPEP, *supra* note 63, § 1504.01(a)(I)(A).

157. *In re Nuijten*, 500 F.3d 1346, 1356 (Fed. Cir. 2007).

158. *In re Hruby*, 373 F.2d 997, 999 (C.C.P.A. 1967) (internal quotation marks omitted).

159. *Id.* (emphasis added).

160. *Id.* (“Considering the fact that the Romans and the French built now famous fountains hundreds of years ago which still produce the same water designs today, the notion

Here, CGI designs are not fixed within displays or monitors with any real degree of permanence. If, as the *Hruby* court states, the permanence of a design is dictated by the materials in which it is embodied, a CGI design cannot meet this test for fixation. Computer-generated imagery consists of temporary images that have no tangible existence on, or within, a computer display. For example, a computer icon that is presented by a liquid crystal display is generated as a result of light passing through a layer of liquid crystals that have been subjected to an electrical current.¹⁶¹ The icon cannot be perceived within the liquid crystals or the electrical current. Nor is CGI perceptible within the storage device connected to the computer display.¹⁶² Computer-generated imagery exists only in the photons of light transmitted by the liquid crystals, and this existence is evanescent because the computer display is specifically intended to change as it performs its usual functions.

This inherently transitory nature of CGI designs is especially well demonstrated by the more recent inclusion of CGI design patents for *animated* icons.¹⁶³ In 2005, without any fanfare, the USPTO announced that “[t]he Office has determined that ‘animated icons’ are patentable subject matter.”¹⁶⁴ These animated CGI design patents are supposedly justified by the fact that USPTO has previously granted design patent protection to articles of manufacture with moving parts.¹⁶⁵ An example of one such movable article of manufacture is U.S. Design Patent No. D423,611 (the ‘611 patent) for a Furby doll.¹⁶⁶ This particular Furby doll includes eyes that open and close, and therefore it is claimed in both the open and closed positions in figures 3 and 4 of the ‘611 patent:

that a fountain is ‘fleeting’ is not one which will ‘hold water.’”).

161. See *Liquid-Crystal Display*, WIKIPEDIA, http://en.wikipedia.org/wiki/Liquid-crystal_display (last visited Dec. 20, 2013).

162. See Vietzke, *supra* note 103.

163. See generally David Leason, *Design Patent Protection for Animated Computer-Generated Icons*, 91 J. PAT. & TRADEMARK OFF. SOC’Y 580 (2009) (discussing the advent of animated CGI design patents at the USPTO).

164. *Id.* at 580 (emphasis added) (quoting U.S. Application Serial No. 29/208,172 (mailed Sept. 20, 2005)).

165. See *id.* at 584-85.

166. U.S. Patent No. D423,611 (filed Oct. 22, 1998). The Furby doll example is used by David Leason in his article discussing animated design patents. See Leason, *supra* note 163. We use this same useful example here for the sake of comparison.



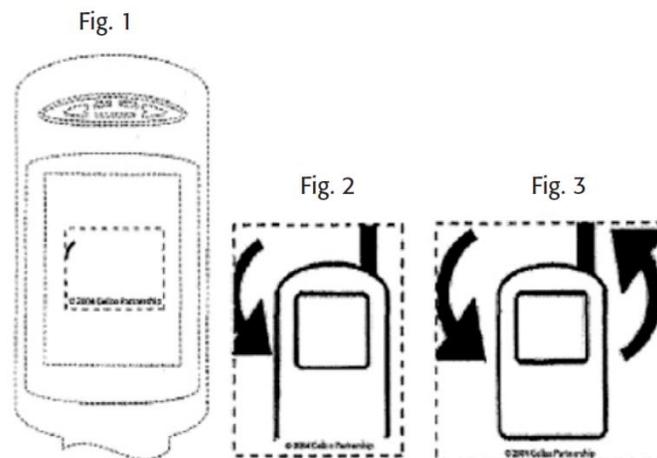
Fig. 3



Fig. 4

According to some commentators, this practice of allowing design patents for moving articles of manufacture is analogous to the moving parts of an animated CGI.¹⁶⁷

The first such animated icon application was filed on June 23, 2004, and was drawn to an “Animated Icon for a Cellularly Communicative Electronic Device,” as depicted below.¹⁶⁸



Initially, the application was subjected to a restriction requirement because each of the three claimed figures were considered by the examiner to be patently distinct, and, thus, could not be claimed as a single design.¹⁶⁹ In response, the applicant, Verizon Wireless, elected figure one but traversed the restriction requirement. In support of its traverse, Verizon argued that “[t]he present invention concerns an *animated* phone call icon. Each of Figures 1, 2 and 3 represents a *state* in the movement of the animated phone call icon at a different point in time.”¹⁷⁰ Verizon further argued that “[i]n order to depict the

167. See Leason, *supra* note 163.

168. See U.S. Patent No. D530,339 (filed June 23, 2004).

169. See Leason, *supra* note 163, at 588.

170. *Id.* (quoting U.S. Application Serial No. 29/208,172, Response to Restriction

animated phone call icon being claimed, it is necessary to show multiple states.”¹⁷¹ In response, the examiner withdrew the restriction requirement, stating, without explanation, that “[t]he restriction requirement set forth in the Office Action mailed May 13, 2005, is withdrawn. The USPTO has adopted a policy that ‘animated icons’ are patentable subject matter.”¹⁷²

No further explanation for the withdrawal of the restriction requirement was given until August of 2006, when the revised MPEP was published by the USPTO.¹⁷³ In it, the USPTO explained its position on animated CGI design patents as follows:

Computer generated icons including images that change in appearance during viewing may be the subject of a design claim. Such a claim may be shown in two or more views. The images are understood as viewed sequentially, no ornamental aspects are attributed to the process or period in which one image changes into another.¹⁷⁴

However, the USPTO’s relatively new policy for animated CGI designs only demonstrates the inherent problem with CGI design patents. The comparison between moving articles of manufacture and animated CGI is inapposite. The practice of allowing design patents for articles of manufacture with moving parts was previously limited to configuration of good-type designs that made up the underlying article of manufacture. For example, the Furby doll claimed in the ‘611 patent *is* the article of manufacture and is not subject to a fixation requirement because it is inherently fixed by virtue of its tangibility and physical existence. When the Furby doll blinks its eyes, the design for the article of manufacture neither loses nor gains anything. It remains the same physical, unchanged Furby doll.

Computer-generated icons, on the other hand, are, at best, surface ornamentation. As such, they are subject to a strict fixation requirement. But even standard icons are prone, and often specifically designed, to change, and are unlike the ancient water fountains discussed in *Hruby* or even the Furby doll disclosed in the ‘611 patent. Whereas the fountains at Versailles have existed since the seventeenth century, a CGI only exists until the user navigates away from the page or menu where it is displayed. In the case of animated icons, this lifespan is even shorter, as one design immediately changes to another until the animated sequence ends.

After almost twenty-five years of CGI design patent prosecution, Examiner-in-Chief Stahl’s concurring opinion in *Strijland* still offers one of the most valuable and logical analyses of CGI design patents to date.¹⁷⁵ The

Requirement (mailed Aug. 8, 2005)).

171. *Id.*

172. *Id.* at 589 (emphasis omitted).

173. *See* MPEP, *supra* note 63, § 1504.01(a).

174. *Id.*

175. *See Ex parte Strijland*, No. 92-0623, 26 U.S.P.Q.2D (BNA) 1259, 1265 (B.P.A.I. Apr. 26, 1993).

USPTO does not afford design patent protection to surface ornamentation when applied to a piece of paper or an artists' canvas because such design patent claims are, in reality, simply a claim for a design per se.¹⁷⁶ Nevertheless, the piece of paper or artist's canvas would clearly qualify as an article of manufacture, it being a tangible item made by man from raw materials. Nor would the USPTO grant design patent protection for a still frame from *The Godfather* if it were depicted as appearing on the silver screen with dashed lines around an unclaimed projector. Consequently, it is difficult to understand why CGI should be treated any differently under design patent law. As Examiner-in-Chief Stahl explained in *Strijland*, "[o]ne must, to appreciate this distinction, understand the significant difference between the phrases *a design displayed on* and *a design applied to* an article of manufacture."¹⁷⁷

In reality, an electronic display is little more than the piece of paper, the artist's canvas, or film projector. It is a new medium for doing something very old: displaying pictures. Computer-generated imagery is not so much fixed within or on the display as it is projected by the display. The only meaningful difference between the electronic display and prior devices capable of displaying an image is that one may interact more easily with a computer-generated icon but cannot do so with a mere picture or painting. However, interaction is not the test for design patent eligibility and could even implicate the "ornamental"/functional requirement.¹⁷⁸



176. See, e.g., *In re Schnell*, 46 F.2d 203, 209 (C.C.P.A. 1931) ("We think that Assistant Commissioner Clay was right in saying that the design must be shown not to be the mere invention of a picture, irrespective of its manner of use.")

177. *Strijland*, 26 U.S.P.Q.2d. (BNA) at 1265; see also *Pioneer Photo Albums, Inc. v. Holson Co.*, 654 F. Supp. 87, 88 (C.D. Cal. 1987) (noting the important distinction "between a 'design for an article of manufacture,' where the *design of the article itself* produces an aesthetically distinctive overall visual impression . . . , and a design which . . . produces aesthetically distinctive visual effects only through the addition of graphics or other ornamental elements which are *not* part of the actual 'design for an article of manufacture'").

178. See, e.g., John C. Phillips, *Sui Generis Intellectual Property Protection for Computer Software*, 60 GEO. WASH. L. REV. 997, 1024 (1992) (discussing the problem of functionality in CGI design patents: "Arguably, the visual and other sensory aspects of a GUI are designed to perform the function of optimally conveying information to the user. To gain design patentability, a developer would have to claim that a significant part of the visual element of his new user interface is nonfunctional, that is, does not serve to convey information. This seems incongruous, at best, with the basic purpose underlying the GUI").

Finally, it is worth noting that design patent protection for CGI leads to several irrational results. For example, anyone who displays this Article on an electronic display may technically be found liable for design patent infringement because it includes a depiction of Apple's '305 Patent. Once that portion of the Article is presented on an electronic display that is being used by the reader, all of the elements of design patent infringement are arguably complete. Indeed, every time Judge Koh prepared an opinion in *Apple v. Samsung* that included a depiction of the '305 Patent, and sent her decisions to attorneys for Apple and Samsung in electronic format, she may also have been infringing Apple's CGI design patent.

Under normal circumstances, such uses of Apple's copyrighted and trademarked design would be subject to fair use exceptions for educational uses and as a nominative fair use.¹⁷⁹ However, design patent law contemplates no fair use exceptions, and patent infringement is a strict liability offense.¹⁸⁰

B. *Apple's '305 Patent*

Apple's '305 patent is a prime example of the analytical problems associated with CGI design patents. As an initial matter, it is unclear why the '305 patent was allowed by the USPTO in the first place. Upon inspection, it appears as though the '305 patent fails to disclose a design that is applied to an article of manufacture. The MPEP states that "if an application claims a computer-generated icon *shown on a computer screen, monitor, other display panel*, or a portion thereof, the claim complies with the 'article of manufacture' requirement of 35 U.S.C. 171."¹⁸¹ However, the claim of the '305 patent appears disembodied from the iPhone or any other display.

One might argue that the figures of the '305 patent lack any display or monitor disclosure because the screen portion of an iPhone is only a rectangle. However, this, again, shows the hollowness of the USPTO's 1996 guidelines. The USPTO requires that all applications for CGI be depicted within a display or monitor. But as electronic displays become more and more streamlined, they will inevitably become more and more like a simple sheet of paper. Indeed,

179. See *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 578 (1994) ("The first factor in a fair use enquiry [under copyright law] is 'the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes.'"); *New Kids on the Block v. News Am. Pub., Inc.*, 971 F.2d 302, 308 (9th Cir. 1992) ("[W]here the defendant uses a trademark to describe the plaintiff's product, rather than its own, we hold that a commercial user is entitled to a nominative fair use defense . . .").

180. See generally Maureen A. O'Rourke, *Toward a Doctrine of Fair Use in Patent Law*, 100 COLUM. L. REV. 1177, 1188 (2000); Katherine J. Strandburg, *Patent Fair Use 2.0*, 1 U.C. IRVINE L. REV. 265 (2011) (discussing the need for a fair use defense to patent infringement).

181. MPEP, *supra* note 63, § 1504.01(a)(I)(A) (emphasis added).

LCD's are already taking the form of paper-thin sheets.¹⁸² Therefore, it is conceivable that design applications may soon be allowed for computer-generated icons disclosed on nothing more than an electronic form of paper. A perverse result could be that the same icon that is unpatentable when drawn on a paper page somehow becomes magically transformed into a patent-eligible design for an "article of manufacture" when drawn on a paper-thin computer display. As the distinction between paper and electronic displays decreases in salience, so should the legal distinction between unpatentable pictures and patentable CGI.

Even assuming the '305 patent was depicted within a dashed iPhone, the home screen of the iPhone is subject to many of the infirmities we have discussed throughout this Article. Notably, the home screen of the iPhone is not a fixed icon throughout the use of an iPhone. By pressing any one of the icons presented on the home page, the user immediately navigates to another page, and the home screen CGI is no longer applied to the iPhone. Thus, Apple's '305 patent is a prime example of the transient nature of CGI and demonstrates that it is not "worked into" an article of manufacture, such as an iPhone.

Furthermore, nearly all iPhone users exchange the icons on their desktop regularly. The display of each iPhone is customizable, depending on what applications an individual iPhone user wishes to install, and how she chooses to arrange them. Also, with each software update, the appearance of individual icons may change. In the context of an infringement analysis, these distinctions between individual home page icons may be addressed by the flexibility of the ordinary observer test. However, the fact that an ornamental configuration is amenable to the ordinary observer test does not render a picture design patent-eligible. Here, the ever-changing nature of the iPhone home page also renders it unsuitable for design patent protection.

Thus, Apple's '305 patent is a fitting illustration of why CGI should not be considered design patent-eligible. Had the court addressed this issue in *Apple v. Samsung*, Samsung would have had persuasive grounds for arguing that the '305 patent never should have been issued, let alone asserted in the infringement context, and that CGI per se is design patent-ineligible. Although Samsung never raised this issue with Judge Koh, Apple's '305 patent presented a lost opportunity for a federal court to assess the eligibility of CGI design patents. Design patent law still awaits its *Diamond v. Chakrabarty*¹⁸³ moment.

182. See, e.g., Sean Hollister, *Toshiba Flexes Its Paper-Thin LCD Muscle, Moves the World (Video)*, ENGADGET (June 1, 2010), <http://www.engadget.com/2010/06/01/toshiba-flexes-its-paper-thin-lcd-muscle-moves-the-world-video>.

183. 447 U.S. 303 (1980) (holding that genetically modified microorganisms are patentable subject matter).

IV. CONCLUSIONS

The issue of design patent protection for CGI has been a hotly debated subject ever since Xerox received its first CGI design patent in 1988. After two substantial policy shifts within the USPTO, the United States has settled into a tentative approach to design patent eligibility that has remained the administrative status quo for the last twenty-five years. In the interim, the popularity and power of the CGI design patent has expanded at an extraordinary rate, culminating in last year's trial in *Apple v. Samsung*, which, though the first significant contest involving a CGI design patent, resulted in an award of more than a billion dollars in damages for infringement.¹⁸⁴ Meanwhile, CGI have prompted design patent law to evolve towards new forms of protection, including animated icons.

Yet the legal foundations for this increasingly important form of intellectual property remain wobbly. Legitimate questions remain as to whether the design patent statute was ever intended to encompass ephemeral designs such as CGI that are neither the configuration of a tangible "article of manufacture," nor worked into an "article of manufacture" in any cognizable traditional sense. Indeed, at least one recent Federal Circuit decision addressing the definition of "manufacture" under § 101 suggests that there is good cause to believe that CGI design patents would not survive Federal Circuit review.¹⁸⁵ As more and more CGI design patent applications are filed with the USPTO, it becomes increasingly important to have this fundamental question of design patent law settled.

Regardless of one's personal opinion of the viability of CGI design patents, the question of their patent eligibility should be addressed at the earliest opportunity by a federal court. Substantial and increasing resources, whether measured in terms of money, time, or talent, are spent designing, developing, commercializing, patenting, and protecting computer generated imagery. The USPTO already allows approximately five hundred CGI design patents each year.¹⁸⁶ Furthermore, the proliferation of electronic computer gadgetry capable of displaying CGI heralds a busy future for CGI design patent litigation. While *Apple v. Samsung* presented an obvious test case for the article of manufacture requirement, it appears that Samsung opted to spare its own CGI design patents, and instead risk the infringement award it later sustained. This is unsurprising. Given the considerable investments companies have made to

184. *But see Apple, Inc. v. Samsung Elecs. Co.*, 926 F. Supp. 2d 1100, 1108-09 (N.D. Cal. 2013) (granting motion for a new trial because jury granted damages based on too long a period).

185. *See In re Nuijten*, 500 F.3d 1346 (Fed. Cir. 2007); *see also supra* text accompanying notes 85-102.

186. *See* Dennis Crouch, *Design Patents on Images Shown on a Computer*, PATENTLY-O (Mar. 8, 2013), <http://www.patentlyo.com/patent/2013/03/design-patents-on-images-shown-on-a-computer.html>.

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acquire large and valuable CGI design patent portfolios, it is unlikely that a judicial challenge on grounds of subject matter eligibility will come from design patent owners. Perhaps a new market perturbation, such as the rise of aggressive design patent trolls, could alter this calculus. One scenario of court challenge to CGI could involve the Federal Circuit raising this issue sua sponte on appeal, and settling this important debate.¹⁸⁷ Designers, design owners, and the design-using public could all benefit from the repose a court or Congress could provide on this threshold question of design patent protection. Ideally, just as the Supreme Court in *Diamond v. Chakrabarty* helped to clarify utility patentable subject matter by ruling on the patentability of genetically-modified living organisms, so too could the Court help settle the scope of design patentable subject matter with a careful analysis of design patents claiming computer-generated imagery. Design patent law awaits—and needs—its own *Chakrabarty* moment.

187. See, e.g., *In re Comiskey*, 499 F.3d 1365, 1378-79 (Fed. Cir. 2007) (raising the issue of subject matter eligibility under 35 U.S.C. § 101 sua sponte on appeal), *vacated and withdrawn*, 554 F.3d 967 (Fed. Cir. 2009) (en banc).

