



**IN THE MATTER OF REQUEST FOR COMMENTS
ON THE ARTICLE OF MANUFACTURE REQUIREMENT**

Docket No. PTO-C-2020-0068

COMMENTS OF THE ELECTRONIC FRONTIER FOUNDATION

The Electronic Frontier Foundation (“EFF”) welcomes this opportunity to provide comments on the United States Patent and Trademark Office’s (“USPTO”) Request for Comments on the Article of Manufacture Requirement, Docket No. PTO-C-2020-0068, published Monday, December 21, 2021 (“Request”).

EFF is a nonprofit civil liberties organization that has worked for over 30 years to protect consumer interests, innovation, and access to knowledge in the digital world. EFF and its more than 30,000 dues-paying members care deeply about ensuring that intellectual property law in this country serves the goal set forth in the Constitution: promoting the progress of science and technological innovation by granting limited exclusive rights.

To ensure the voices of those who develop and depend on technological innovation are heard, EFF routinely submits comments regarding USPTO policies and procedures that affect the patent system’s ability to achieve these goals, including regulations affecting patent-eligibility standards.¹

I. Introduction

Design patents exist to protect industrial designs—ornamental or visible features of manufactured products. Their subject matter is different from that of utility patents, which protect useful inventions, and copyright law, which protects creative works of art. To maintain the distinctions between these legal regimes, the subject matter of design patent protection must remain distinct. That means design patent protection must extend only to ornamental (i.e., visible and non-functional) features of articles of manufacture (i.e., physical or tangible objects).

EFF believes that the USPTO should revise its interpretation of section 171 by restoring the historical fixation requirement and denying design patent protection to computer-generated

¹ See, e.g., Comments of EFF on 2019 Revised Patent Eligibility Guidance, Docket No. PTO-P-2018-0053 (Jan. 7, 2019), <https://www.eff.org/document/eff-comments-patent-offices-2019-subject-matter-eligibility-guidance>; Comments of EFF on Determining Whether a Claim Element Is Well-Understood, Routine, Conventional for Purposes of Subject Matter Eligibility. Docket No. PTO-P-2018-0033 (Apr. 20, 2018), https://www.eff.org/files/2018/09/03/eff_comments_re_docket_no_pto-p-2018-0033.pdf; Comments of EFF Regarding Guidance Pertaining to Patent-Eligible Subject Matter, Docket No. PTO-P-2014-0036 (July 31, 2014), at https://www.eff.org/files/2014/08/11/eff_comments_regarding_patentable_subject_matter_and_alice_corp.pdf.

images that are displayed temporarily on two-dimensional surfaces. Digital imagery may be protected in the context of copyrighted works or registered trademarks, but not as a disembodied design.

The USPTO’s proposed interpretation stretches the bounds of design patent protection beyond the text of section 171 and judicial precedents applying it. There is no fact or law that could justify extending design patent protection to functional features or intangible digital signals. Nor is there any sound policy reason: granting new and unprecedented design rights would wreak havoc on the U.S. economy when it is already struggling to recover from the economic depression caused by the unrelenting COVID-19 pandemic. Now more than ever, people depend on computer technology and connectivity to work, learn, communicate with each other, and get essential products and services—from groceries to health care. The last thing the government should do at this time is impose new restrictions on people’s ability to create, use, and communicate digital content.

EFF strongly urges the USPTO to reconsider—and abandon—this effort to expand the bound of design patent protection beyond the spirit and letter of the statute. The USPTO should be empowering examiners to reject deficient design patent applications, not forcing them to lower their standards to grant more. Granting more and worse design patents will encourage extortionate patent litigation and deter the innovation and economic activity the patent system is supposed to promote.

II. EFF’s Responses to Issues for Comment

1. Please identify the types of designs associated with new and emerging technologies that are not currently eligible for design patent protection but that you believe should be eligible. For these types of designs, please explain why these designs should be eligible, how these designs satisfy the requirements of section 171, and how these designs differ from a mere picture or abstract design. In addition, if you believe that these types of designs should be eligible, but a statutory change is necessary, please explain the basis for that view.

The USPTO should not change the status of any type of design that is currently ineligible for design patent protection under section 171.

Recent technological developments illustrate that existing limitations on design patents have supported innovation that more expansive protective regimes would diminish or destroy. For decades, we have had technology for displaying a digital image on a two-dimensional surface, such as a computer screen, as well as other of the supposedly-new technologies referenced in the Request, such as holograms.² During this time, we have also had an explosion of innovation in the fields of computer graphics and user interaction. This innovation has come because of the space for innovation and creativity that currently exists.

² E.g., Sean F. Johnston, *Whatever Became of Holography?*, AMERICAN SCIENTIST, November – December 2011, Vol. 99, No. 6, 482, <https://www.americanscientist.org/article/whatever-became-of-holography> (recounting history of holographic technology from the 1950s to the present day as “holographic research and development continues more quietly . . . along lines that originated half a century ago”) (last visited Feb. 3, 2021).

Granting design patents on previously-ineligible subject matter would erode that space for innovation and the economic activity it supports. In fields that have previously been free from design patents, there will be no prior art in the form of patents or patent applications. The lack of identifiable prior art will make examination as well as subsequent litigation unworkable in practice because deciding design patent infringement requires comparing the claimed and accused designs to the prior art as well as each other.³

Even if there were new technologies for generating or displaying digital images, they could not make the *displayed* images eligible for design patent protection. As one scholar has explained:

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. 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.⁴

Like the image on an artist's canvas, a digital image displayed on a computer screen is not eligible for design patent protection. Such images are *displayed on*, but not *applied to* the articles on which they appear. Former Examiner-in-Chief Stoll emphasized this distinction, writing in *Ex parte Strijland* that "[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." No. 92-0623, 26 U.S.P.Q.2D (BNA) 1259, 1265 (B.P.A.I. Apr. 26, 1993) (emphases added). This distinction also confirms the ineligibility of visual images that are neither displayed on nor applied to any physical article, such as holograms or augmented reality scenes.

Regardless, if the USPTO believes new technologies may require changing the bounds of patent, it does not have the authority to act on that belief by changing its interpretation of substantive patent law sua sponte. Rather, the USPTO should return to the approach it previously took (for example, in *Bilski*) by defending ineligibility rejections examiners make, especially in close cases, in order to crystallize important legal questions for the Federal Circuit and Supreme Court to resolve.

If Article III courts fail to resolve these issues to the public's satisfaction, Congress has the authority to intervene and change the law. But the USPTO does not. The USPTO's authority and responsibility limited to applying the law Congress wrote as intended without imposing the will of the executive over the people's representatives.

³ *Egyptian Goddess, Inc. v. Swisa, Inc.*, 543 F.3d 665, 678 (Fed. Cir. 2008) (en banc) ("[W]hen the claimed and accused designs are not plainly dissimilar, resolution of the question whether the ordinary observer would consider the two designs to be substantially the same will benefit from a comparison of the claimed and accused designs with the prior art, as in many of the cases discussed above and in the case at bar.").

⁴ William J. Seymour and Andrew W. Torrance, *(R)evolution in Design Patentable Subject Matter: The Shifting Meaning of "Article of Manufacture,"* 17 STAN. TECH. L. REV. 183, 213 (2013), <http://stlr.stanford.edu/revolutionindesignpatent.pdf>.

2. If the projection, holographic imagery, or virtual/augmented reality is not displayed on a computer screen, monitor, or other display panel but is integral to the operation of a device (e.g., a virtual keyboard that provides input to a computer), is this sufficient to render the design eligible under section 171 in view of the current jurisprudence? If so, please explain how the article of manufacture requirement is satisfied and how these designs differ from a mere picture or abstract design. If you believe that these designs do not meet the requirements of section 171, please explain the basis for that view.

No. The article of manufacture requirement cannot and should not be changed to make eligibility hinge on the question of whether the claimed design is “integral to the operation of a device.” That is question of function, not form, and therefore is irrelevant to eligibility for design patent protection under section 171.

The USPTO has consistently recognized the distinction between a design patent, which “protects the way an article looks,” and a utility patent, which “protects the way an article is used and works.” M.P.E.P. 1502.01. That distinction reflects longstanding judicial precedent establishing a patent-eligible design as that which “gives a peculiar or distinctive appearance to the manufacture, or article to which it may be applied, or to which it gives form.” *Samsung Elecs. Co. v. Apple Inc.*, 137 S. Ct. 429, 432 (2016) (quoting *Gorham Co. v. White*, 14 Wall. 511, 525 (1872)). Because design patents protect ornamental features, a “primarily functional invention is not patentable” as a design. M.P.E.P. 1504.01(c) (quoting *Norco Products, Inc. v. Mecca Development, Inc.*, 617 F. Supp. 1079, 1080 (D. Conn. 1985)).

Whether an intangible image is “integral to the operation of a device” is not only insufficient, but irrelevant to the article of manufacture requirement of section 171. The relationship between an image and the operation of a device is *functional*, not *aesthetic*, criterion, and therefore cannot establish design patent eligibility under the law as written.

3. If the projection, holographic imagery, or virtual/augmented reality is not displayed on a computer screen, monitor, or other display panel but is interactive with a user or device (e.g., a hologram moves according to a person’s movement), is this sufficient to render a design eligible under section 171 in view of the current jurisprudence? If so, please explain how the article of manufacture requirement is satisfied and how these designs differ from a mere picture or abstract design. If you believe that these designs do not meet the requirements of section 171, please explain the basis for that view.

No. As discussed above, functional features are excluded from the scope design patent proception. Whether a feature is “interactive with a user or device” is a question pertaining to its functionality, not its appearance, and therefore irrelevant to design patent eligibility.

Scholars have considered and rejected the notion that interactivity should establish design patent eligibility: “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.”⁵

This longstanding rule is necessary to preserve the boundary between utility and design patents and prevent patent thickets that thwart innovation, competition, and economic growth.

4. If the projection, holographic imagery, or image appearing through virtual/augmented reality is not displayed on a computer screen, monitor, or other display panel but is projected onto a surface or into a medium (including air) and is not otherwise integral to the operation of a device or interactive with a user or device (e.g., is a static image), is this sufficient to render a design eligible under section 171 in view of the current jurisprudence? If so, please explain how the article of manufacture requirement is satisfied and how these designs differ from a mere picture or abstract design. If you believe that these designs do not meet the requirements of section 171, please explain the basis for that view.

No. An intangible image projected “into a medium (including air)” is not applied to anything that could qualify as an article of manufacture.

In the utility patent context, the Federal Circuit held in *In re Nuijten*, 500 F.3d 1346 (Fed. Cir. 2007), following the Supreme Court’s decision in *Diamond v. Chakrabarty*, 447 U.S. 303 (1980) that electromagnetic signals—even those that can produce visible emanations—do not qualify as “manufactures” under 35 U.S.C. § 101. Based on the definitions of “manufacture” considered in *Chakrabarty*, the Federal Circuit emphatically concluded that “articles of manufacture” must be “*tangible articles or commodities.*” *Id.* at 1356.

Rejecting the applicant’s claim to a “signal with embedded supplemental data,” i.e., a digital watermark, the Federal Circuit explained:

The[] definitions [discussed in *Chakrabarty*] 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.

Id. at 1356–57.

Put simply, the Federal Circuit has defined “articles of manufacture” to exclude the effects of transmitting electromagnetic signals that are “devoid of any semblance of permanence during transmission.” The USPTO should do the same.

⁵ Seymour and Torrance, *supra* note 4, at 216

Expanding design patent protection to intangible displays and projections would violate the spirit and letter of section 171, binding judicial precedents, and the entrenched expectations of technology developers, researchers, and users across the country.

5. Do you support a change in interpretation of the article of manufacture requirement in 35 U.S.C. 171? If so, please explain the changes you propose and your reasons for those proposed changes. If not, please explain why you do not support a change in interpretation.

Yes. The USPTO should change its interpretation by restoring the historical fixation requirement so that a design would have to be “fixed” onto or within an article of manufacture to be eligible for protection under section 171. This interpretation would conform to the text and intent of the statute as well as more than a century of case law. And it would have the effect of excluding categories of designs that are currently eligible—specifically, computer-generated graphics and animations that are temporarily displayed (whether on computer screens or through the air), but not fixed to or within any physical object, let alone the device responsible for displaying them.

The first design patent statute was enacted in 1842, offering protection to “any new and original design for a manufacture” or “shape or configuration of any article of manufacture.” The original statute identified different types of “articles of manufacture,” including textiles, statues, prints, and pictures “worked into or worked on, or printed or painted or cast or otherwise fixed on, any article of manufacture.” Although the 1902 Act omitted any explicit requirement that a protected design be fixed within an article of manufacture, courts interpreted the amendments as preserving the fixation requirement.⁶ Patent Commissioner Moore agreed, explaining in 1913 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.’”⁷

The USPTO began to erode the fixation requirement for computer graphics with its “Guidelines for Examination of Design Patent Applications for Computer-Generated Icons” issued in 1996 and continued to erode them in 2005 by allowing design patents on animated computer-generated icons. These changes were not made to accommodate judicial decisions. In fact, there have been “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.”⁸

There have, however, been court decisions since 2005 that implicitly reject the USPTO’s guidance. As discussed above, Federal Circuit has in the utility patent context defined “articles of manufacture” to require “tangible articles or commodities,” and concluded “[a] transient electric or electromagnetic transmission does not fit within that definition.” *Nuijten*, 500 F.3d at 1356. *Nuijten* thus defines articles of manufacture to exclude digital images that appear only temporarily on physical devices. At least one scholar has concluded that “after the Federal

⁶ Seymour and Torrance, *supra* note 4, at 191 (discussing *Pratt v. Rosenfeld*, 3 F. 335, 335 (C.C.S.D.N.Y. 1880), where court held that the “design at issue had not been worked into the underlying article of manufacture,” and therefore “constitute[ed] ineligible subject matter”).

⁷ *Id.* (discussing *Ex parte Fulda*, 1913 Dec. Comm’r Pat. 206).

⁸ *Id.* at 205.

Circuit's decision in *In re Nuijten*, it is doubtful that CGI could be described as fixed within a computer monitor or display.”⁹

The Supreme Court's decision in *Samsung Electronics Co. v. Apple Inc.*, 137 S. Ct. 429 (2016) does not suggest otherwise. Nor does it support the USPTO's expansive interpretation of section 171. The holding of *Samsung* is straightforward: when calculating damages under section 289, “the term ‘article of manufacture’ is broad enough to encompass both a product sold to a consumer as well as a component of that product.” To the extent the decision is relevant to section 171, it merely confirms that the article embodying the patented design must be “a thing made by hand or machine,” excluding natural media such as air.

Accordingly, EFF urges the USPTO to change its interpretation of section 171 to require physical fixation of the patented design within or onto an article of commerce.

6. Please provide any additional comments you may have in relation to section 171, interpretation or application of section 171, or industrial design rights in digital and new and emerging technologies.

The last thing the American public needs is more design patents. The law already provides ample protection to creators and owners of visual works. When those works are creative and original, copyright provides protection for 70 years beyond the creator's life. When they identify the sources of products or services, trademark provides protection. And if those works are useful, i.e., integral to the operation of a device, utility patents offer twenty years of exclusive rights. Neither evidence nor logic suggests the USPTO should find ways to offer more exclusivity.

Because design patents are limited to aesthetic, non-functional features, they run the risk of invading copyright's domain. The gravity of this risk must not be taken lightly: when copyright (or trademark) applies, there are fair use exceptions that enshrine the First Amendment, including for educational, non-profit, and critical purposes. The more design patent law intrudes into the domain of expression, the more it would need to develop and adopt such limits to comport with the First Amendment. Absent such protections, a new wave of design patents would threaten not only innovation, but freedom of expression.

Worse, design patents operate under the same strict liability regime as utility patents. That means someone could independently create a design, but would be liable for infringement even if they had no idea a patent on their design existed. Given the presumption of validity afforded to granted patents and the exorbitant cost of district court litigation, the specter of design patent liability would decimate competition and employment in the graphic design industry.

Before opening the door to new monopolies related to computer graphics, the USPTO should conduct a study to assess the costs and benefits on the public with a particular focus on employment rates, consumer prices, and the accessibility of online education and health care.

⁹ *Id.* at 206.

The USPTO should also tread carefully when interpreting U.S. patent law based on legal developments in other countries to ensure we are following those who share our economic objectives as well as our democratic principles.

The Request uncritically identifies as one potential model the industrial design protection regime in Singapore, “a semi-authoritarian city-state of almost six million people.”¹⁰ Accordingly, Singapore’s law includes content-based prohibitions on designs that do not align with public order or morality.¹¹ Yet another reason Singapore is not a viable model for the U.S. is that it does not grant design patents, but rather, provides a system of registration that largely relies on self-assessment and did not include novelty checks until 2019.¹²

If other countries are to serve as models, the USPTO should look to those that share our democratic values, respect for the rule of law, and commitment to market-based economies. For example, in Germany, registered designs “protect the appearance of industrially manufactured or manually crafted products, for example, clothes, furniture, vehicles, fabrics, decorative objects or graphical symbols,” but “[a] computer program is not considered to be a product.”¹³ It is Germany’s design protection that major technology companies like Apple have sought and invoked successfully.¹⁴

The U.S. should be a world leader on innovation policy, but if it must follow, it should choose countries like Germany who share our democratic norms and economic potential.

Expanding eligibility for design patent protection may benefit big technology companies and patent assertion entities, but it will hurt independent graphic designers, software developers,

¹⁰ Sui-Lee Wee, *How Singapore Has Kept the Coronavirus Off Campus*, NEW YORK TIMES, Jan. 9, 2021, <https://www.nytimes.com/2021/01/09/world/asia/singapore-coronavirus-universities.html>.

¹¹ THOMSON REUTERS PRACTICAL LAW, *Patents, trade marks, copyright and designs in Singapore: overview*, [https://uk.practicallaw.thomsonreuters.com/w-008-1119?transitionType=Default&contextData=\(sc.Default\)&firstPage=true#co_anchor_a344490](https://uk.practicallaw.thomsonreuters.com/w-008-1119?transitionType=Default&contextData=(sc.Default)&firstPage=true#co_anchor_a344490) (last visited Feb. 3, 2021).

¹² MIRANDAH ASIA, *Singapore: Heightened Novelty Check for Registered Design Applications*, Mar. 27, 2020, <https://www.mirandah.com/pressroom/item/singapore-heightened-novelty-check-for-registered-design-applications/> (“With this latest guidance, new design applications in Singapore will now be subject to some form of substantive examination. It remains to be seen how stringent and extensive the Registrars will be in implementing the heightened checks.”).

¹³ GERMAN PATENT AND TRADEMARK OFFICE, *Questions about Designs*, <https://www.dpma.de/english/designs/faq/index.html> (last updated Oct. 20, 2020).

¹⁴ Nilay Patel, *Apple wins preliminary design-related injunction against Samsung in Germany, Galaxy Tab 10.1 sales halted in EU (update: Samsung responds)*, THE VERGE, Aug. 9, 2011, <https://www.theverge.com/2011/08/09/apple-wins-preliminary-design-related-injunction-samsung-germany-galaxy-tab-10-1-sales-halted-eu> (“The massive intellectual property battle between Apple and Samsung has been slowed to a crawl by procedural battles and grandstanding in the US, but things are moving right along in the rest of the world: a German district court has just issued a preliminary injunction . . . in every EU nation except the Netherlands.”).

small businesses, and countless individuals who rely on computer-generated graphics to work, learn, and access medical care remotely.

The patent system exists to promote innovation and economic growth, but granting more patents can undermine those goals. That is especially true in fields like software development and graphic design, where barriers to entry are low enough that independent contractors, small businesses, and start-ups can compete. Unfortunately, those with the most ability, ingenuity, and determination to leverage in a competitive market have the most to lose if the government starts giving others the right to stop them competing.

III. Conclusion

EFF urges the USPTO to interpret the article of manufacture requirement in a manner that is consistent with the statutory text, legislative intent, and the Constitution's mandate that the patent system promote more innovation than it deters. Design patent protection should be limited to ornamental features that are physically applied or fixed to the article of manufacture embodying them. Expanding design patent protection beyond the bounds of existing law will create havoc for the software industry and erode confidence in the patent system without offering any encouragement to what we urgently need: rapid scientific growth and economic expansion to the benefit of all.

Respectfully submitted,

/s/

Electronic Frontier Foundation

Alexandra H. Moss

Staff Attorney

815 Eddy Street

San Francisco, CA 94109

(415) 436-9333

alex@eff.org

February 4, 2021