

ARTICLES

THE TRUTH ABOUT DESIGN PATENTS

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Design patents are hot. Scholars and policymakers are increasingly focusing on this once-niche area of law. However, many of the empirical studies in this area—including old ones that still get cited—were methodologically questionable from the start, have become outdated, or both. In this Article, we make two sets of contributions to this important and underdeveloped literature. First, we review the empirical studies of design patents thus far, including those that pre- and post-date the creation of the U.S. Court of Appeals for the Federal Circuit, and we update the findings of those studies. Second, we consider a set of institutional questions that, to our knowledge, the prior literature has not even broached. Beyond the federal

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courts, we explore design patent enforcement at the U.S. International Trade Commission and the use of administrative procedures to challenge design patents in the Patent Trial and Appeal Board. These contributions contextualize the design patent system within the broader debates about U.S. intellectual property policy.

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INTRODUCTION

The legal literature is full of dire empirical assertions about design patents. Commentators say that the U.S. Patent and Trademark Office (USPTO) rejects around half of all design patent applications¹ and that courts invalidate most asserted design patents in litigation.² They also frequently assert that as many as half of asserted design patents are found not infringed in litigation.³

These dire statistics are often invoked by those who seek increased intellectual property (IP) protection for designs. These commentators argue that design patents are difficult to get and enforce; therefore, we need to provide some different, easier-to-obtain type of IP protection.⁴

1. See, e.g., Kal Raustiala & Christopher Sprigman, *The Piracy Paradox: Innovation & Intellectual Property in Fashion Design*, 92 VA. L. REV. 1687, 1704–05 (2006).

2. See, e.g., Amy Muhlstein & Margaret Ann Wilkinson, *Whither Industrial Design*, 14 INTEL. PROP. J. 1, 37 (2000) (“Even if a design patent is granted, the statistics show that at least two-thirds of issued design patents are struck down as invalid in litigation.”); MARSHALL A. LEAFFER, UNDERSTANDING COPYRIGHT LAW 125 (7th ed. 2019) (citing Thomas B. Lindgren, *The Sanctity of the Design Patent: Illusion or Reality? Twenty Years of Design Patent Litigation Since Compco v. Day-Bright Lighting, Inc. and Sears, Roebuck & Co. v. Stiffel Co.*, 10 OKLA. CITY U. L. REV. 195 (1985)) (“[D]esign patents are often declared invalid when challenged in federal court.”).

3. See, e.g., Silvia Beltrametti, 8 NW. J. TECH. & INTEL. PROP. 147, 156 (2010) (“[D]esign patent infringement is found in only approximately half of the cases brought to court.”).

4. See, e.g., Susanna Monseu, *The Challenge of Protecting Industrial Design in a Global Economy*, 20 TEX. INTEL. PROP. L.J. 495, 498, 530 n.248 (2012) (arguing that the United States should “provide an unregistered limited protection against copying for all market-entry industrial design” and asserting that design patent protection is inadequate because, among other reasons, “even when a designer applies for a design patent the Patent and Trademark Office rejects the application roughly half the time”); *id.* at 530 (“Even when design patents are obtained, courts often invalidate them because of the high standard of novelty required for patent protection.”); Jay Dratler, Jr., *Trademark Protection for Industrial Designs*, 1988 U. ILL. L. REV. 887, 891, 892 (1988) (arguing in favor of using trademark law to protect designs because of, among other reasons, the “high standards required for [design] patent protection”); see also

These statistics have become so entrenched as common wisdom that commentators sometimes state them without any citation or support.⁵ But there are reasons to doubt these statistics. The U.S. Court of Appeals for the Federal Circuit, which has had exclusive jurisdiction over most patent appeals since 1982,⁶ has created tests for design patentability that are, at least on their faces, very patentee-friendly.⁷ It is difficult to square these patentee-friendly tests with assertions that design patents are difficult to get and keep. Indeed, the limited evidence that is available suggests that these oft-repeated statistics do not reflect design patent law and practice in the Federal Circuit era.⁸

Susan Scafidi, *Intellectual Property and Fashion Design*, in 1 INTELLECTUAL PROPERTY AND INFORMATION WEALTH: ISSUES AND PRACTICES IN THE DIGITAL AGE 122 (Peter K. Yu ed., 2007) (arguing that Congress should enact fashion-registration legislation because of, inter alia, the alleged difficulty of getting a design patent). Scafidi has, in turn, been cited for the proposition that design patent standards are “demanding.” C. Scott Hemphill & Jeannie Suk, *The Law, Culture, and Economics of Fashion*, 61 STAN. L. REV. 1147, 1150 n.10 (2009).

5. See, e.g., Raustiala & Sprigman, *supra* note 1, at 1705 (stating, without citation, that “the United States Patent and Trademark Office rejects roughly half of all applications for design patents”).

6. The Federal Circuit was created in 1982. Federal Courts Improvement Act of 1982, Pub. L. No. 97-164, 96 Stat. 25 (codified as amended at 28 U.S.C. §§ 1291–1295).

7. See Sarah Burstein, *Is Design Patent Examination Too Lax?*, 33 BERKELEY TECH. L.J. 607, 624 (2018) [hereinafter Burstein, *Lax?*] (arguing that “current Federal Circuit law makes it nearly impossible for the USPTO to reject most design patent claims—no matter how banal, trivial, or uncreative”); Sarah Burstein, *Moving Beyond the Standard Criticisms of Design Patents*, 17 STAN. TECH. L. REV. 305, 336 (2013) [hereinafter Burstein, *Standard Criticisms*] (“Numerous commentators have criticized the design patent system for excluding too many designs . . . [H]owever, the design patent system—at least as currently administered—does not actually exclude that many designs.”).

8. See Dennis D. Crouch, *A Trademark Justification for Design Patent Rights* 17–18 (Aug. 10, 2010) (unpublished manuscript), available at <https://www.ssrn.com/abstract=1656590>; Andrew W. Torrance, *Beauty Fades: An Experimental Study of Federal Court Design Patent Aesthetics*, 19 J. INTELL. PROP. L. 389, 399–400 (2012). These studies are discussed in more detail *infra* Part I; see also J. H. Reichman, *Design Protection and the New Technologies: The United States Experience in a Transnational Perspective*, 19 U. BALT. L. REV. 6, 25 (1989) (footnote omitted) (“[T]he rate of appellate [design patent] invalidation tended to decrease from 1974 to 1983, and it has dramatically decreased since the establishment of the United States Court of Appeals for the Federal Circuit in 1982.”); J. H. Reichman, *Design Protection and the Legislative Agenda*, 55 L. & CONTEMP. PROBS. 281, 285 (1992) (footnotes omitted) (“Recent improvements in design patent protection can be demonstrated statistically . . . [O]f thirteen cases concerning ornamental designs of useful articles known to have reached the new Federal Circuit between the second quarter of 1986 and the first half of 1990, only two invalidate designs for obviousness, both unpublished, and there is only one clear instance of invalidation for functionality.”). And while much of the literature paints the

It is also difficult to square these dire statistics with what we know about applicant and patentee behavior. If design patents are unreasonably difficult to get, why do applicants keep applying for them?⁹ And if design patents are “useless in litigation,”¹⁰ why do design patent owners keep suing people for infringement?¹¹ If these assertions are not correct, where do they come from? What is the real state of contemporary design patent law and practice? In this Article, we answer those questions and reach other conclusions.

Most importantly, we conclude that, to the extent proposals to expand design protection are based on one or more of these statistics, those proposals are fundamentally flawed. These proposals may have merit on other grounds that are not explored here, but the fact that they are often supported by these flawed statistics counsels caution. To

requirement that a design not be “obvious” as a high barrier to patentability, “[a]mong many design patent practitioners, obviousness is generally considered a ‘non-issue.’” Janice M. Mueller & Daniel Harris Brean, *Overcoming the “Impossible Issue” of Nonobviousness in Design Patents*, 99 Ky. L.J. 419, 428 (2011).

9. See *U.S. Patent Activity Calendar Years 1790 to the Present: Table of Annual U.S. Patent Activity Since 1790*, U.S. PAT. & TRADEMARK OFF., https://www.uspto.gov/web/offices/ac/ido/oeip/taf/h_counts.htm [https://perma.cc/W9RY-QUSR] [hereinafter *U.S. Patent Activity*] (showing a steady trend of increasing design patent applications and granted design patents over time). For example, in calendar year 1985, when Lindgren published his article (see Lindgren, *supra* note 2), the USPTO received 9,551 design patent applications and issued 5,066 design patents. *U.S. Patent Activity*, *supra*. In calendar year 1999, when Frenkel published his article (see Frenkel, *infra* note 23), the USPTO received 17,761 design patent applications and issued 14,732 design patents. *U.S. Patent Activity*, *supra*. In the latest year reported, calendar year 2020, the USPTO received 47,838 design patent applications and issued 34,877 design patents. *Id.*

10. See Dratler, *supra* note 4, at 893 (“[E]ven though the odd design of extraordinary merit may receive a design patent, in the past studies have shown that at least two-thirds of issued design patents prove useless in litigation.”).

11. See David L. Schwartz & Xavier Giroud, *An Empirical Study of Design Patent Litigation*, 72 ALA. L. REV. 417, 459 (2020) (showing a trend of increasing number of alleged design patent infringers in litigation between 2000 and 2016). It may be argued that at least some applicants and owners are acting irrationally in light of the 2012 verdict in *Apple, Inc. v. Samsung Electronics Co.*, 920 F. Supp. 2d 2079 (2013), *aff’d in part, rev’d in part*, 786 F.3d 983 (Fed. Cir. 2015), *rev’d*, 137 S. Ct. 429 (2016). See Schwartz & Giroud, *supra* note 11, at 419 (footnotes omitted) (“A jury found Samsung liable for patent infringement and awarded Apple \$1.049 billion, the largest patent verdict in history. The award was later reduced to \$539 million. Almost all of the damages were due to infringement of Apple’s design patents.”). While it is possible that *Apple v. Samsung* led some applicants or owners to act irrationally, that seems unlikely to explain these longstanding trends.

defend this conclusion, we also make novel analytical and empirical contributions to the literature.

We begin by providing the first systematic literature review to identify the sources of three oft-reported statistics: (1) half of all design patent applications are rejected; (2) most design patents are found invalid in litigation; and (3) most litigated design patents are found non-infringed. We show that these claims are based on data from the pre-Federal Circuit era.¹² Therefore, it cannot be assumed that they reflect what is happening today.¹³ Moreover, the few older studies on which these statistics rest are not as robust as their frequent citations might suggest. Those studies are often based on small samples, methodologically opaque, or cannot be replicated, making them unreliable evidence as to any time period. Thus, the findings of those studies are not representative of design law and practice today.

We then update these old studies by conducting our own empirical analyses based on comprehensive current data. We assess both how design patent applications fare in prosecution before the USPTO and how issued design patents fare in validity challenges during federal court litigation. In this regard, we add to important work by Dennis Crouch on design patent examination before the USPTO¹⁴ and by Andrew Torrance on design patent validity in the federal courts.¹⁵ We

12. One influential study involved data from 1983. However, the Federal Circuit did not issue its first design patent decision until April 1983. See *infra* notes 88–90 and accompanying text.

13. The changes wrought by the Federal Circuit in the area of utility patent law have been well-documented. See, e.g., John R. Allison & Mark A. Lemley, *Empirical Evidence on the Validity of Litigated Patents*, 26 AIPLA Q.J. 185, 206 n.53, 251 (1998) (stating that “[b]efore creation of the Federal Circuit, studies had found that only about 35% of litigated [utility] patents were held valid on average” but reporting that, during the period they studied, that percentage had risen to 54%); *id.* at 193 n.18 (criticizing a prior empirical study for, inter alia, “the inclusion of design patent decisions”). It would be odd to assume—as those who cite pre-Federal Circuit statistics seem to do—that a court that made so many changes to utility patent law would have made no changes to design patent law. For more on the Federal Circuit, its jurisdiction, and its jurisprudence, see *infra* Section II.B.1.

14. See Crouch, *supra* note 8, at 16 (testing the current understanding of USPTO prosecution standards).

15. See Torrance, *supra* note 8, at 399–400 (2012) (reporting rates at which the district courts and Federal Circuit found design patents invalid but not reporting the bases on which those designs were invalidated).

also add to recent work by David Schwartz and Xavier Giroud on design patent litigation in the district courts.¹⁶

Beyond updated empirical answers to old questions, we also ask important new questions. We look beyond district courts to consider two non-Article III tribunals that exert increasing influence over the validity of issued design patents. One is the USPTO Patent Trial and Appeal Board (PTAB). The PTAB is already the focus of a burgeoning body of scholarship on inter-branch dynamics including court-agency substitution,¹⁷ duplicative litigation,¹⁸ and the separation of powers¹⁹—but that scholarship is focused on utility patents,²⁰ not design patents.²¹

16. See Schwartz & Giroud, *supra* note 11, at 418 (describing the novel database of design patent infringement cases created for the article).

17. See generally Saurabh Vishnubhakat, Arti K. Rai & Jay P. Kesan, *Strategic Decision Making in Dual PTAB and District Court Proceedings*, 31 BERKELEY TECH. L.J. 45 (2016); Rochelle Cooper Dreyfuss, *Giving the Federal Circuit a Run for Its Money: Challenging Patents in the PTAB*, 91 NOTRE DAME L. REV. 235 (2015); Paul R. Gugliuzza, *(In)Valid Patents*, 92 NOTRE DAME L. REV. 271 (2016).

18. Saurabh Vishnubhakat, *Patent Inconsistency*, 97 IND. L.J. 59, 64 (forthcoming 2022).

19. Saurabh Vishnubhakat, *Disguised Patent Policymaking*, 76 WASH. & LEE L. REV. 1667, 1749–50 (2019).

20. For more on the types of patents granted by the United States, see *infra* notes 135–138 and accompanying text.

21. One exception is Sara Rose Bennett & Jonathan R.K. Stroud, *Unpatentability by Design: The Overlooked Use of Inter Partes and Post-Grant Review to Challenge Design Patents*, 97 J. PAT. & TRADEMARK OFF. SOC'Y 96, 102–03 (2015). Bennett and Stroud analyzed the eight design patent IPRs filed at that point. See *id.* That study did not include PGRs. See *id.* at 102 (“As of this Article’s submission, only five PGRs had been filed, neither on design patents.”). We believe that Amy Semet’s work-in-progress, will also cover design patents at the PTAB. See Amy Semet, *An Empirical Study Comparing Patent Validity Challenges at the Patent Trial and Appeal Board vs. the Federal District Courts* (unpublished manuscript), available at <http://www.ssrn.com/abstract=3730410>.

There have also been some published reports from practitioners about how design patents are faring at the PTAB. However, these reports generally do not explain the methodology behind the reported statistics. See, e.g., George D. Raynal, *IPR Invalidity Decisions Affirmed*, DESIGNLAW GRP. (July 8, 2019), <http://www.designlawgroup.com/2019/07/ipr-invalidity-decisions-affirmed> [<https://perma.cc/JX6X-H65L>] (reporting that, of the instituted design patent IPRs to date, “69% (11) resulted in finding the patented design invalid”); John Evans & John Froemming, *Design Patents at the PTAB?*, JONES DAY PTAB LITIG. BLOG (July 18, 2017), <https://www.ptablitigationblog.com/design-patents-ptab> (“As of July 2017, the PTAB has received 42 IPR and PGR petitions involving design patents, with an overall institution rate of around 40%. Eight design patent IPRs have led to final written decisions, with 6 determinations of unpatentability (75%).”). Some of these reports explicitly rely on non-public sources of data. E.g., Tracy-Gene Durkin, Pauline Pelletier, Daniel Gajewski & Deirdre Wells, *Design Patents Prove Successful on Enforcement*,

The other institution that we add to the mix is the U.S. International Trade Commission (ITC), whose salience in intellectual property law has grown substantially over the last two decades.²² This Article is the first to offer a systematic cross-institutional analysis of design patents, tying together the acquisition, enforcement, and revocation of these rights across the USPTO, the federal district courts, and the ITC. We conclude that the landscape of U.S. design patent rights is both less hostile and more complex than is suggested by the statistical caricatures that now pervade academic and policy discourse.

This Article proceeds in three parts. Part I reveals the origins of the three oft-repeated dire statistics about design patents. A systematic review of the literature shows that these statistics can be traced back to a small handful of studies whose influence has snowballed through a pattern of citation that has distorted the results along the way. The resulting myths, in turn, are used to support arguments in favor of the expansion of design protections. Part II puts these myths into context by explaining how design patents differ in important respects from utility patents, which take up most of the scholarly literature on the U.S. patent system. Part III turns the lens to the present and reveals a modern empirical perspective on acquiring design patents through USPTO examination and defending design patent validity from revocation across multiple tribunals. It also introduces related questions of enforcing design patents through infringement lawsuits and explores some normative implications arising from our findings. The Article concludes with a call for further research and policy debate.

I. THE DIRE STATISTICS

Although the dire statistics about design patents are widespread, the evidence supporting them is quite thin. Indeed, as the literature review discussed in this Part reveals, those statistics ultimately rest on a few outdated and dubious studies.

Defense, LAW360 (May 4, 2020, 12:36 PM), <http://www.law360.com/articles/1254579> (reporting various findings based on a “Sterne Kessler compilation of official statistics of the [USPTO] relating to the Patent Trial and Appeal Board from January 2017 to November 2019”).

22. See Sapna Kumar, *Expert Court, Expert Agency*, 44 U.C. DAVIS L. REV. 1547, 1551 (2011) (noting that the ITC had seen a dramatic increase in the number of patent cases filed there in the previous decade).

A. “Half of All Design Patent Applications Are Rejected”

The claim that half of all design patent applications are rejected can be traced back to a student note written by Richard Frenkel in 1999.²³ Frenkel cited a 1985 article by Thomas Lindgren for the proposition that design patent examiners reject applications “roughly half of the time.”²⁴ That reading was problematic for multiple reasons.

First, Lindgren did not actually say that design patent examiners reject applications “roughly half of the time.” Instead of describing the *success rate* for design patent applications, Lindgren compared the number of design patents granted over different time periods. He stated that, as of 1983:

[T]here have been a total of 271,983 design patents granted since the first design patent was granted to George Bruce for ‘Printing Type’ on November 9, 1842. Forty-eight percent of *those design patents* were granted during the first 100 years, and approximately fifty percent of *the total* have been granted during the past forty years.²⁵

In this passage, Lindgren was explaining that roughly half of all U.S. design patents issued since 1842 were granted just in the prior forty years, showing a convex growth function in the issuance of design patents.²⁶ Frenkel apparently mistook Lindgren’s statement to mean that over the prior forty years, only half of all design applications had been successfully granted as design patents.

The second problem was that, by the time of Frenkel’s article, Lindgren’s data was over fifteen years old. It also pre-dated the first substantive design patent decision by the Federal Circuit.²⁷ Nonetheless, Frenkel offered his empirical claim in the present tense, as if the trend were contemporary, and his assertion has been cited as if that were the case.²⁸

23. Richard G. Frenkel, Comment, *Intellectual Property in the Balance: Proposals for Improving Industrial Design Protection in the Post-TRIPS Era*, 32 LOY. L.A. L. REV. 531 (1999).

24. *Id.* at 555.

25. Lindgren, *supra* note 2, at 204 (emphasis added) (footnotes omitted).

26. *Id.* at 204–07.

27. Compare Frenkel, *supra* note 23, at 555 (published in 1999), with Lindgren, *supra* note 2, at 204–06 (published in 1985 and describing data only up through 1983).

28. See, e.g., Courtney Daniels, Note, *Made in America: Is the IDPPPA the Answer to the United States Fashion Industry’s Quest for Design Protection?*, 20 U. MIA. BUS. L. REV. 113, 131 n.132 (2011) (citing Frenkel, *supra* note 23, at 555, for the proposition that, in 1999, “only half of the submissions [i.e., design patent applications] were granted”).

One place where Frenkel's assertion shows up frequently is in the fashion law literature. One notable citation node in this area is a paper written by Harvard student Christine Magdo.²⁹ Though Magdo's paper was not formally published, it has been cited frequently—including for the proposition that approximately half of all design patent applications are rejected.³⁰

Indeed, the idea that half of all design patent applications are rejected during examination has become so entrenched in the conventional wisdom that some commentators have repeated it without any citation or support at all.³¹ This problem is especially acute with highly cited work by influential scholars.³² For example, in their 2006 article on innovation in fashion design, Kal Raustiala and Chris Sprigman stated—without citation but presumably relying on Frenkel—that “the United States Patent and Trademark Office rejects roughly half of all applications for design patents.”³³ Although the point was not especially important to their thesis, the influence of their paper made it a major node in the network of subsequent citations.³⁴

The third problem with Frenkel's analysis is that it elides two deeper questions: (1) How should we measure rates of success? and (2) What

29. See Christine Magdo, *Protecting Works of Fashion from Design Piracy* (2000) (unpublished comment). Magdo's paper does not appear to still be available at the oft-cited URL; however, as of July 30, 2021, it was archived at <https://web.archive.org/web/20110924191131/http://leda.law.harvard.edu/leda/data/36/MAGDO.rtf>. For pincites, this Article will cite to the pagination in the RTF version, as shown when the document is opened in Microsoft Word (file on copy with the authors).

30. See, e.g., Irene Tan, Note, *Knock It Off, Forever 21! The Fashion Industry's Battle Against Design Piracy*, 18 J.L. & Pol'y 893, 905 (2010) (citing Magdo, *supra* note 29, at 7) (stating that “almost half of those [design patent] applications get rejected”).

31. See, e.g., Beltrametti, *supra* note 3, at 156 (arguing, without citation, that “most luxury fashion-houses still do not have any design patents as the overall process is too cumbersome and the prospects of protection are too uncertain given that the USPTO rejects roughly half of the applications that are filed”); see also Scafidi, *supra* note 4, at 122 (suggesting, without citation, that the substantive requirements of design patentability are very difficult for fashion designs to satisfy).

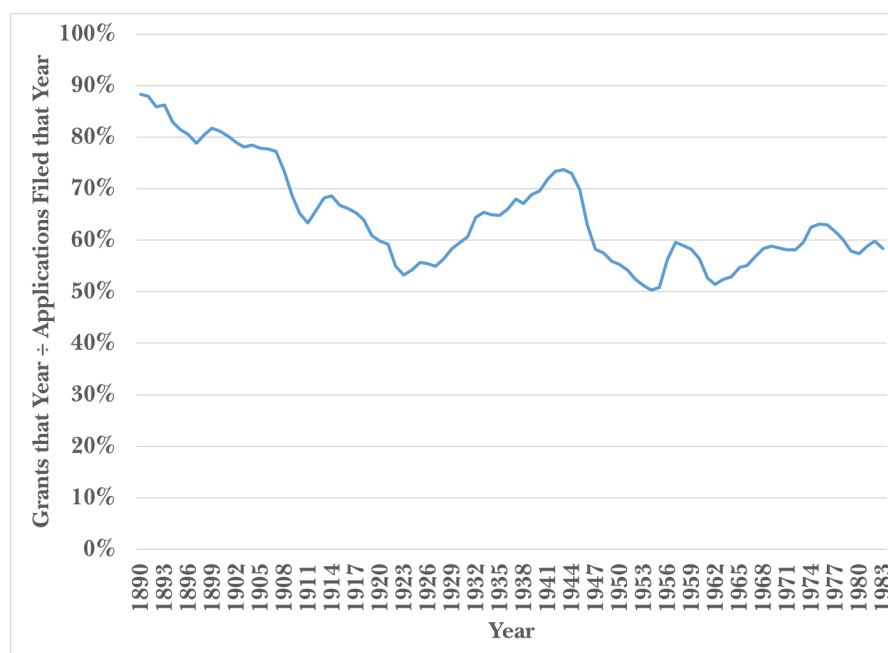
32. See, e.g., Raustiala & Sprigman, *supra* note 1, at 1704–05.

33. *Id.* at 1705.

34. See, e.g., Jacqueline D. Lipton, *To © or Not to ©? Copyright and Innovation in the Digital Typeface Industry*, 43 U.C. DAVIS L. REV. 143, 181 n.181 (2009); Whitney Potter, Comment, *Intellectual Property's Fashion Faux Pas: A Critical Look at the Lack of Protection Afforded Apparel Design Under the Current Legal Regime*, 16 INTELL. PROP. L. BULL. 69, 76 (2011); Irina Oberman Khagi, *Who's Afraid of Forever 21?: Combating Copycatting Through Extralegal Enforcement of Moral Rights in Fashion Designs*, 27 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 67, 93 n.130 (2016).

rate is optimal? For example, the data Lindgren reported, which he had obtained from the Department of Commerce Office of Technology Assessment and Forecast, did contain both the number of design patent applications filed and the number of design patents actually issued each year from 1842 through 1983.³⁵ One might measure patenting success as the number of patents granted in, say, a ten-year period divided by the number of applications filed during the same period. This smoothed time trend reveals a “success rate” that fluctuates from as low as 50% to as high as 70% or more.

*Figure 1: One Measure of Success in Design Applications
(Ten-Year Moving Averages, 1890–1983)³⁶*



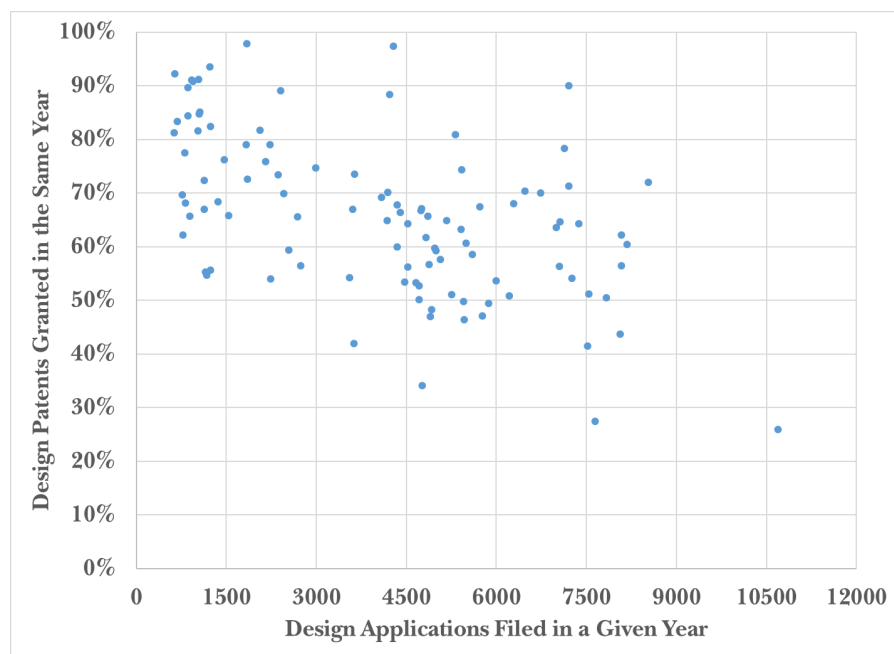
Alternatively, one might measure patenting success independently of time. The rate of success could be taken as the design patents granted in a given year as a share of applications filed in the same year (as before), but now as a function of the number of applications filed (rather than a function of time). This measure shows a roughly

35. Lindgren, *supra* note 2, at 204–06.

36. *U.S. Patent Activity*, *supra* note 9.

decreasing trend in Figure 2, suggesting that as the volume of applications has risen, the share that successfully emerge as issued patents has declined.

*Figure 2: Another Measure of Success in Design Applications
(1880–1983)³⁷*



Even these simple measures, of course, present immediate problems apart from their basis in decades-old data. For example, the total examination pendency of design applications is shorter than that of utility applications but is still on the order of 1.5–2 years.³⁸ Meanwhile, the backlog of unexamined applications now stands at over 66,000 applications as of February 2022.³⁹ Thus, it is unlikely that a design application filed in a given year will be granted (or conclusively

37. *Id.*

38. *Design Data February 2022*, U.S. PAT. & TRADEMARK OFF., <https://www.uspto.gov/dashboard/patents/design.html> (last visited Apr. 12, 2022) [hereinafter *Design Dashboard*] (showing an average time of 16.5 months to first office action and 20.7 months total average pendency).

39. *Id.*

rejected) in the same year, making same-year proportions a poorly conceived measure.

A more meaningful place to start, if the data were available, would be tracking the grant rate of a cohort of design patent applications all filed in the same year.⁴⁰ This would, in essence, be a form of survival analysis, which is used increasingly in examining legal process outcomes in institutions that adjudicate large numbers of applications, petitions, or any other type of case.⁴¹ Whether and how long it would take to reach one of the two main possible outcomes (eventual grant or eventual failure) could be assessed as a function of various institutional explanatory variables to reveal the likelihood of either outcome.⁴²

However, it is not currently possible to collect this information. While utility patent applications are published eighteen months after filing, regular design patent applications are exempt from this requirement.⁴³ A regular design patent application and its file wrapper are generally held as confidential unless and until that application matures into an issued design patent.⁴⁴ Hague applications, which are published by World Intellectual Property Organization (WIPO) before they are examined by the USPTO, are not held as confidential.⁴⁵

40. Cf. Christopher A. Cotropia, Cecil D. Quillen, Jr. & Ogden H. Webster, *Patent Applications and the Performance of the U.S. Patent and Trademark Office*, 23 FED. CIR. B.J. 179 (2013) (constructing these measures for utility patent applications).

41. See generally Alan C. Marco & Saurabh Vishnubhakat, *Survival Analysis in Intellectual Property Research*, in HANDBOOK OF INTELLECTUAL PROPERTY RESEARCH: LENSES, METHODS, AND PERSPECTIVES 523 (Irene Calboli & Maria Lillà Montagnani, eds., 2021).

42. We note that a patent application might “fail,” as we are using the term, in one of two ways. It might receive a final rejection, or it may be abandoned. In either case, no patent will be granted.

43. 35 U.S.C. § 122(b)(2)(A)(iv) (excluding regularly-filed design patent applications from the general publication requirement).

44. It appears that there may be one or more exceptions. However, we have been unable to find a definitive answer on this point.

45. Geneva Act of the Hague Agreement Concerning the International Registration of Industrial Designs, art. 10(3)(a), July 2, 1999, <https://wipo.int/wipolex/en/text/285214> (“The international registration shall be published by the International Bureau.”); see also 35 U.S.C. § 390 (noting that Hague system applications are published “under the treaty”); Trevor K. Copeland & Daniel A. Parrish, *International Design Patent Filing Considerations After U.S. Entry into the Hague Agreement*, 16 ENGAGE: J. FEDERALIST SOC’Y PRAC. GRPS. 62 (2015) (“WIPO will publish Hague Agreement design applications, including those designating the U.S., following its formalities examination (typically six months after registration)”).

However, because substantive and procedural rules for designs are not harmonized⁴⁶ and because those preparing Hague applications might not be focused on the specific requirements of the United States, it is likely that they will receive more—or, at least, different—rejections than regular applications.⁴⁷ So while we could review rejected Hague applications, they are likely not representative of U.S. design patent applications as a whole.

Finally, the literature reveals no principled defense nor even any sustained discussion of what the optimal success rate of design patent applications might be. Even if the grant rate really were 50%, that does

46. There is, for example, great variation in the rules for visual representations of designs. In Australia, shading is allowed, but not required. IP AUSTRALIA, DESIGNS EXAMINERS' MANUAL OF PRACTICE AND PROCEDURE (2003 Act), § 14.5(c) (May 18, 2016) ("Shading is commonly used to indicate curved surfaces, and is quite acceptable."). In the United States, surface shading is required "to distinguish between any open and solid areas of the article." U.S. DEP'T OF COM., PAT. & TRADEMARK OFF., MANUAL OF PATENT EXAMINING PROCEDURE ¶ 15.48.II (9th ed. Rev. 10.2019, June 2020) [hereinafter MPEP]. And it may be required to show the contours of a three-dimensional design. *Id.* ("[S]urface shading . . . may be necessary in particular cases . . . to show clearly the character and contour of all surfaces of any 3-dimensional aspects of the design."); 37 C.F.R. § 1.152 ("Appropriate and adequate surface shading should be used to show the character or contour of the surfaces represented."). Indeed, the rules for visual representations vary so widely that some have expressed doubt that it is even possible to draft a Hague application that would be accepted in every member jurisdiction. Charles Rauch, *Hague to Break It to You: International Design Applications Are Not a Silver Bullet for Multijurisdictional Protection*, HODGSON RUSS INTELL. PROP. & TECH. ALERT (May 13, 2015), <https://www.hodgsonruss.com/newsroom-publications-hague-agreement-design-patents.html> [<https://perma.cc/KTX5-86TE>] ("[D]rawing requirements vary remarkably among jurisdictions Thus, from a practical standpoint, a single international design application cannot be prepared to comply with the local rules of all Hague members."); see also Elizabeth D. Ferrill, *Understanding the Hague: Should We Hug It or Hate It?*, FULL DISCLOSURE (June 2015), https://www.finnegan.com/files/Upload/Newsletters/Full_Disclosure/2015/June/FullDisclosure_June15_4.html [<https://perma.cc/GT9T-5JQV>] (explaining the difficulty in "[c]rafting a single set of figures for an international design application for Hague filings" that meet the differing requirements of the various participating countries).

47. At least one practitioner has asserted that this is exactly what is happening. Axel Nix, *US Design Applications Based on Hague Agreement: 80% Failure Rate*, SMARTPAT BLOG (Jan. 15, 2018), <http://www.smartpat.us/us-design-patent-hague-agreement> [<https://perma.cc/H5F2-ND5Y>] (showing that the allowance rate for such applications is 66%, which is meaningfully lower than the 84% allowance rate for regular design patent applications); Chad Gilles, *Design Patent Rejections—Update (Part 2)*, BIG PAT. DATA (Aug. 19, 2019), <https://www.bigpatentdata.com/2019/08/design-patent-rejections-update-part-2> [<https://perma.cc/Y6MY-98E2>]. Nix, however, did not provide a clear methodology, so we cannot confirm whether the data is correct.

not—in and of itself—mean that any reforms are necessary. Rejections per se are not a problem. If, for example, applicants are filing a lot of bad applications, there should be lots of rejections. The relevant question is *what* is getting rejected, not how much.

Ultimately, the suggestion that the USPTO rejects too many design patent applications is empirically unsupported. And the lack of any theory for the optimal success rate of design patent applications makes such concerns ring especially hollow.

B. “Most Asserted Design Patents Are Invalidated in Litigation”

Similarly hollow are claims that courts invalidate “most” design patents in litigation. This statistic is sometimes specified at roughly 70% and, at other times, presented informally as “over two-thirds.” The large majority of these assertions can be traced—directly or indirectly—to three studies of design patent litigation.⁴⁸ One is a 1953 article by Raymond Walter.⁴⁹ Another is a 1979 study by the USPTO

48. A smaller yet not insignificant number of cites for a similar proposition can be traced back to a 1993 ABA CLE course material written by Lawrence E. Evans, Jr. See Lawrence E. Evans, Jr., *Design Patents*, C805 A.L.I.-A.B.A. 85, 104 (Apr. 30, 1993). In those materials, Evans stated that “[d]uring the last six years, a majority of litigated design patents have been held valid.” *Id.* This assertion appears to be based on the “survey of design patent litigation” found in Appendix A of Evans’ materials. See *id.* at app. A. That appendix shows the results from 56 cases decided between 1987 and 1992. *Id.* It does not indicate how the cases were collected. It is not clear whether these were all the cases Evans found during this time period or if they are some subset thereof. Nonetheless, Frenkel cited Evans’s report, via a student note written by Steven A. Church, for the proposition that “courts often find design patents invalid.” Frenkel, *supra* note 23, at 555 n.169 (citing Steven A. Church, Note, *The Weakening of the Presumption of Validity for Design Patents: Continued Confusion Under the Functionality and Matter of Concern Doctrines*, 30 IND. L. REV. 499, 501 n.11–12 (1997)) (referring to “a study of design patent litigation from 1987–1993”); see also Church, *supra*, at 501 n.11 (citing Evans, *supra*, at 104). Magdo cited Frenkel for this proposition and was cited by others for it as well. See Magdo, *supra* note 29, at 7 (citing Frenkel, *supra* note 23, at 555); Emily S. Day, Comment, *Double-Edged Scissor: Legal Protection for Fashion Design*, 86 N.C. L. REV. 237, 251 (2007) (alteration in original) (quoting Magdo, *supra* note 29, at 7) (“The courts have displayed hostility toward design patents for fashion works even if designers achieve approval in the Patent and Trademark Office, as the ‘courts often [either] find design patents invalid [or,] even if the design patent is deemed valid, patent infringement is found in only about half the cases brought to court.’”).

49. Raymond L. Walter, *A Ten Year Survey of Design Patent Litigation*, 35 J. PAT. & TRADEMARK OFF. SOC’Y 389 (1953).

itself.⁵⁰ The third and most recent is the aforementioned 1985 article by Thomas Lindgren.⁵¹

1. *Walter*

Walter's 1953 article was small but influential, at least in part because Walter's study was apparently the first systematic attempt to collect and report empirical data about design patent litigation.⁵² The key empirical claim itself arose from Walter's review of design patent litigation outcomes from the 1942 to 1951 period. Canvassing cases reported in the United States Patents Quarterly during that ten-year period, Walter found that "more than three times as many design patents were found invalid than were judged to be good."⁵³ Specifically, he found that 205 design patents were adjudicated in that period, that validity was decided in 48 cases, and that the design patent was ruled invalid in 37 of those 48, or 77.1%.⁵⁴

This apparently high rate of invalidation has been cited by those who diagnose the design patent system with a variety of ills. Some argue that it is proof of unduly stringent legal standards for design patent validity, repeating *ex post* in the courts the same hostile filter that was applied *ex ante* during USPTO examination. Some also argue that the legal presumption of validity to which patents are entitled is being systemically weakened and even that design patents are the victims of outright judicial hostility.

However, the data of his study is (and has been) long outdated. It came decades before the creation in 1982 of the Federal Circuit.⁵⁵ Indeed, it pre-dates even the enactment of the 1952 Patent Act,⁵⁶ the codification of modern U.S. patent law.⁵⁷ Yet in spite of its age, commentators cited the Walter study as if its data remained empirically representative long after it was published. This continued into the

50. U.S. PAT. & TRADEMARK OFF., STUDY OF COURT DETERMINATIONS OF PATENT VALIDITY/INVALIDITY, 1973-77, 990 OFF. GAZ. 129 (Jan. 1, 1980) [hereinafter 1979 USPTO STUDY]. The USPTO did at least one similar prior study in 1973. *See id.* (citing 144 PAT., TRADEMARK & COPYRIGHT J. at F-1 (Sept. 13, 1973)).

51. *See* Lindgren, *supra* note 2.

52. *See* Evans, *supra* note 48, at 100 (describing Walter's survey covering the 1942-1951 time period as "[t]he first comprehensive study of design patent litigation").

53. Walter, *supra* note 49, at 389 (emphasis omitted).

54. *Id.* at 390.

55. Federal Courts Improvement Act of 1982, Pub. L. No. 97-164, § 101, 96 Stat. 25, (codified as amended at 28 U.S.C. §§ 1291-1295).

56. Pub. L. No. 82-593, 66 Stat. 792 (codified as amended at 35 U.S.C. §§ 1-376).

57. *Id.*

1970s (when the court invalidation rate was framed as “approximately 70 percent”)⁵⁸ and even into the 1990s (when the court invalidation rate was reframed as “at least two-thirds”).⁵⁹

Walter’s assessment of the case law is also questionable. Walter opined that “much of the recent design patent invalidity has been caused by new pronouncements of standards of invention from the Supreme Court,” referring specifically to the decisions in *Great Atlantic & Pacific Tea Co. v. Supermarket Equipment Corp.*⁶⁰ as well as *Cuno Engineering Corp. v. Automatic Devices Corp.*⁶¹ In Walter’s telling, the latter case in particular “had a great effect on ultimate design patent law.”⁶²

As the Supreme Court explained in its 1966 *Graham v. John Deere Co. of Kansas City*⁶³ decision, the legal standard for “inventiveness” (a term that was itself deprecated in favor of the modern notion of “nonobviousness”) had abrogated past cases that required a “flash of creative genius.”⁶⁴ Yet Walter held up one of the “creative genius” cases that the 1952 Act abrogated, *Cuno Engineering*, as if it were a continuing touchstone of patent law.

2. USPTO study

Other assertions about the high invalidity rate of design patents challenged in litigation can be traced back to a 1979 study by the USPTO. In that study, the USPTO published “a summary of the past five years (1973–1977, inclusive) of patent litigation in the Courts of

58. See, e.g., Robert C. Dorr, *Patents: A Broad View of a Limited Subject*, 4 COLO. LAW. 1485, 1490 (1975) (citing Walter, *supra* note 49) (“[D]esign patents afford limited protection and when such patents are enforced by the patent holder, the courts have been rendering approximately 70 percent of them invalid.”).

59. See, e.g., Phillip W. Snyder, *Typeface Design After the Desktop Revolution: A New Case for Legal Protection*, 16 COLUM.-VLAJ.L. & ARTS 97, 137 (1991) (citing Walter, *supra* note 49); see also Church, *supra* note 48, at 500 (citing Walter, *supra* note 49 and invoking his original statistic of a 77% court invalidation rate).

60. 340 U.S. 147 (1950).

61. 314 U.S. 84 (1941); Walter, *supra* note 49, at 394–95.

62. Walter, *supra* note 49, at 394.

63. 383 U.S. 1 (1966).

64. See *id.* at 15 (finding it “apparent that Congress intended by the last sentence of § 103 [of the patent statute] to abolish the test it believed this Court announced in the controversial phrase ‘flash of creative genius,’ used in *Cuno Corp.*”) (citation omitted); Robert C. Denicola, *Applied Art and Industrial Design: A Suggested Approach to Copyright in Useful Articles*, 67 MINN. L. REV. 707, 712–14 n.30 (1983).

Appeals, District Courts, and Court of Claims.”⁶⁵ Specifically, the USPTO gathered information “from the compiled notices filed in the Patent and Trademark Office by clerks of courts under the provisions of 35 U.S.C. 290, and from the reported decisions appearing in the *United States Patent Quarterly*, *Federal Second* and *Federal Supplement*.”⁶⁶ The USPTO noted that “[m]ethods of calculation of validity data vary” and stated that:

In this study, the validity or invalidity of a given patent has been determined by tabulating the result of decision of the highest court in which the litigation was conducted and such holdings were made. Where two or more courts concurred in holding the same patent valid or invalid, that patent was counted as valid or invalid only once. In the rare instances where conflicting decisions on validity by coordinate tribunals have occurred, the patent was counted as invalid.⁶⁷

The USPTO study acknowledged the difficulty of deciding the proper way to calculate a “rate of patent validity” and stated that it would do so by calculating the “percentage of those litigated patents having a holding of validity or invalidity.”⁶⁸

The USPTO’s study included a total of twenty-eight design patent cases where there was “a holding of validity or invalidity.”⁶⁹ It found that the courts held the patent invalid in nineteen cases.⁷⁰ More granularly, the study stated that the design patent was held invalid in four of six cases from the court of appeals (67% invalid) and in fifteen out of twenty-two in the district courts (68% invalid).⁷¹

Like the Walter study, the USPTO study looked only to pre-Federal Circuit era cases. Yet the study was cited well into the Federal Circuit era. For example, a decade later, Jay Dratler suggested that “even

65. 1979 USPTO STUDY, *supra* note 50, at 129 (internal parentheses omitted). The USPTO did at least one similar prior study in 1973. *See id.* (citing 144 PATENT, TRADEMARK & COPYRIGHT JOURNAL at F-1 (Sept. 13, 1973)).

66. *Id.*

67. *Id.* at 129–30.

68. *Id.* at 130. Alternately, the USPTO noted that it might have calculated the validity rate “as a percentage of total patents litigated or only as a percentage of those litigated patents having a holding of validity or invalidity.” *Id.*

69. *See id.* at 129–30.

70. *See id.* at 129.

71. *Id.* This data was presented alongside the results of an earlier study of cases from 1968 to 1972, which found eight out of eight appellate cases found the design patent invalid (100%) and nine out of twenty-six district court cases found the design patent invalid (35%), for a 50% invalidity rate overall. *See id.*

though the odd design of extraordinary merit may receive a design patent, in the past studies have shown that at least two-thirds of issued design patents prove useless in litigation.”⁷² Dratler acknowledged that it was a “past study,” but still used the USPTO findings to bolster his argument about the supposed inefficacy of design patents in 1988.

Robert Denicola also cited the USPTO in his influential 1983 paper on useful articles, lamenting “that an astonishing 68% of design patents challenged in federal courts during the period from 1973 to 1977 were held invalid.”⁷³ Denicola, too, offered a caveat that “the sample produced by decisions to contest validity is undoubtedly biased toward questionable patents.”⁷⁴ Still, he concluded that “the statistics clearly justify the ill repute generally attached to design patent law.”⁷⁵

The damage, moreover, was not limited to academic debate. The study influenced policy makers and judges as well. For example, the USPTO study was apparently what Representative Moorhead was referring to when he spoke in support of various design copyright bills during the late 1980s. In a 1987 floor speech, he averred that “[d]ecade after decade the litigation track record has been abysmal with three out of every four design patents struck down as invalid.”⁷⁶ He did so again in 1989 and 1991, asserting that a “recent study of cases reported from 1975 through 1986 showed that only 42 percent of the litigated design patents were held valid.”⁷⁷

A contemporaneous scholarly note by Brett Sylvester connected Moorhead’s comments with the USPTO study,⁷⁸ observing that “[t]he sponsor of the design legislation . . . noted in his introductory remarks that design patents have typically suffered a seventy percent mortality rate in the courts.”⁷⁹ According to Sylvester, that figure was derived from the USPTO study discussed above.⁸⁰

72. Dratler, *supra* note 4, at 893 (citing, inter alia, 1979 USPTO STUDY, *supra* note 50, at 129).

73. Denicola, *supra* note 64, at 714 n.30.

74. *Id.*

75. *Id.* (citing 1979 USPTO STUDY, *supra* note 50, at 129).

76. 133 CONG. REC. E49 (daily ed. Jan. 7, 1987) (statement of Rep. Carlos J. Moorhead of California) [hereinafter 1987 STATEMENT].

77. 135 CONG. REC. 25,310 (1989) (statement of Rep. Moorhead); 137 CONG. REC. 8250 (1991) (statement of Rep. Moorhead).

78. See Brett S. Sylvester, Comment, *The Future of Design Protection in the United States: An Analysis of the Proposed Domestic System in View of Recent Developments in the United Kingdom, New Zealand, and Australia*, 20 J. MARSHALL L. REV. 261, 267 n.33 (1986).

79. *Id.* (citing 1987 STATEMENT, *supra* note 76).

80. *Id.* (citing 1979 USPTO STUDY, *supra* note 50, at 129).

Similarly, though the numbers are not a perfect match, the USPTO study may also be what the Commissioner of Patents and Trademarks, Gerald J. Mossinghoff, was referring to in 1981 when he told the American Bar Association's Section of Patent, Trademark and Copyright Law that "over 70%" of design patents "are held invalid" in litigation.⁸¹ Commissioner Mossinghoff stated that this "high percentage" of invalidation was one reason why the administration was "pursuing an alternative to design patent protection."⁸² Commissioner Mossinghoff's view of *why* this invalidation rate had allegedly grown so high was that "the concept of unobviousness is not well suited to ornamental designs."⁸³ Judge Giles Rich also alluded to comments by "the Commissioner" when he asserted—in his famous concurring opinion in the § 103 case *In re Nalbandian*⁸⁴—that design patents "suffer a 70% mortality rate in the courts."⁸⁵ Therefore, the USPTO study may be the ultimate source of that statistical assertion as well.

3. *Lindgren*

The most lasting influence—and the most grim of the statistics—about design patent validity in litigation comes from a 1985 article by Thomas Lindgren. Lindgren reported the results of a study that he had conducted on a small set of design patent cases decided during the period of April 1964 to December 1983.⁸⁶ Importantly, though the Lindgren study was published three years after the creation of the Federal Circuit, it is still properly understood as reflecting pre-Federal Circuit data. Lindgren's study does include some district court cases decided after the *creation* of the Federal Circuit. However, the Federal

81. Gerald J. Mossinghoff, *Luncheon Address*, 1981 A.B.A. SEC. PAT. TRADEMARK & COPYRIGHT L. PROC. 85, 90 (1981).

82. *Id.* ("[W]e are again urging enactment of an inexpensive and effective form of registration protection for designs and, specifically, we are supporting H.R. 20, introduced by Congressman Railsback last January. One reason we are pursuing an alternative to design patent protection is the high percentage—over 70%—of the design patents that are held invalid, largely because the concept of unobviousness is not well suited to ornamental designs.").

83. *Id.*

84. 661 F.2d 1214 (C.C.P.A. 1981).

85. *Id.* at 1219 (Rich, J., concurring) (exhorting the bar "to devote its energies to backing this effort of the PTO [to reform design law] rather than pursuing appeals such as these which may sometimes result in patents to 'extraordinary' designers whose patents, as the Commissioner also pointed out, may then suffer a 70% mortality rate in the courts at the hands of judges reviewing the § 103 unobviousness of the designs").

86. Lindgren, *supra* note 2, at 209.

Circuit did not issue its first published decision on an issue of design patent law, *In re Salmon*, until April 1983.⁸⁷ That case, which dealt with an issue of priority under 35 U.S.C. § 112 and § 120, is unlikely to have had any significant impact—if it had any impact at all—on the validity cases Lindgren focused on.⁸⁸ Indeed, Lindgren did not even mention it in his study.⁸⁹

During his review period, Lindgren found “approximately 250 cases involving both patent infringement and design patents.”⁹⁰ By its own terms, the study included all of the cases from April 1964 through December 1983 that involved claims of design patent infringement or claims seeking a declaratory judgment that a design patent was invalid “and in which a final adjudication was rendered.”⁹¹

Lindgren then narrowed those down “to about 130 cases, which were studied in detail.”⁹² The precise number appears to be 124.⁹³ The study did not specify how or why Lindgren selected those cases to study in detail.⁹⁴

Lindgren admitted that his “sample size suffer[ed] from inadequate parameters, as defined by the laws of quantitative methods” but nevertheless suggested that his data still “provides the practicing Patent Bar with an insight into the true value of design patents to protect the fruit of their clients’ inventions.”⁹⁵

87. 705 F.2d 1579, 1579 (Fed. Cir. 1983).

88. *In re Salmon*, 705 F.2d at 1579. The sole issue on appeal in *Salmon* was whether the application was entitled to the benefit of an earlier-filed application under 35 U.S.C. §§ 112 and 120. *Id.* at 1580. That issue turned on whether the “the stool design claimed in the second application [was] the same design disclosed in the parent application.” *Id.* at 1581. Although the ultimate issue was whether the claimed design was obvious, the court did not make any substantive rulings on that issue. *See id.* at 1580 (“The appellants do not challenge the Board’s determination that the round-seated stool would have been obvious in light of The New Yorker advertisement for the square-seated stool and the prior Dieter reference. The sole question before us is whether the appellants are entitled to the benefit of the earlier filing date of the parent application, so that their application would be treated as antedating the references upon which the Board relied in denying the reissue application as obvious.”).

89. *See* Lindgren, *supra* note 2, at Appx. II tbl.B-0.

90. *Id.* at 199.

91. *See id.* at 209 (referring to Table B-0 (Appendix II), shown on page 261 of Lindgren’s article).

92. *Id.*

93. *See id.* at 261 tbl.B-0.

94. *See id.* (mentioning how 130 cases were selected but not discussing why the study specifically chose them).

95. *Id.* at 199.

In the 124 cases Lindgren studied, he found that courts invalidated the design patent in about 70% of these cases⁹⁶ and that design patents were only adjudicated valid and infringed 10% of the time.⁹⁷ Lindgren attributed these numbers to two factors. One was a supposed “[e]maciation of the [p]resumption of [v]alidity” that patents enjoy by statute.⁹⁸ The other was a perceived judicial hostility toward design patents, opining that the “Second and Seventh Circuits appear to be adverse to enforcement of design patents.”⁹⁹

Importantly, Lindgren did specify his baseline assumption regarding judicial findings as to design patent validity or invalidity. He argued that “[i]f random forces were operating, one could expect a 50–50% distribution of events relative to the issues of design patent validity and the incidence of infringement of valid design patents.”¹⁰⁰ Indeed, a cardinal aim of his study was to “demonstrate that random forces have not been at work during the past twenty years.”¹⁰¹

In this regard, the framework within which Lindgren was operating echoed a then-contemporary and controversial—though ultimately quite influential—model first proposed by George Priest and Benjamin Klein in 1984.¹⁰² The Priest-Klein model holds generally that the rate at which plaintiffs will win at trial depends on (1) the legal standard of decision, (2) the uncertainty that parties face in estimating the relative strength of their arguments, and (3) the divergent stakes that parties themselves bring to disputes.¹⁰³ The most familiar upshot of this model is the prediction that the plaintiff win rate will be 50%.¹⁰⁴

Assuming that Lindgren relied on Priest and Klein,¹⁰⁵ his normative baseline suffers from at least two important defects. First, it seems true

96. *Id.* at 209 (“In seven out of ten cases, the final adjudication will conclude that the underlying design patent is invalid on various legal grounds.”).

97. *Id.* at 261 (“[O]verall there were only thirteen instances (10%) holding infringement of a valid design patent.”).

98. *See id.* at 240.

99. *Id.* at 258.

100. *Id.* at 199.

101. *Id.*

102. *See generally* George L. Priest & Benjamin Klein, *The Selection of Disputes for Litigation*, 13 J. LEGAL STUD. 1 (1984).

103. *Id.* at 4–5.

104. *Id.* at 5.

105. Of course, if Lindgren did not in fact rely on Priest and Klein, then the selection effects that pervade litigation make it difficult indeed to see why he would be at all justified in assuming a 50-50 split in judicial findings about validity and infringement.

that fuller information over the course of litigation tends to lead to pre-trial settlement, generally leaving only truly close cases for resolution at trial. However, this ignores that the predicted plaintiff win rate of 50% is a limiting case and that the model predicts not only plaintiff win rate but also the rate at which cases will actually reach trial.¹⁰⁶ The population-wide rate at which plaintiffs *would* win may well be (and frequently is) higher or lower than 50%.¹⁰⁷ However, as the litigation rate declines, selection effects become stronger, and *this* is what biases the plaintiff win rate more acutely toward 50%.¹⁰⁸ The Lindgren study takes no apparent account of these technical conditions in assuming a 50-50 distribution of outcomes.

The other defect in Lindgren's framework is that, to the extent he is applying the Priest-Klein model, he applies it only to specific issues within design patent litigation (validity and infringement) rather the entire disputes. This extension of the framework to individual issues is flawed, as Jason Rantanen has shown.¹⁰⁹ The outcomes of disputes in patent law "involve multiple issues, all of which the patent holder must generally win to prevail."¹¹⁰ As a result, the plaintiff win rate of 50% that the Priest-Klein model would predict could come about from a wide array of combined relative likelihoods of success on individual issues.¹¹¹

Still, for all its analytical shortcomings and outdated data, the Lindgren study has helped shape the design patent literature to a degree that is difficult to overstate. As with the few other studies in this space, Lindgren was cited both directly and, later, indirectly. For example, Ralph Brown's leading article on design protection asserted in 1987 that "seven times out of ten your patent will be held invalid,"

106. A number of scholars have made this point in clarifying the Priest-Klein model. See, e.g., Peter Siegelman & Joel Waldfogel, *Toward a Taxonomy of Disputes: New Evidence Through the Prism of the Priest/Klein Model*, 28 J. LEGAL STUD. 101 (1999).

107. See Alan C. Marco & Kieran Walsh, *Bargaining in the Shadow of Precedent: Asymmetric Stakes Revisited* (Working Paper, 2007), <http://www.ssrn.com/abstract=944999>.

108. *Id.* at 1.

109. See generally Jason Rantanen, *Why Priest-Klein Cannot Apply to Individual Issues in Patent Cases* (U. Iowa Legal Stud., Research Paper No. 12-15, 2013), <http://www.ssrn.com/abstract=2132810>.

110. *Id.* at 3; see also Mark A. Lemley, *The Fractioning of Patent Law*, in INTELLECTUAL PROPERTY AND THE COMMON LAW (Shyamkrishna Balganesh, ed., 2012).

111. See Rantanen, *supra* note 109, at 4–5.

relying on Lindgren.¹¹² Brown, in turn, was widely cited by others,¹¹³ including other influential scholars such as Keith Aoki¹¹⁴ and Shira Perlmutter.¹¹⁵ Brown's article was also cited—along with Lindgren's—by the Supreme Court in *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*¹¹⁶ Although the Court did not cite either of these articles specifically for their empirical assertions, these citations do lend prestige and credence to the articles.¹¹⁷

Lindgren's data continues to be cited as if it were still representative of contemporary design law and practice.¹¹⁸ A prominent example is Marshall Leaffer's leading copyright hornbook, which, in its latest

112. Ralph S. Brown, *Design Protection: An Overview*, 34 UCLA L. REV. 1341, 1356 (1987) (citing Lindgren, *supra* note 2, at 261).

113. See, e.g., Gayle Coleman, Comment, *The Protection of Useful Articles and the Elusive Concept of Conceptual Separability*: *Brandir International Inc. v. Cascade Pacific Lumber Co.*, 13 NOVA L. REV. 1417, 1419 n.11 (1989) (citing Brown, *supra* note 112, at 1356–57).

114. See Keith Aoki, *Contradiction and Context in American Copyright Law*, 9 CARDOZO ARTS & ENT. L.J. 303, 349 (1991) (arguing that “even if one managed to secure a design patent, . . . the patent would be found invalid by the court”) (citing Brown, *supra* note 112, at 1355–59).

115. See Shira Perlmutter, *Conceptual Separability and Copyright in the Design of Useful Articles*, 37 J. COPYRIGHT SOC'Y U.S.A. 339, 339 n.3 (1990) (arguing that “even if a patent issues, there is a significant chance it may be held invalid in any subsequent litigation”) (citing Brown, *supra* note 112, at 1356–57).

116. 489 U.S. 141, 167 (1989) (“Congress has considered extending various forms of limited protection to industrial design either through the copyright laws or by relaxing the restrictions on the availability of design patents.”) (citing Brown, *supra* note 112); *id.* at 167–68 (“Congress explicitly refused to take this step in the copyright laws, . . . and despite sustained criticism for a number of years, it has declined to alter the patent protections presently available for industrial design.”) (citing, *among others*, Lindgren).

117. Similarly, it is notable that Moy's Walker on Patents cites both Lindgren and Frenkel in its (very short) section on design patents. See R. CARL MOY, 1 MOY'S WALKER ON PATENTS § 5:46 (4th ed.) (Dec. 2020 update). Though the treatise does not repeat the dire statistics, it does give these sources visibility, which is notable since Frenkel's piece is the most recently published article in that section. See *id.* at n.1 (citing Lindgren as one “see generally” citation for the proposition that “[a]long with utility patents, the United States also grants patents for designs”); *id.* at n.18 (citing Frenkel as one “see, e.g.,” cite for the proposition that “[t]he system of design patents in the United States actually parallels systems of design registration in foreign countries, patenting of designs being idiosyncratic to the United States”).

118. See, e.g., Muhlstein & Wilkinson, *supra* note 2, at 37 (claiming “the statistics show that at least two-thirds of issued design patents are struck down as invalid in litigation”) (citing Lindgren, *supra* note 2, at 208).

edition, cites Lindgren for the proposition that “design patents are often declared invalid when challenged in federal court.”¹¹⁹

C. “*Most Litigated Design Patents Are Not Found Infringed*”

This empirical assertion and its variants can also be traced back to Lindgren. When it came to infringement outcomes, Lindgren seemed particularly interested in the question of how design patents fared when they were asserted alongside utility patents.¹²⁰ Therefore, he reported his findings on infringement as follows:

In little more than half the cases, the litigation involved both utility patents and design patents, with no noticeable increase in expected favorable results (from the viewpoint of the patentee), and there appears to be only about a two percent expectation that the design patent will be held to be valid and infringed in such circumstances (in fact, it appears that infringement is determined in approximately ten percent of the cases involving only a single design patent, so that a patentee actually reduces his chances of success by the introduction of a utility patent into the design patent infringement cause of action . . .).¹²¹

These conclusions are drawn from the same study discussed above and suffer the same problems. Of the 124 cases Lindgren looked at closely, he found 25 cases where an asserted design patent was found not invalid and “only thirteen instances (10%) holding infringement of a valid design patent.”¹²²

As noted above, Lindgren acknowledged that his sample size was too small to draw statistically significant conclusions.¹²³ But his conclusions

119. LEAFFER, *supra* note 2, at 125 (citing Lindgren, *supra* note 2). Leaffer’s hornbook has been cited for this proposition. See, e.g., David E. Shipley, *All for Copyright Stand Up and Holler! Three Cheers for Star Athletica and the U.S. Supreme Court’s Perceived and Imagined Separately Test*, 36 CARDOZO ARTS & ENT. L.J. 149, 153 (2018) (citing MARSHALL LEAFFER, UNDERSTANDING COPYRIGHT LAW 128–289 (6th ed. 2014) for the proposition that “many patents are declared invalid”).

120. See Lindgren, *supra* note 2, at 198 (“Another postulate frequently encountered is that the strength of a design patent is enhanced in an infringement lawsuit if a utility patent is also part of the plaintiff-patentee’s case in a contested infringement adjudication.”).

121. *Id.* at 209; see also *id.* at 258 (“The litigation reviewed suggests that only in a few instances (about 2 percent of the cases involving utility patents and design patents in the same dispute), will a design patent be held to be valid and infringed by a United States district court.”).

122. See *id.* at 261 tbl.B-0.

123. *Id.* at 199 (“The sample size suffers from inadequate parameters, as defined by the laws of quantitative methods, but the data provides the practicing Patent Bar with

have been repeatedly cited as if they were robust. And on this point, we see something of a game of citation “telephone”—where the more recent cites do not even match Lindgren’s original assertions.

Brown cited Lindgren for the proposition that, “[i]n the three out of ten that are held valid, only half will be found to have been infringed.”¹²⁴ Frenkel cited Brown for the proposition that “once the valid patent is analyzed against a competing design, courts will find patent infringement only about half of the time.”¹²⁵ This part of Frenkel’s paper has, in turn, been cited for the notably different proposition that “design patent infringement is found in only approximately half of the cases brought to court.”¹²⁶ Lindgren’s empirical conclusion was, as noted above, actually much bleaker but also narrower—he found infringement in only about 10% of the cases he studied.¹²⁷ But that nuance seems to have been lost in citation.¹²⁸

In any case, when it comes to these assertions about design patent infringement, Frenkel is a significant citation node in the spread of

an insight into the true value of design patents to protect the fruit of their clients’ inventions.”).

124. Brown, *supra* note 112, at 1356 (citing Lindgren, *supra* note 2, at 261 app. II). Lindgren did not use the word “half” to describe his infringement findings; this seems to be Brown’s own summary of Lindgren’s data. See Lindgren, *supra* note 2, at 261 tbl.B-0, the first table in Appendix II, reporting that, out of 124 cases studied, the design patent was held not invalid in 25 cases and that infringement was found in 13 cases. Also, Brown added an important caveat following his citation of Lindgren: “That at least was the situation for the period 1964–83. Now that all patent appeals go to the Court of Appeals for the Federal Circuit, patentees may fare better.” Brown, *supra* note 112, at 1356. Frenkel did not include this caveat when he cited Brown. See Frenkel, *supra* note 23, at 556 (citing Brown, *supra* note 112, at 1356). In a footnote for a different proposition, Frenkel acknowledged Brown’s prediction but suggested that recent Federal Circuit cases proved Brown wrong. *Id.* at 556 n.173 (citing *Power Controls Corp. v. Hybrinetics, Inc.*, 806 F.2d 234, 240 (Fed. Cir. 1986)).

125. *Id.* at 556 (citing Brown, *supra* note 112, at 1356).

126. Beltrametti, *supra* note 3, at 156 (citing Frenkel, *supra* note 23, at 555); see also Magdo, *supra* note 29, at 7 (“[E]ven if the design patent is deemed valid, patent infringement is found in only about half the cases brought to court.”) (citing Frenkel, *supra* note 23, at 555).

127. Lindgren, *supra* note 2, at 261 tbl.B-0.

128. And, as explained above, Lindgren’s data was not statistically significant to begin with. See *supra* Section I.B.3.

this statistic,¹²⁹ as is Brown.¹³⁰ We also see Magdo's influence again, particularly in the fashion literature. Magdo cited Frenkel for the proposition that "even if the design patent is deemed valid, patent infringement is found in only about half the cases brought to court."¹³¹ She, in turn, has been cited for that proposition.¹³² Although Magdo presented this information as if it were contemporary, by the time Magdo's paper was distributed, Frenkel's article was over ten years old and the data Frenkel had relied on (Lindgren's) was even older.

II. LEGAL AND INSTITUTIONAL CONTEXT

The prevalence of these empirical myths about design patents must, of course, be understood in the larger legal and institutional context of rights over designs. This Part situates design protection within patent law more broadly, especially patent examination in the USPTO. It also describes the growing roster of tribunals—both inside and outside the judicial branch—that adjudicate design patents in their original jurisdiction, as well as the supervisory role of the Federal Circuit.

A. *Design Patents in the USPTO*

When people refer to "patents," they often mean utility patents.¹³³ Utility patents are available for "any new and useful process, machine, manufacture, or composition of matter, or any new and useful

129. See, e.g., Beltrametti, *supra* note 3, at 156 (citing Frenkel, *supra* note 23, at 555) ("[D]esign patent infringement is found in only approximately half of the cases brought to court.").

130. See, e.g., Aoki, *supra* note 114, at 349 (citing Brown, *supra* note 112, for the proposition that "in the minority of cases where patents were found to be valid after a challenge, only about half would be held to have been infringed").

131. Magdo, *supra* note 29, at 7 (citing Frenkel, *supra* note 23, at 555).

132. See, e.g., Lynsey Blackmon, Comment, *The Devil Wears Prado: A Look at the Design Piracy Prohibition Act and the Extension of Copyright Protection to the World of Fashion*, 35 PEPP. L. REV. 107, 122–23 (2007) ("[I]n the rare instance that a design patent is issued and 'deemed valid, patent infringement is found in only about half [of] the cases brought to court.'" (alteration in original) (quoting Magdo)); Julie P. Tsai, Comment, *Fashioning Protection: A Note on the Protection of Fashion Designs in the United States*, 9 LEWIS & CLARK L. REV. 447, 457 (2005) ("Even if the application is approved, courts will often find patents invalid, or if valid, they will only find infringement in about half of the cases.") (citing Magdo). Tsai's paper also seems to have had a fair amount of influence; as of January 30, 2022, it had been cited thirty-six times, according to Westlaw.

133. These were, after all, the first type of patent. See Patent Act of 1790, ch. 7, 1 Stat. 109–12.

improvement thereof.”¹³⁴ But there are also two other types of U.S. patents. Plant patents are available for “any distinct and new variety of plant, including cultivated sports, mutants, hybrids, and newly found seedlings, other than a tuber propagated plant or a plant found in an uncultivated state.”¹³⁵ Design patents—the ones that are the focus of this Article—are available for “any new, original and ornamental design for an article of manufacture.”¹³⁶

1. *Design patent examination*

a. *Procedural requirements*

To obtain a design patent, a design owner must file an application with the USPTO.¹³⁷ This can be done in two ways. An applicant can file a design patent application directly with the USPTO.¹³⁸ Alternatively, an applicant can designate the United States in an international design application filed using the Hague System for the International Registration of Industrial Designs.¹³⁹ This Article will refer to these two

134. 35 U.S.C. § 101.

135. 35 U.S.C. § 161. Plant patents are the newest type of U.S. patent; they were created in 1930. *See* Act of May 23, 1930, Pub. L. No. 71–245, ch. 312, 46 Stat. 376.

136. 35 U.S.C. § 171(a). Designs have been patentable since 1842. Act of Aug. 29, 1842, ch. 263, § 3, 5 Stat. 543, 543–44.

137. 35 U.S.C. § 111; *see also* MPEP, *supra* note 46, § 1503 (detailing the requirements for a design patent application).

138. *See* 35 U.S.C. § 171(a).

139. *See id.* § 389(a) (“The Director shall cause an examination to be made pursuant to this title of an international design application designating the United States.”). This option has been available since 2015, when the United States ratified the Geneva Act of the Hague Agreement Concerning the International Registration of Industrial Designs in 2015. *See* Press Release, World Intell. Prop. Org., United States of America, Japan Join International Design System (Feb. 13, 2015), http://www.wipo.int/pressroom/en/articles/2015/article_0001.html [<https://perma.cc/TWD5-KD8Z>]; *see also* Patent Law Treaties Implementation Act of 2012, Pub. L. No. 112–211, 126 Stat. 1527 (implementing the provisions of the Hague Agreement and the Patent Law Treaty). The Hague System “allows applicants to file a single application that can contain up to one hundred designs, which creates protection in all member countries that do not indicate rejection of the application within a specified period.” Margo A. Bagley, “Ask Me No Questions”: *The Struggle for Disclosure of Cultural and Genetic Resource Utilization in Design*, 20 VAND. J. ENT. & TECH. L. 975, 983–84 (2018). As one scholar has explained:

In general, the Hague Agreement permits filing one application with WIPO to obtain an International Design Registration (IDR). The application can be prepared in English by a person in the member country. It allows 100 designs in each application if they are in the same International Classification class. All fees, including filing and renewal, are paid to WIPO in Swiss francs, and

types of applications as “regular applications” and “Hague applications,” respectively.

Once filed, the design application will be evaluated by an examiner with a background in art or design.¹⁴⁰ As part of the examination process, the examiner is tasked with finding relevant prior art.¹⁴¹ Finding close prior art for designs is notoriously difficult—both for examiners and accused infringers.¹⁴² And even if an examiner or

discussions concerning the application prosecution can be in English and handled by a U.S. representative. WIPO completes a formal review of the application and, in most cases, the IDR is published in the International Designs Bulletin (Bulletin). This document is sent to the member countries designated for protection. In most of the present member countries there is no novelty examination, so the IDR automatically becomes effective with the same rights as the national design registration. The Hague Agreement allows a one-year period for deferment of design publication.

William T. Fryer, III, *International Industrial Design Protection Improvement: The Hague Agreement Revision*, 2 U. BALT. INTELL. PROP. L.J. 37, 38 (1993). Thus, the Hague System is analogous to the Patent Cooperation Treaty (PCT) system for utility patents. *See generally* Cynthia M. Ho, *Sovereignty Under Siege: Corporate Challenges to Domestic Intellectual Property Decisions*, 30 BERKELEY TECH. L.J. 213, 228 (2015) (explaining how the PCT process allows applicants to more easily obtain patents in multiple countries). Hague applications can be filed through the USPTO. 37 C.F.R. § 1.1002(a) (2015) (“The [USPTO], as an office of indirect filing, shall accept international design applications where the applicant’s Contracting Party is the United States.”).

140. 35 U.S.C. § 131 (“The Director shall cause an examination to be made of the application and the alleged new invention . . .”); Job Announcement No. TC2900-2021-0003 (“Design Patent Examiner”), USAJOBS, <http://www.usajobs.gov/GetJob/ViewDetails/590866400> (last visited April 12, 2022) (copy on file with the author) (describing the necessary specialized experience for a design patent examiner as “experience in art involving areas such as industrial design, product design, architecture, applied arts, graphic design, fine/studio arts, and art teacher education”). By contrast, if someone wants to prosecute a design patent for someone else (or be lead counsel at the PTAB) they must have a technical or scientific background. This makes no sense. *See* Christopher Buccafusco & Jeanne C. Curtis, *The Design Patent Bar: An Occupational Licensing Failure*, 37 CARDOZO ARTS & ENT. L.J. 263, 265 (2019); William Hubbard, *Razing the Patent Bar*, 59 ARIZ. L. REV. 383, 404 (2017); Sarah Burstein, *Design Patent Myths—On Examiners and Expertise*, FAC. LOUNGE (Oct. 30, 2013), <http://www.thefacultyounge.org/2013/10/design-patent-examiners.html>.

141. 37 C.F.R. § 1.104(a)(1) (“On taking up an application for examination or a patent in a reexamination proceeding, the examiner shall make a thorough study thereof and shall make a thorough investigation of the available prior art relating to the subject matter of the claimed invention.”).

142. *See* Mueller & Brean, *supra* note 8, at 549 (referring to design patent “examiners’ inability to consistently access the most pertinent prior art designs”); Sarah Burstein, *Costly Designs*, 77 OHIO ST. L.J. 107, 129–30 (2016) [hereinafter Burstein, *Costly*] (noting that prior art search “costs may be particularly high in the

challenger finds a potentially relevant reference, it may be difficult to authenticate it.¹⁴³

A design patent application may include only one claim.¹⁴⁴ The verbal portion of the claim is *pro forma*: “The ornamental design for (the article which embodies the design or to which it is applied) as shown.”¹⁴⁵ To show the claimed design, the application must include illustrations.¹⁴⁶ Specifically, under the current USPTO rules, the application “must contain a sufficient number of views to constitute a complete disclosure of the appearance of the design.”¹⁴⁷ A three dimensional design might require six or seven views—top, bottom, front, back, one or more sides, and a perspective view.¹⁴⁸ Broken lines

design context, as most of the best existing search technology is text-based, not image-based”); Christopher Buccafusco, Mark A. Lemley & Jonathan S. Masur, *Intelligent Design*, 68 DUKE L.J. 75, 134–35 (2018) (“The PTO likely has a very difficult time locating relevant design prior art because it is harder to search for shapes than for words. . . . [A]s the scope and power of design patents expand, the PTO’s ability to locate prior art needs to expand as well. The agency should invest in improved search tools designed to find prior art . . .”).

143. See, e.g., *Ex parte Zhang*, Reexam No. 90/014,234, 2021 WL 633718, 5–6 (P.T.A.B. Feb. 16, 2021) (reversing the examiner’s rejection of a design patent claim because there was insufficient evidence to authenticate the cited references, which were “copies of two webpages in a foreign language”).

144. 37 C.F.R. § 1.154(b)(6) (2012); see also *In re Rubinfeld*, 270 F.2d 391, 396 (C.C.P.A. 1959) (affirming the USPTO’s “long-standing practice of the Patent Office . . . limit[ing] design applications to a single claim”). That claim may include multiple embodiments “if they involve a single inventive concept.” *Id.* at 396; MPEP, *supra* note 46, § 1504.05 (“Restriction will be required under 35 U.S.C. 121 if a design patent application claims multiple designs that are patentably distinct from each other.”). The question of what constitutes an “embodiment” as opposed to a distinct “design” is less than clear. See Sarah Burstein, *Whole Designs*, 92 U. COLO. L. REV. 181, 238–41 (2021) [hereinafter Burstein, *Whole Designs*].

145. MPEP, *supra* note 46, § 1503.01(III). The article identified in the claim must be the same one identified in the title. See *id.*

146. MPEP, *supra* note 46, § 1503.02 (“Every design patent application must include either a drawing or a photograph of the claimed design.”).

147. 37 C.F.R. § 1.152 (2000).

148. See MPEP, *supra* note 46, § 1503.02(I) (“The drawings or photographs should contain a sufficient number of views to disclose the complete appearance of the design claimed, which may include the front, rear, top, bottom and sides. Perspective views are [also] suggested . . .”); see also Perry J. Saidman, *Design Patentees: Don’t Get Unglued by Elmer or the Single Most Important Thing to Know About the Preparation of Design Patent Applications*, 78 J. PAT. & TRADEMARK OFF. SOC’Y 311, 316 (1996) (referring to “six standard, orthogonal views (with perhaps a perspective view for good measure)”).

can be used to disclaim visual elements of a product's overall design,¹⁴⁹ broadening the scope of the claim.¹⁵⁰

Design patent claims are, thus, very different from utility patent claims. Accordingly, they are construed differently. While the Federal Circuit “has held that trial courts have a duty to conduct claim construction in design patent cases, as in utility patent cases,”¹⁵¹ the court has also “recognized that design patents ‘typically are claimed as shown in drawings,’ and that claim construction ‘is adapted accordingly.’”¹⁵² In its en banc decision in *Egyptian Goddess, Inc. v. Swisa, Inc.*,¹⁵³ the court explained that, “[g]iven the recognized difficulties entailed in trying to describe a design in words, the preferable course ordinarily will be for a district court not to attempt to ‘construe’ a design patent claim by providing a detailed verbal description of the claimed design.”¹⁵⁴ The court suggested that helpful forms of design patent claim construction might, instead, focus on issues such as the meaning of solid versus dotted lines.¹⁵⁵

b. Substantive requirements

The substantive requirements for design patents—as for other types of patents—are set forth in the Patent Act.¹⁵⁶ Under the Patent Act, the provisions of Title 35 relating to utility patents “shall apply to” design

149. See MPEP, *supra* note 46, § 1503.02(III). For more on this practice and the 1980 case that allowed it, see Sarah Burstein, *How Design Patent Law Lost Its Shape*, 41 CARDOZO L. REV. 555 (2019).

150. See *infra* Section II.B.3 (explaining how the infringement tests works). For more on how this claiming practice works and why applicants do it, see Sarah Burstein, *The “Article of Manufacture” Today*, 31 HARV. J.L. & TECH. 781, 787–88 (2018). For an argument against this kind of piecemeal claiming, see Burstein, *Whole Designs*, *supra* note 144.

151. *Egyptian Goddess, Inc. v. Swisa, Inc.*, 543 F.3d 665, 679 (Fed. Cir. 2008) (en banc) (citing *Elmer v. ICC Fabricating, Inc.*, 67 F.3d 1571, 1577 (Fed. Cir. 1995)).

152. *Id.* (quoting *Arminak & Assocs., Inc. v. Saint-Gobain Calmar, Inc.*, 501 F.3d 1314, 1319 (Fed. Cir. 2007)). For more on how designs are claimed, see *supra* notes 144–148 and accompanying text.

153. 543 F.3d 665 (Fed. Cir. 2008) (en banc).

154. *Id.* at 679.

155. *Id.* at 680 (“Apart from attempting to provide a verbal description of the design, a trial court can usefully guide the finder of fact by addressing a number of other issues that bear on the scope of the claim. Those include such matters as describing the role of particular conventions in design patent drafting, such as the role of broken lines . . .”).

156. See Patent Act, ch. 950, 66 Stat. 792 (1952) (codified as amended at 35 U.S.C. § 1–376).

patents, “except as otherwise provided.”¹⁵⁷ That means that statutory requirements like novelty and nonobviousness also apply to designs.¹⁵⁸ That does not mean, however, that the tests used to measure novelty and nonobviousness in the context of utility patents are also used for design patents. Design inventions are different from useful inventions.¹⁵⁹ They are claimed differently.¹⁶⁰ Therefore, courts and the USPTO quite appropriately use different tests to determine whether design claims comply with the generally applicable patent requirements.

i. Novelty

Section 102 of the Patent Act provides that a patentable invention must be novel.¹⁶¹ A design is not novel if an ordinary observer, familiar with the prior art, would believe that the claimed design looks the same as the prior art design.¹⁶² Accordingly, “[d]esign patent anticipation

157. 35 U.S.C. § 171(b). One example of a place where something is “otherwise provided” is § 171 itself. Because § 171 sets forth the specific statutory subject matter for design patents, the utility patent statutory subject matter provision, § 101, does not apply to designs. See *In re Finch*, 535 F.2d 70, 71–72 (C.C.P.A. 1976) (“35 U.S.C. § 171 is 35 U.S.C. § 101, modified, for application to designs. Hence, the criteria of 35 U.S.C. § 101 are ‘otherwise provided’ in 35 U.S.C. § 171 and the second paragraph of the latter cannot serve to permit the reading therein of the ‘useful’ criterion of 35 U.S.C. § 101.”). There appears to have been some confusion on this point as of late. See Sarah Burstein, *Does § 101 Apply to Design Patents?*, PATENTLY-O (Apr. 24, 2019), <http://patentlyo.com/patent/2019/04/%C2%A7-design-patents.html>.

158. See 35 U.S.C. §§ 171–173 (not providing otherwise); see also *Int’l Seaway Trading Corp. v. Walgreens Corp.*, 589 F.3d 1233, 1238 (Fed. Cir. 2009) (“Section 171 requires that the ‘conditions and requirements of this title’ be applied to design patents, thus requiring application of the provisions of sections 102 (anticipation) and 103 (invalidity).”).

159. Compare 35 U.S.C. § 171 (design patents), with 35 U.S.C. § 101 (utility patents).

160. Compare 37 C.F.R. § 1.153 (2020) (setting forth the rules for design patent claims), with 37 C.F.R. § 1.75 (2020) (setting forth the rules for utility patent claims). For example, utility patents are not limited to a single claim. See 37 C.F.R. § 1.75(b) (2020) (“More than one claim may be presented provided they differ substantially from each other and are not unduly multiplied.”).

161. See 35 U.S.C. § 102.

162. See *Int’l Seaway Trading Corp.*, 589 F.3d at 1241. The maxim “[t]hat which infringes, if later, would anticipate, if earlier,” also applies to design patents. *Id.* at 1239 (alteration in original) (quoting *Peters v. Active Mfg. Co.*, 129 U.S. 530, 537 (1889)). Therefore, the same test is used for infringement and anticipation. *Id.* For more on the “ordinary observer” test, see Sarah Burstein, *The Patented Design*, 83 TENN. L. REV. 161, 177 (2015) [hereinafter Burstein, *The Patented Design*] (noting that the design

requires a showing that a single prior art reference is [visually] ‘identical in all material respects’ to the claimed invention.”¹⁶³ This is a very high standard to meet.¹⁶⁴

ii. *Nonobviousness*

Section 103 of the Patent Act provides that a patentable invention must be nonobvious.¹⁶⁵ For design patents, “the ultimate inquiry under section 103 is whether the claimed design would have been obvious to a designer of ordinary skill who designs articles of the type involved.”¹⁶⁶ To determine whether a design is obvious, the Federal Circuit uses a two-part test: “[T]he fact finder must first ‘find a single reference, a something in existence, the design characteristics of which are basically the same as the claimed design.’ If a primary reference exists, related secondary references may be used to modify it.”¹⁶⁷ But, in recent years, “it has become rare for courts to even reach step two because the Federal Circuit has required such a high degree of similarity at step one.”¹⁶⁸ So this test is not, on its face, particularly onerous.¹⁶⁹

patent infringement is a test “of visual similarity, not a test of actual deception or trademark-like likelihood of confusion”).

163. *High Point Design LLC v. Buyer’s Direct, Inc.*, 621 F. App’x 632, 638 (Fed. Cir. 2015) (quoting *Door Master Corp. v. Yorktowne, Inc.*, 256 F.3d 1308, 1312 (Fed. Cir. 2001)).

164. See Burstein, *Lax?*, *supra* note 7, at 614–15 (providing two visual examples). For more examples of the “ordinary observer” test from the infringement side, see Sarah Burstein, *Intelligent Design & Egyptian Goddess: A Response to Professors Buccafusco, Lemley & Masur*, 68 DUKE L.J. ONLINE 94, 99–102 (2019) [hereinafter Burstein, *Egyptian Goddess*].

165. See 35 U.S.C. § 103.

166. *Durling v. Spectrum Furniture Co.*, 101 F.3d 100, 103 (Fed. Cir. 1996).

167. *Campbell Soup Co. v. Gamon Plus, Inc.*, 939 F.3d 1335, 1339–40 (Fed. Cir. 2019). To qualify as a proper secondary reference, a design must be “so related to the primary reference that the appearance of certain ornamental features in one would suggest the application of those features to the other.” *MRC Innovations, Inc. v. Hunter Mfg., LLP*, 747 F.3d 1326, 1331 (Fed. Cir. 2014) (quoting *Durling*, 101 F.3d at 103).

168. See Burstein, *Lax?*, *supra* note 7, at 616. For more on the primary reference requirement, see Sarah Burstein, *Visual Invention*, 16 LEWIS & CLARK L. REV. 169, 200–05 (2012).

169. See Burstein, *Standard Criticisms*, *supra* note 7, at 324–28.

iii. Ornamentality

Section 171 of the Patent Act requires that a patentable design be “ornamental.” The Federal Circuit has defined this requirement in the negative—it “will deem a design to be ‘ornamental’ unless: (1) it is not a ‘matter of concern;’ or (2) it is ‘dictated by function.’”¹⁷⁰ These are both very difficult standards for challengers (or patent examiners) to meet. When it comes to a design being a “matter of concern”:

The Federal Circuit appears to assume that a design is “a matter of concern” unless it is “concealed in its normal and intended use.” The court has taken a cradle-to-grave view of such use, ruling that “the ‘normal and intended use’ of an article . . . begin[s] after completion of manufacture or assembly and end[s] with the ultimate destruction, loss, or disappearance of the article.”¹⁷¹

Because almost all articles (and all parts thereof) are visible at least once during the product’s lifecycle, it is very difficult to invalidate a design claim on the basis that it is not a “matter of concern.”¹⁷²

When it comes to “functionality,”¹⁷³ the Federal Circuit has “focused . . . on the availability of alternative designs as an important—if not dispositive—factor in evaluating the legal functionality of a claimed design.”¹⁷⁴ To qualify as an alternative design, the alternative “must simply provide ‘the same or similar functional capabilities’” as the claimed design.¹⁷⁵ Because there are almost always alternatives that

170. Burstein, *Lax?*, *supra* note 7, at 621.

171. *Id.* (alterations in original) (footnotes omitted) (quoting *In re Webb*, 916 F.2d 1553, 1557–58 (Fed. Cir. 1990)).

172. *See id.*

173. One of us has argued against the use of the term “functional” in this context. Sarah Burstein, *Faux Amis in Design Law*, 105 TRADEMARK REP. 1455, 1459 (2015) (“This commentary has identified ‘functional’ and ‘ornamental’ as faux amis in design patent and trademark law. To minimize problematic errors in translations between these two legal regimes, here is a proposal: Let’s stop using the term ‘functional’ in the context of design patents and stop using the term ‘ornamental’ in the context of trademarks.”). We use it here because the term is used by courts and the USPTO.

174. *Ethicon Endo-Surgery, Inc. v. Covidien, Inc.*, 796 F.3d 1312, 1329–30 (Fed. Cir. 2015).

175. *Id.* at 1331 (quoting *Rosco, Inc. v. Mirror Lite Co.*, 304 F.3d 1373, 1378 (Fed. Cir. 2002)).

meet this standard, it is very difficult to invalidate a design claim on the basis that it is “functional.”¹⁷⁶

iv. Section 112

Section 112 of the Patent Act imposes various requirements, including the requirement of definiteness.¹⁷⁷ According to the Federal Circuit, “a design patent is indefinite under § 112 if one skilled in the art, viewing the design as would an ordinary observer, would not understand the scope of the design with reasonable certainty based on the claim and visual disclosure.”¹⁷⁸ The court has further explained that:

A visual disclosure may be inadequate—and its associated claim indefinite—if it includes multiple, internally inconsistent drawings. Errors and inconsistencies between drawings do not merit a § 112 rejection, however, if they do not preclude the overall understanding of the drawing as a whole.

It is also possible for a disclosure to be inadequate when there are inconsistencies between the visual disclosure and the claim language.¹⁷⁹

There is some evidence that Section 112-based rejections, including rejections for indefiniteness, may be the most frequent type of design patent rejections at the USPTO.¹⁸⁰ Because most unsuccessful design patent applications are not published, we cannot know for sure.¹⁸¹ However, in his 2010 study, Dennis Crouch found that, for a sample of

176. The Federal Circuit has attempted to reconcile some of its precedent by stating that, sometimes, other factors may be used. *See id.* at 1331. But the court has not specified how, or in what circumstances, such other factors may be used. *Id.*

177. *See* 35 U.S.C. § 112; *see also* *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 902 (2014) (“The 1870 Act’s definiteness requirement survives today, largely unaltered. Section 112 of the Patent Act of 1952, applicable to this case, requires the patent applicant to conclude the specification with ‘one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.’”).

178. *In re Maatita*, 900 F.3d 1369, 1377 (Fed. Cir. 2018).

179. *Id.* at 1375–76 (citations omitted).

180. *E.g.*, Craig W. Mueller, *Design Patents 101 – Part 2 Of 2*, LEWIS BRISBOIS (Dec. 13, 2019), <http://lewisbrisbois.com/blog/category/intellectual-property-technology/design-patents-101-part-2-of-2> [<https://perma.cc/2E8A-4TU9>] (“The most common rejection/objection an application typically encounters during design patent application prosecution will be directed to the quality of the drawings, or that they do not sufficiently disclose the claimed article or portion thereof, and thus do not comply with 35 U.S.C. § 112.”).

181. *See supra* notes 43–45 and accompanying text.

“over one thousand . . . design patents that issued in 2009,” most rejections (when there were any) were based on Section 112.¹⁸² A subsequent 2019 study that sought to replicate and update the 2010 Crouch study similarly found that “Section 112 rejections remain by far the most common type of rejection.”¹⁸³ Practitioners also seem to agree that 112-based rejections are a substantial obstacle in design patent examination, suggesting that “[w]hile Section 112 rejections on utility applications are generally easily overcome, that is often not always the case with such rejections on design applications.”¹⁸⁴

2. *Design patent revocation*

In 2011, Congress passed the Leahy-Smith America Invents Act (AIA).¹⁸⁵ The AIA made a number of important changes to U.S. patent law and practice.¹⁸⁶ Most notably for our purposes, the AIA created the PTAB and a handful of new administrative proceedings.¹⁸⁷ Issued design patents can be challenged in two of these new PTAB proceedings. This Section will discuss those proceedings in turn.

a. *Post-Grant Review*

A petition for post-grant review (PGR) can be filed by anyone “who is not the owner of [the] patent.”¹⁸⁸ PGRs can only be filed against

182. See Crouch, *supra* note 8, at 19 (finding that “[t]he most common rejections were based on the doctrines of enablement, written description, and indefiniteness” and that such “rejections—typically asserted collectively—were often overcome by a patentee’s ministerial clarification of aspects of the originally submitted drawings”).

183. Dunstan H. Barnes, *Design Patent Rejections—Update*, BIGPATENTDATA (Apr. 14, 2019), <http://www.bigpatentdata.com/2019/04/design-patent-rejections-update> [<https://perma.cc/KHY5-H9VF>].

184. Kevin Prince, *The Most Common Design Patent Application Rejections (and How to Avoid Them) – Part I*, IPWATCHDOG (Nov. 20, 2019), <http://www.ipwatchdog.com/2019/11/20/the-most-common-design-patent-application-rejections-and-how-to-avoid-them-part-i/id=116198> [<https://perma.cc/9AHG-V93M>].

185. Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (Sept. 16, 2011) (codified in scattered sections of 35 U.S.C.) [hereinafter AIA].

186. See *id.*

187. *Id.* § 7(a)–(b) (codified as amended at 35 U.S.C. § 6(a)–(b)) (“The Patent Trial and Appeal Board shall . . . conduct derivation proceedings pursuant to section 135; and . . . conduct inter partes reviews and post-grant reviews pursuant to chapters 31 and 32.”). The PTAB provisions went into effect on September 16, 2012. See AIA, *supra* note 185, § 7(e) (“The amendments made by this section shall take effect upon the expiration of the 1-year period beginning on the date of the enactment of this Act and shall apply to proceedings commenced on or after that effective date . . .”).

188. 35 U.S.C. § 321(a).

patents that have (or have had) at least one claim with an effective filing date on or after March 16, 2013.¹⁸⁹ A PGR challenge can be based on any ground for invalidity listed in 35 U.S.C. § 282(b)(2)–(3).¹⁹⁰ Those grounds include § 112 (other than best mode), § 102, § 103, and § 171.¹⁹¹

b. Inter Partes Review

A petition for inter partes review (IPR) can be filed by anyone “who is not the owner of [the] patent.”¹⁹² Challengers are limited in the type of validity attacks they can make in IPR; specifically, they can petition to cancel a patent claim “only on a ground that could be raised under section 102 or 103.”¹⁹³ Therefore, invalidity for lack of ornamentality is not a proper basis for a design patent IPR.¹⁹⁴ IPR challenges are further limited in that they can only be based on “prior art consisting of patents or printed publications.”¹⁹⁵ These rules may be especially limiting for design patent challengers. To start with, there is a limited amount of existing design patent prior art compared to utility patent prior art.¹⁹⁶ And while utility patents can be cited against design

189. Decision Denying Institution of Post-Grant Review at 2, *Key-Bar, LLC v. Curv Brands, LLC*, PGR2017-00006 (P.T.A.B. Mar. 22, 2017) (“Post-grant review is available only for patents ‘described in section 3(n)(1)’ of the AIA. These patents issue from applications that contain or contained at any time a claim to a claimed invention that has an effective filing date on or after March 16, 2013.”) (first citing AIA, *supra* note 185, § 6(f)(2)(A); then citing *id.* § 3(n)(1)).

190. 35 U.S.C. § 321(b).

191. See 35 U.S.C. § 282(b)(2) (“The following shall be defenses in any action involving the validity or infringement of a patent and shall be pleaded . . . Invalidity of the patent or any claim in suit on any ground specified in part II as a condition for patentability.”). Part II of the Patent Act extends from 35 U.S.C. § 100–212.

192. 35 U.S.C. § 311(a).

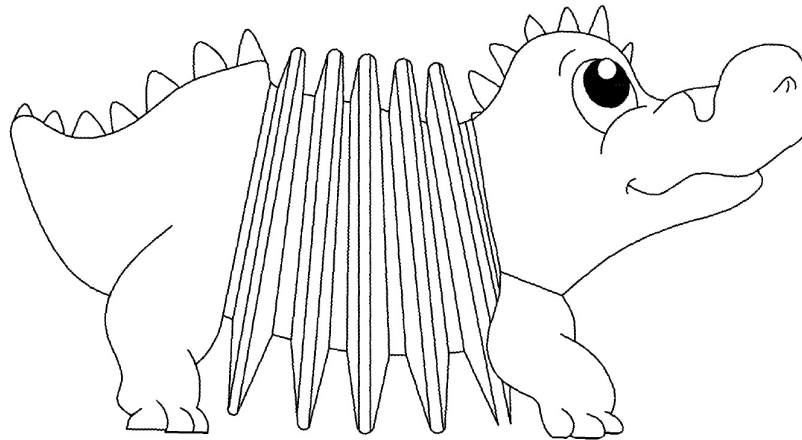
193. *Id.* § 311(b).

194. Decision Denying Institution of Inter Partes Review at 5, *Dorman Prods. Inc. v. PACCAR, Inc.*, IPR2014-00542 (P.T.A.B. Sept. 5, 2014) (“[A] challenge based on functionality under 35 U.S.C. § 171 is not permitted in an inter partes review because it is not based on 35 U.S.C. § 103 nor is it based on prior art that consists of a patent or printed publication.”) (citing 35 U.S.C. § 311(b); 37 C.F.R. § 42.105(b)(2)).

195. 35 U.S.C. § 311(b) (2018).

196. As of July 30, 2021, the USPTO had issued 11,076,521 utility patents (not counting x-patents) and 926,420 design patents. OFF. GAZ. PAT. & TRADEMARK OFFICE, Vol. 1488 Number 4 (July 27, 2021), <http://patentsgazette.uspto.gov/week30/OG/patent.html> [<https://perma.cc/E37Z-8L6R>]; see also Craig Allen Nard, *Legal Forms and the Common Law of Patents*, 90 B.U. L. REV. 51, 69 n.82 (2010) (“Prior to 1836, patents were identified by the date they were issued. The previous name and date of patents were subsequently numbered chronologically and an ‘X’ suffix was added to

claims,¹⁹⁷ both design patents and utility patents are notoriously difficult to search for designs.¹⁹⁸ For example, consider a design patent application for the shape of this dinosaur-shaped dog toy:¹⁹⁹



This illustration actually comes from a utility patent.²⁰⁰ But assuming this drawing were in a design patent application, how would one find that utility patent? The real utility patent does not mention the word “dinosaur.”²⁰¹ The figure description for this drawing simply says: “FIG. 2 is an example of another embodiment to illustrate that the molded body of the toy can be made as varying animal shapes and still

distinguish them from the new numbered patents These older patents are now collectively referred to as the ‘X-patents.’”) (citations omitted); Laura A. Peter, *PTOS Annual Meeting Keynote Address Will You Be My Valentine: Celebrating the USPTO Examiner Through History*, 101 J. PAT. & TRADEMARK OFF. SOC’Y 5, 8 (2019) (“On December 15, 1836, a great fire destroyed the Office, and much of the existing prior art was forever lost—over 10,000 patents and over 7,000 patent models. In an effort to recover these documents, the Patent Office sought out the inventors and asked them for the original documents. However, the Office was able to find and restore only about 2800 of these old patents, which became the ‘X’ series of patents. The remainder of these patents were cancelled. An effort to recover these ‘X patents’ continues to this day.”).

197. See *In re Aslanian*, 590 F.2d 911, 913 (C.C.P.A. 1979) (“Numerous decisions of this court have held that the teachings in utility patents are within the prior art to be considered when determining the patentability of designs even though the patentability of a design may not be predicated on utilitarian or functional considerations.”).

198. See *supra* note 142 and accompanying text.

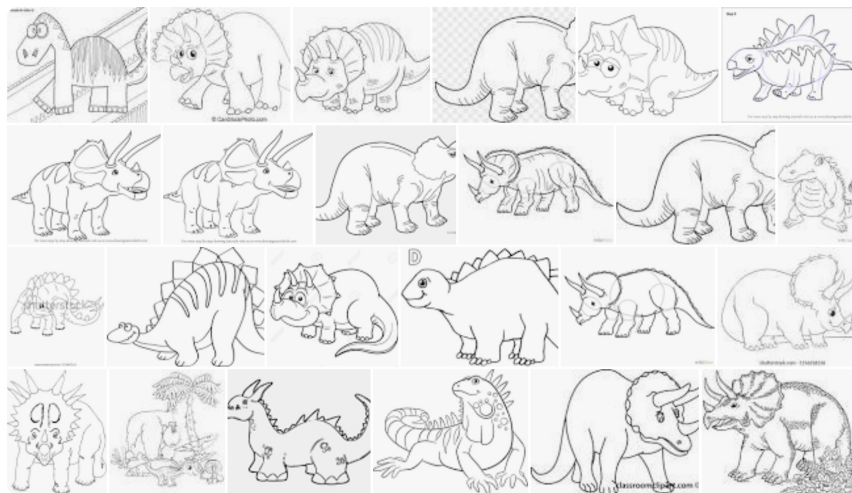
199. This is not, as far as we know, actually the subject of a design patent application.

200. See U.S. Patent No. 10,912,280 fig.2 (filed Jan. 31, 2019).

201. See *id.*

accomplish a similar function.”²⁰² The text refers to (and other illustrations show) the product being made in the shape of a pig, but that would not be particularly helpful. Broad text-based searches for the word “animal” and “pet toy” would produce a large number of irrelevant results.

It would be even more difficult if the hypothetical design patent applicant did not say they had created a “design for a pet toy,” but used a vaguer descriptor like “design for a toy” or “design for a play article.”²⁰³ And while reverse-image searching does exist, it is not yet developed to the level of being truly helpful for these kinds of design searches. For example, when we used Google Image search to look up this image, it did not find the utility patent the image came from.²⁰⁴ These were the results for “visually similar images”:



As can be seen above, none of these Google Image results are particularly close. And they do not include the original image—even though it is available on Google Patents.

And even if search technology were better or close prior art could be found, there is another potential complication. Some applicants (and their counsel) have started suggesting that prior art cannot be

202. *Id.* col. 2, ll. 32–34.

203. The USPTO gives design applicants wide latitude in describing the article of manufacture to which the claimed design is applied. *See* MPEP, *supra* note 46, § 1503.01(I) (“[T]he examiner should afford the applicant substantial latitude in the language of the title/claim.”).

204. Google Image search conducted July 20, 2021. Search results on file with the authors.

used to anticipate a design patent claim if it does not contain every single view shown in the prior patent's (or prior patent application's) drawings.²⁰⁵ Neither the USPTO nor the Federal Circuit has ruled directly for or against this "all views" approach.²⁰⁶ But we expect that patentees whose design patents are challenged in the PTAB will keep making this argument. After all, it is a potentially very powerful argument for patent owners. If all, or even most, views have to be shown in order for a prior art patent or publication to sufficiently disclose the design, that would narrow the universe of IPR-eligible prior art dramatically. For example, the USPTO's rules on drawings and disclosures have changed over the years, so older design patents might not have enough views.²⁰⁷ Many older design patents include

205. Cf. *U.S.A. Dawgs, Inc. v. Crocs, Inc.*, 2019 Pat. App. LEXIS 6418, at *8 (P.T.A.B. Sept. 10, 2019), *aff'd sub nom.* *Mojave Desert Holdings, LLC v. Crocs, Inc.*, 844 F. App'x 343 (Fed. Cir. Feb. 18, 2021) (per curiam) ("Patent Owner argues[:] 'Missing from OA Figure 11 is any depiction of a bottom view, front view, back view, insole view, or full top view. Yet Figures 3–7 of the '789 Patent provide just such views, meaning that Figure 11 does not provide a comparable view for over half of the figures of the claimed design in the 789 Patent.'").

206. In the recent *Crocs* case, the PTAB did not rule on the merits of the "all views" approach but concluded that there were not sufficient views in that particular case. *Crocs, Inc.*, 2019 Pat. App. LEXIS 6418, at *11 ("While we do not find that 'every surface or angle of the entire shoe' must be shown in a prior art reference, the missing views of Figure 11 establish a sufficient gap in the evidence as to the shown design to preclude a finding of anticipation.").

207. Compare, e.g., MPEP, *supra* note 46, § 1503.02(I) ("The drawings or photographs should contain a sufficient number of views to disclose the complete appearance of the design claimed, which may include the front, rear, top, bottom and sides. Perspective views are [also] suggested"), with U.S. DEP'T OF COM., PATENT & TRADEMARK OFFICE, MANUAL OF PATENT EXAMINING PROCEDURE § 1503.02(A) (6th ed. rev. 1, Sept. 1995) ("Normally, drawing figures should be provided showing the article, at a minimum, from each of its six normal views. Additional perspective views should also be provided if helpful in disclosing the design.") (emphasis added), with U.S. DEP'T OF COM., PATENT & TRADEMARK OFFICE, MANUAL OF PATENT EXAMINING PROCEDURE § 1503.02 (5th ed. 1983) ("With practically all articles, except flat, thin goods, such as fabrics, at least two views are necessary, showing the article in three dimensions.") (emphasis added), with U.S. DEP'T OF COM., PATENT & TRADEMARK OFFICE, MANUAL OF PATENT EXAMINING PROCEDURE § 1503.02 (3d ed. 1961) ("With practically all articles, except flat goods, such as fabrics, at least two views are necessary, showing the article in three dimensions. Occasionally a good perspective view alone is sufficient.") (emphasis added), and U.S. DEP'T OF COM., PATENT & TRADEMARK OFFICE, MANUAL OF PATENT EXAMINING PROCEDURE § 17-5 (1948) (same).

only one view.²⁰⁸ Other common forms of design patent prior art, such as advertisements and catalogs, will often have a limited number of views.²⁰⁹ For all of these reasons, challengers to a design patent face significant hurdles when searching for prior art.

B. Design Patents in the District Courts

1. Jurisdiction and controlling case law

The federal district courts have jurisdiction over patent cases, including design patent lawsuits.²¹⁰ As we separately discuss below, patent suits may also be brought in the ITC when the accused infringement involves importing a patented good into the United States or selling it after such importation.²¹¹ Since 1982, the Federal Circuit has had exclusive jurisdiction over almost all patent appeals—whether from *ex ante* examination in the USPTO, litigation in the district courts or the ITC, or revocation proceedings in the PTAB.²¹² In its first decision, the Federal Circuit adopted the

208. See, e.g., Shoe, U.S. Patent No. D164,847 (issued Oct. 16, 1951); Aeroplane Swing, U.S. Patent No. D76,611 (issued Oct. 16, 1928); Pocket Book, D22,417 (issued May 9, 1893).

209. Cf. Elizabeth D. Ferrill & Anthony C. Tridico, *Newly “Designed” Post-Grant Proceedings: Use of the New USPTO Procedures to Challenge the Validity of Design Patents*, FINNEGAN 533 (Sept. 2013), <https://www.finnegan.com/en/insights/articles/newly-designed-post-grant-proceedings-use-of-the-new-uspto.html> [<https://perma.cc/X79F-7MWG>] (noting that, for design patents, “helpful prior art references may include product advertising images, catalogs, and even screen shots of promotional videos”).

210. 28 U.S.C. § 1338(a) (“The district courts shall have original jurisdiction of any civil action arising under any Act of Congress relating to patents, plant variety protection, copyrights and trademarks. No State court shall have jurisdiction over any claim for relief arising under any Act of Congress relating to patents, plant variety protection, or copyrights.”).

211. 19 U.S.C. § 1337(a)(1)(B) (“The importation into the United States, the sale for importation, or the sale within the United States after importation by the owner, importer, or consignee, of articles that—(i) infringe a valid and enforceable United States patent or a valid and enforceable United States copyright registered under title 17; or (ii) are made, produced, processed, or mined under, or by means of, a process covered by the claims of a valid and enforceable United States patent.”).

212. 28 U.S.C. § 1295(a)(1) (“The United States Court of Appeals for the Federal Circuit shall have exclusive jurisdiction—of an appeal from a final decision of a district court of the United States . . . in any civil action arising under, or in any civil action in which a party has asserted a compulsory counterclaim arising under, any Act of Congress relating to patents or plant variety protection . . .”). The current grant of exclusive jurisdiction does not cover, for example, cases where there is a noncompulsory patent counterclaim, *see id.*, or malpractice claims involving patent

holdings of one of its predecessor courts, the U.S. Court of Customs and Patent Appeals (CCPA), as its own precedent.²¹³

So today, regardless of where a district court sits, it is bound by Federal Circuit law—which includes the holdings of the CCPA—on questions of substantive patent law. This was not always the case. Prior to the creation of the Federal Circuit, patent appeals from district courts were heard by the regional circuits, and appeals from examination were heard in the CCPA, leaving patent precedent more variable, especially in the absence of engagement from the Supreme Court.²¹⁴ Indeed, in the nineteenth century, patent cases were appealable directly to the Supreme Court.²¹⁵

This historical oscillation—from the consolidating effect of direct Supreme Court review, to the relative fragmentation of regional circuit and CCPA review, to the modern era of renewed uniformity through Federal Circuit review—is important for conducting as well as assessing empirical analysis. These periods are separated not by gradual institutional change but by structural breaks, and studies from one period do not translate easily to another.

This history also means that readers and researchers need to be careful when citing pre-Federal Circuit cases and statistical data based thereon. Cases from, say, the Second Circuit are no longer binding on issues of substantive patent law.²¹⁶ And one cannot assume that Federal

matters. *See* *Gunn v. Minton*, 568 U.S. 251, 264 (2013) (“We have no reason to suppose that Congress—in establishing exclusive federal jurisdiction over patent cases—meant to bar from state courts state legal malpractice claims simply because they require resolution of a hypothetical patent issue.”). Prior to the AIA, the Federal Circuit’s exclusive jurisdiction did not include cases where patent issues arose only in compulsory counterclaims. *See* *Holmes Grp., Inc. v. Vornado Air Circulation Sys., Inc.*, 535 U.S. 826, 827, 834 (2002); AIA, *supra* note 185, § 19 (enacting the current jurisdictional language); *see also* Rochelle C. Dreyfuss, *Abolishing Exclusive Jurisdiction in the Federal Circuit: A Response to Judge Wood*, 13 CHI.-KENT J. INTELL. PROP. 327, 343 (2014) (“During the Federal Circuit’s early years, patent issues appearing in compulsory counterclaims were heard in the regional circuits, where they had a similar effect. It is not insignificant that the AIA changed that approach to promote uniformity.”).

213. *South Corp. v. United States*, 690 F.2d 1368, 1369 (Fed. Cir. 1982) (en banc).

214. John F. Duffy, *The Festo Decision and the Return of the Supreme Court to the Bar of Patents*, 2002 SUP. CT. REV. 273, 286 (2002) (“In 1891, the then new regional courts of appeals were given jurisdiction to hear appeals of right by patent litigants.”).

215. *See id.* at 286–87 (“Prior to 1891, the Supreme Court performed the role now given to the Federal Circuit; it was the national appellate court for all patent cases.”).

216. Nonetheless, a number of these old cases have kept getting cited, well into the Federal Circuit era. *See, e.g.*, Christopher Buccafusco & Jeanne C. Fromer, *Fashion’s Function in Intellectual Property Law*, 93 NOTRE DAME L. REV. 51, 103 (2017) (“There have

Circuit case law matches the case law made in any particular regional circuit prior to 1982. One might be able to reasonably cite or rely on old cases or data if they could prove that the Federal Circuit changed nothing with respect to the relevant case law. But one cannot persuasively cite old cases (or data based thereon) without addressing the rise and impact of the Federal Circuit.

2. *Validity*

In modern district court litigation, a party challenging a patent in court bears the burden of proving that the patent is invalid (or otherwise unenforceable) by clear and convincing evidence.²¹⁷ By contrast, in a PTAB inter partes review or post-grant review, the challenger only has to “prov[e] a proposition of unpatentability by a preponderance of the evidence.”²¹⁸ Indeed, in district court litigation, patents enjoy a statutory presumption of validity, which is why the burden is allocated to the party challenging validity.²¹⁹ However, this presumption does not exist in administrative revocation proceedings before the PTAB.

been long-recognized concerns with turning to design patent protection for fashion designs generally.”); *id.* at 104 n.287 (“Another concern is whether fashion designs can be nonobvious, even when they are commercially successful.”) (citing *Belding Heminway Co. v. Future Fashions, Inc.*, 143 F.2d 216, 217 (2d Cir. 1944) (per curiam); *White v. Leanore Frocks, Inc.*, 120 F.2d 113, 114–15 (2d Cir. 1941) (per curiam)); Robert Unikel, *Better by Design: The Availability of Trade Dress Protection for Product Design and the Demise of “Aesthetic Functionality,”* 85 TRADEMARK REP. 312, 323 (1995) (“Design patent law is similarly unavailing [for clothing designs], as courts have repeatedly held that garment designs are not sufficiently novel, non-obvious or ornamental to warrant patent protection.”) (citing *Belding Heminway Co. v. Future Fashions, Inc.*, 143 F.2d 216 (2d Cir. 1944) (per curiam); *White v. Leanore Frocks, Inc.*, 120 F.2d 113 (2d Cir. 1941) (per curiam)). Of course, these old cases might be persuasive to the Federal Circuit. But they are not binding on it—or on any lower courts. Accordingly, it cannot be assumed that they represent or reflect contemporary design patent law.

217. *Microsoft Corp. v. i4i Ltd. P’ship*, 564 U.S. 91, 95 (2011) (“We consider whether § 282 requires an invalidity defense to be proved by clear and convincing evidence. We hold that it does.”).

218. 35 U.S.C. §§ 316(e), 326(e); *see also* *Cuozzo Speed Techs., LLC v. Lee*, 579 U.S. 261, 279 (2016) (“[T]he burden of proof in inter partes review is different than in the district courts: In inter partes review, the challenger (or the Patent Office) must establish unpatentability ‘by a preponderance of the evidence’; in district court, a challenger must prove invalidity by ‘clear and convincing evidence.’”).

219. 35 U.S.C. § 282(a) (providing further that “[e]ach claim of a patent (whether in independent, dependent, or multiple dependent form) shall be presumed valid independently of the validity of other claims; dependent or multiple dependent claims shall be presumed valid even though dependent upon an invalid claim”).

3. *Infringement*

A design patent is infringed if “an ordinary observer, familiar with the prior art, would be deceived into thinking that the accused design was the same as the patented design.”²²⁰ This is a test of visual similarity that requires a comparison of the accused product with “the claimed design as a whole.”²²¹ If the claimed design and the accused product look “sufficiently distinct,” there is no infringement.²²² But if the designs are “not plainly dissimilar” in appearance, the accused infringer can proffer examples of the prior art, because “differences between the claimed and accused designs that might not be noticeable in the abstract can become significant to the hypothetical ordinary observer who is conversant with the prior art.”²²³ In either case, the ultimate question remains the same—does the accused design look the same as the claimed design?

C. *Design Patents in the ITC*

In some cases, patents can be enforced at the U.S. International Trade Commission (ITC).²²⁴ The Tariff Act gives the ITC authority to block patent-infringing goods from entering the United States by

220. *Egyptian Goddess, Inc. v. Swisa, Inc.*, 543 F.3d 665, 672 (Fed. Cir. 2008) (en banc). To be clear, “[t]his is a test of visual similarity, not a test of trademark-like consumer confusion.” Burstein, *Egyptian Goddess*, *supra* note 164, at 96–97. Relatedly the ordinary observer is a hypothetical person. *See, e.g., Egyptian Goddess*, 543 F.3d at 678 (referring to “the hypothetical ordinary observer who is conversant with the prior art”).

221. *Id.* at 677 (citing *Amini Innovation Corp. v. Anthony Cal., Inc.*, 439 F.3d 1365, 1370–71 (Fed. Cir. 2006); *KeyStone Retaining Wall Sys., Inc. v. Westrock, Inc.*, 997 F.2d 1444, 1450 (Fed. Cir. 1993); *Braun Inc. v. Dynamics Corp. of Am.*, 975 F.2d 815, 820 (Fed. Cir. 1992)). If the design claims only part of an article’s shape or surface design, the factfinder must compare only that part to the corresponding part of the accused product. *See id.*

222. *Id.* at 678.

223. *Id.* Importantly, the prior art can be used to adjust the presumptive scope of a design patent “only when the claimed and accused designs are not plainly dissimilar.” *Ethicon Endo-Surgery, Inc. v. Covidien, Inc.*, 796 F.3d 1312, 1337 (Fed. Cir. 2015) (emphasis added). So the prior art can be used to narrow the presumptive scope of a design patent but it cannot be used to broaden that presumptive scope. For more on design patent infringement and the *Egyptian Goddess* test, see Burstein, *Egyptian Goddess*, *supra* note 164, at 96–105.

224. *See* 19 U.S.C. § 1337(a)(2)–(3) (stating that this enforcement option is available “only if an industry in the United States, relating to the articles protected by the patent . . . concerned[] exists or is in the process of being established”).

issuing exclusion orders.²²⁵ Those orders are enforced by the Bureau of Customs and Border Protection (CBP), an agency of the Department of Homeland Security (DHS).²²⁶ These blocking orders may take two forms:

Upon a finding of infringement, the ITC may issue a limited exclusion order (LEO), which is “limited to persons determined by the ITC to be violating [the statute]” and identifies specific, infringing goods to be excluded. The ITC may also issue a general exclusion order, which prevents any party from importing goods that infringe the patent as construed by the ITC.²²⁷

ITC proceedings, called “investigations,” are generally quicker and less expensive than district court litigation.²²⁸ The Federal Circuit has exclusive jurisdiction over ITC appeals.²²⁹

III. DESIGN PATENTS TODAY

Having revealed the weak evidence for the common empirical myths about design patents in Part I and having put those myths into legal and institutional context in Part II, we now turn to a modern empirical assessment of design patent rights. This Part corrects and updates the record. We draw on important recent work by academics and practitioners that has begun to reject the inherited design patent myths. Importantly, our ecumenical approach traces the functions as well as the institutions discussed in Part II, to synthesize a more complete baseline for future work.

A. *Acquiring Design Patents*

For nearly the last quarter-century, the apparent success rate of design patent applications has been over 85%, not the 50% that was asserted by Frenkel in 1999 and bemoaned ever since.²³⁰ We reviewed

225. See Sapna Kumar, *The Accidental Agency?*, 65 FLA. L. REV. 229, 238–39 (2013) (footnote omitted).

226. *Id.*

227. Sarah R. Wasserman Rajec, *Patents Absent Adversaries*, 81 BROOK. L. REV. 1073, 1075 (2016) (alteration in original).

228. See Colleen V. Chien, *Protecting Domestic Industries at the ITC*, 28 SANTA CLARA COMPUT. & HIGH TECH. L.J. 169, 171–72 (2011) (“In an ITC proceeding, there are no juries, no counterclaims, few stays for reexamination, and no damages. Complaints are likely to be resolved within eighteen months. This level of efficiency makes the ITC one of the world’s premier venues for resolving patent disputes.”) (footnotes omitted).

229. 28 U.S.C. § 1295(a)(6).

230. See *supra* Section I.A.

the USPTO's annual reports going back to 1989, the oldest data that is readily available.²³¹ The data shows that, since 1989, the apparent grant rate for design patents has remained at or above roughly 70%.²³² By the mid-1990s, that rate was nearly 80%.²³³

We refer to an “apparent” grant rate because, as previously noted, design applications are generally kept confidential and unpublished unless and until they issue as patents.²³⁴ Application-level data—including dates of filing, docketing, various examiner actions and applicant responses, and eventual disposition—are therefore broadly unavailable. Nevertheless, it is possible to use publicly available data about aggregate annual trends to infer the success rate of design applications.

This approach is the same one that Dennis Crouch took in his 2010 study of design patent examination in the USPTO.²³⁵ Noting that “every patent application must eventually be disposed of either by (1) being allowed to issue or (2) being abandoned,” Crouch calculated the design patent grant rate as (applications allowed) / (patents allowed + applications abandoned).²³⁶ During the 2000s—the decade that Crouch examined—that rate remained over 90%. Our analysis confirms Crouch's finding and extends the grant rate analysis backward to Fiscal Year 1989 and forward up to Fiscal Year 2020. This chart shows the success (grant) rate over time:

231. The reports since 1993 are available online. See U.S. PAT. & TRADEMARK OFF., PERFORMANCE AND ACCOUNTABILITY REPORT (PAR), <http://www.uspto.gov/about-us/performance-and-planning/uspto-annual-reports> [https://perma.cc/8UK8-ELYR] [hereinafter USPTO ANNUAL REPORTS].

232. By the way, in 1989, design application filings were only a quarter of what they are now. *Id.*

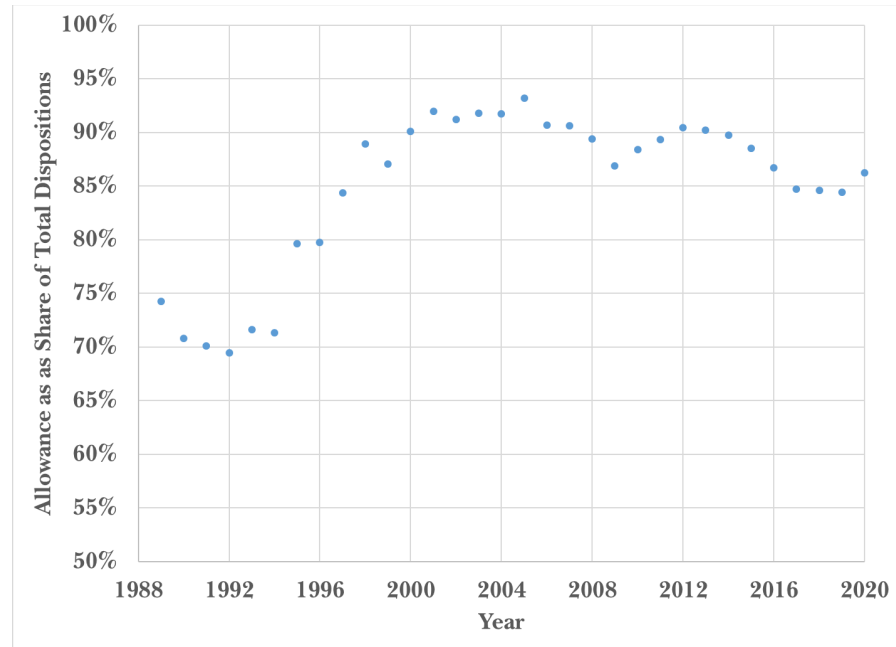
233. *Id.*; see also *supra* Section I.A.

234. See *supra* notes 43–45 and accompanying text.

235. Crouch, *supra* note 8, at 18.

236. *Id.*

Figure 3: Allowance of Design Applications as a Share of Total Dispositions (1989–2020)



As can be seen in this Chart, there was a marked rise in design patent allowance rates after 1992.

This marked rise in the apparent allowance rate is even more stark when assessed not as a time trend but as a function of the volume of design applications filed each year. This distinction arises because the actual number of design patents allowed each year we studied has grown roughly in parallel with the number of design applications filed, whereas the number of design applications abandoned each year has remained relatively flat by comparison. As a result, abandonments have taken up a steadily diminishing share of the overall disposition of design applications. Figures 4 and 5 show these further findings.

Figure 4: Allowance Rate of Design Applications as a Function of Total Design Applications Filed in the Same Year (1989–2020)

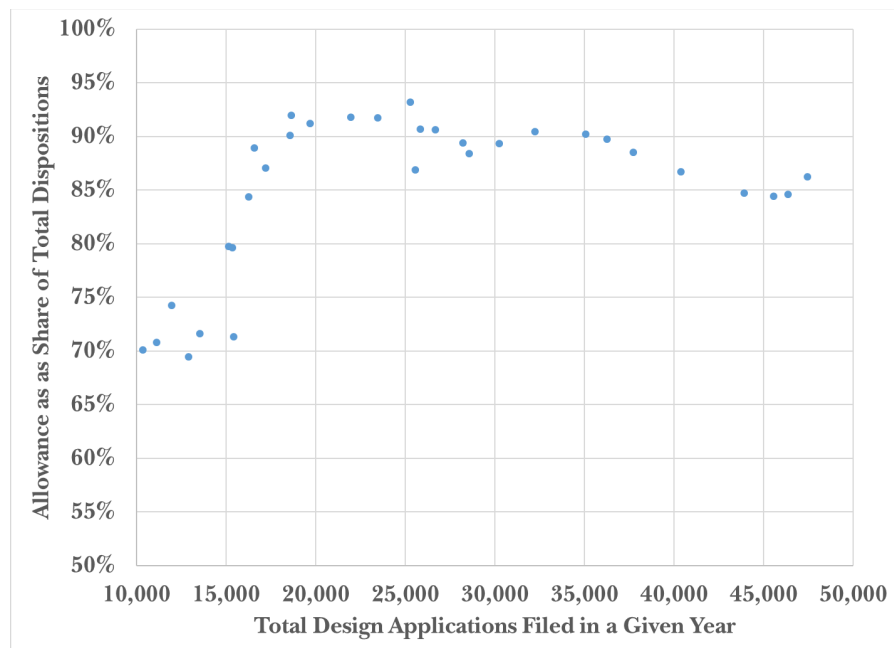
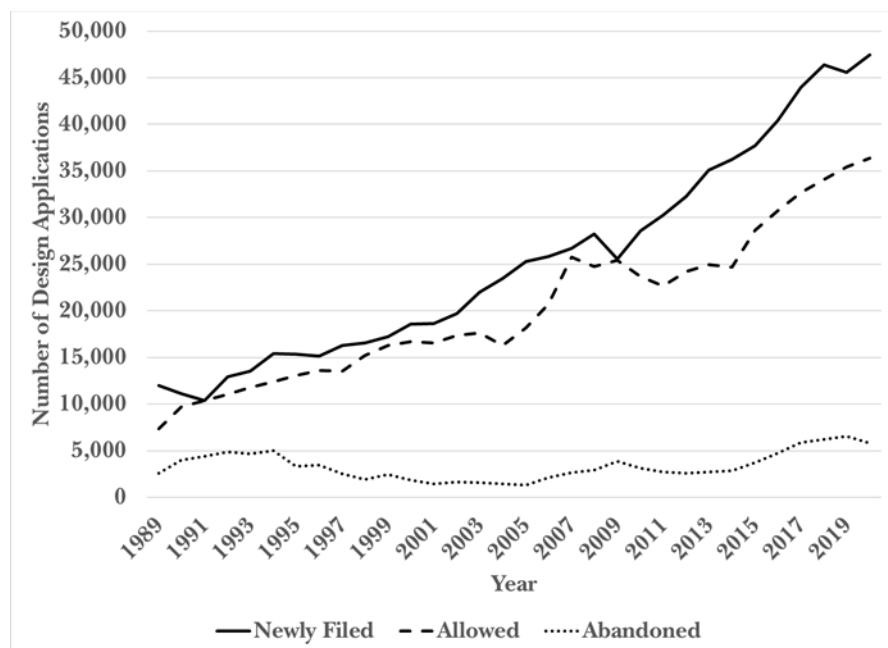


Figure 5: Allowance Rate of Design Applications as a Function of Total Design Applications Filed in the Same Year (1989–2020)



To enable replication of these findings, we encourage readers to consult the source of these aggregate statistics about annual filing, allowance, and abandonment: the USPTO's annual Performance and Accountability Reports. The agency currently provides these reports back through 1993, and each annual report also includes four years of prior-year data, allowing us to reach 1989.²³⁷

We also urge caution against over-interpreting these results. For example, Figure 3 might suggest that after a period of relatively high success for design applications, the late 2000s saw a decline to nearly 85%, only to be reversed sharply from 2009 onward. Indeed, a highly similar story for utility patent applications during the same period provoked concerns about a USPTO policy of systematically raising the rate of granting utility patents.²³⁸ In particular, a 2009 study by Quillen

237. See USPTO ANNUAL REPORTS, *supra* note 231.

238. See generally Mark A. Lemley & Bhaven Sampat, *Is the Patent Office a Rubber Stamp?*, 58 EMORY L.J. 181, 186–87 (2008); Cecil D. Quillen, Jr. & Ogden H. Webster, *Continuing Patent Applications and Performance of the U.S. Patent and Trademark Office—One More Time*, 18 FED. CIR. B.J. 379, 379–80, 384 (2009); Cecil D. Quillen, Jr., Ogden

and Webster estimated—using the same *exit* cohort method of allowances as a share of total dispositions—that 77% of original utility applications (or, if divisional applications were taken into account, 71%) resulted in a patent without recourse to continuations for the period of 1995–2007.²³⁹

This controversy was later resolved—and, indeed, could only have been resolved—by a 2015 study of the USPTO’s *internal* data by the agency’s then-Chief Economist Alan Marco and co-authors.²⁴⁰ That study “accurately estimate[d] the probability of allowance without the limitations of previous studies based on partial samples of published applications or exit cohorts.”²⁴¹ By focusing on *entry* cohorts over the comparable period of 1996–2005, the Marco study found that only 55.8% of progenitor applications²⁴² resulted in the grant of a patent without recourse to continuations. In short, the variability of abandonment and the opacity of internal USPTO data tended to overstate the grant rate for utility applications.

No such study has yet been done for design patents. And because regular design applications are not published after eighteen months, as utility patents are, the empirical picture for design law is obscured.²⁴³ Our more tempered conclusion is only that the available data suggest a high grant rate (upwards of 85–90%) for design applications between the late 1990s and the present. Although this figure may warrant discounting in light of the utility-patent grant rate controversy, it is consistent with the USPTO’s recently self-reported cumulative design allowance rate of 86.4% for fiscal year 2022.²⁴⁴

Moreover, because we cannot see the rejected and abandoned applications, we also do not know the bases for the rejections. It may be

H. Webster & Richard Eichmann, *Continuing Patent Applications and Performance of the U.S. Patent and Trademark Office—Extended*, 12 FED. CIR. B.J. 35, 36–37 (2002).

239. Quillen & Webster (2009), *supra* note 238, at 395–96.

240. Michael Carley, Deepak Hegde & Alan Marco, *What is the Probability of Receiving a U.S. Patent?*, 17 YALE J.L. & TECH. 203 (2015).

241. *Id.* at 205.

242. Progenitor applications are applications that claim no priority to any previously filed application.

243. See *supra* notes 43–45 and accompanying text (explaining the publication process for regular design applications).

244. *Design Dashboard*, *supra* note 38. The USPTO does not explain how it calculated this allowance rate. See *id.*

that a significant share are due to drawing (written description) problems, not due to substantive requirements like novelty or nonobviousness.²⁴⁵

We also note that this grant rate applies to design patent applications, which may or may not correspond to different commercialized products.²⁴⁶ While a design patent application can only have a single claim, a design owner can file more than one design patent application per product. Indeed, design owners often do file multiple applications for a single product, using dotted lines to direct each claim to different elements of the overall design.²⁴⁷ So one should not read the statistics reported here as saying that 15% of product designs are denied design patents. Without seeing the rejected applications, we simply cannot know how many discrete products they covered.

In any case, the available data indicate that acquiring design patents is much easier than the conventional wisdom holds, and it is clear that, today, the USPTO does *not* reject half of all design applications.

B. Defending Design Patents

Although design patent acquisition can take place only in the USPTO, issued design patents may be challenged and even revoked variously in the Article III courts, in the ITC, or in the PTAB.²⁴⁸ We turn now to each of these types of validity challenges. The modern design literature does begin to address the fate of design patents in the courts, and a few tabulate results in the PTAB, though even these studies are few and tentative. We elaborate on these studies and add the ITC to the mix.

1. In the courts

Design patents in modern district-court litigation are not invalidated “most” of the time.²⁴⁹ The opposite is true. For the period of 2008 to

245. See *supra* note 180 and accompanying text (noting the reported prevalence of rejections based on the quality of drawing).

246. We distinguish here between “products” and “article[s] of manufacture” (the latter being a term of art used in 35 U.S.C. § 171). We use the word “product” to refer to “something sold by an enterprise to its customers.” See KARL T. ULRICH & STEVEN D. EPPINGER, *PRODUCT DESIGN AND DEVELOPMENT* 2 (5th ed. 2012). Because some products are not manufactured, not all products can be articles of manufacture. Burstein, *The Patented Design*, *supra* note 162, at 208.

247. See *supra* notes 149–150 and accompanying text (detailing this process).

248. See *supra* Part II (describing the various tribunals adjudicating design patents).

249. See *supra* Section I.B (debunking such claims).

2020, district courts making validity determinations about design patents upheld them (i.e., found them “not invalid”) 88.4% of the time—and only 11.6% of these determinations resulted in a patent being invalidated.²⁵⁰

These findings are based on a study of nearly 1200 case documents in U.S. district courts where a determination was made about patent validity or enforceability.²⁵¹ Our search of federal design patent lawsuits revealed 246 cases filed during the period from 2008 through 2020 in which the court made such a determination.²⁵² These 246 cases varied in the number of design patents that were being asserted, ranging from 1 to 19 patents in suit. Rather than the number of cases, we focus on the number of adjudications of each design patent in each case. Taking these individual determinations as the unit of observation, our dataset was made up of 556 case-patent pairs, where each pair was a candidate for determining validity or enforceability.

Of those 246 cases in the dataset, 243 contained determinations of design patent validity across 550 case-patent pairs. Of those 550 pairs, 486 were upheld (88.4%) whereas 64 were found invalid (11.6%). Meanwhile, of the same 246 cases in the dataset, 163 contained determinations of design patent enforceability across 407 case-patent pairs. Of those 407 pairs, 405 were upheld (99.5%) whereas 2 were found unenforceable (0.5%).

Indeed, these outcomes are even more patent-friendly than those that Andrew Torrance reported in 2012.²⁵³ Canvassing the nearly three-decade history of the Federal Circuit, Torrance concluded that district courts found design patents not invalid 68.7% of the time.²⁵⁴

250. The question of enforceability is related to, but separate from, the question of patent validity. A patent, though valid, may turn out to be unenforceable, usually due to impropriety in how it was procured, e.g., by inequitable conduct or some other form of fraud on the USPTO. District court findings on enforceability are even more stark, with courts upholding design patents (i.e., finding them “not unenforceable”) 99.5% of the time.

251. We analyzed data from Docket Navigator, which itself draws federal court case data from the Public Access to Court Electronic Record (PACER) system of the Administrative Office of the U.S. Courts. See DOCKET NAVIGATOR, <https://brochure.docketnavigator.com> (search strategy on file with authors).

252. *Id.* We started with 2008 because that is as far back as PACER data, on which Docket Navigator relies, is generally reliable.

253. Torrance, *supra* note 8 at 390, 399.

254. *Id.* at 399–400. The Torrance study found 83 decisions with a validity or infringement finding of a total of 120 design patents during 1982–2011: of those 83 decisions, 48 were district court decisions, 32 were appellate decisions from the Federal

Though Torrance's reported district court invalidation rate of 31.3% is higher than what we find for 2008 to 2020, his data also tend to reject the conventional wisdom about design patent invalidations in the courts. His data, like ours, show that in recent years, federal district courts are not invalidating two-thirds of litigated design patents.

2. *In the ITC*

As we see, federal court litigation is actually quite hospitable to design patent validity. ITC litigation is even more so, though the number of cases is much smaller. Our search of ITC proceedings revealed twelve cases filed from 2011 through 2020 in which the ITC made a determination about the validity, enforceability, or infringement of one or more design patents.²⁵⁵ As with the district-court analysis, we took as our unit of observation the case-patent pair being evaluated.

As to validity, the ITC upheld nineteen out of twenty case-patent pairs (95%) and invalidated only one design patent (5%).²⁵⁶ Given the relatively small population of ITC design patent cases, we caution against strong conclusions about strategic behavior across tribunals as is often seen with utility patents.²⁵⁷ Still, the available data do suggest that the ITC is not invalidating two-thirds of the design patents asserted there.

3. *In the PTAB*

Between the large case volume of the district courts and the few cases of the ITC, there lies the complex and growing story of the PTAB. The PTAB is only about a decade old whereas the ITC has had the authority to adjudicate intellectual-property cases (including design patent

Circuit, 1 was an appellate decision from the Sixth Circuit, and 2 were from the Court of Federal Claims, an Article I court. *Id.* at 396.

255. We looked at the period of 2011 to 2020 because the AIA trial proceedings in the PTAB all came online in 2012 (specifically on Sept. 16, 2012), so PTAB data begins on that date. Generally, district court data (or ITC data) in the context of court-PTAB comparison begins in 2011—because the one-year time bar of inter partes review means that a parallel district court or ITC case from as much as a year ago can influence petitioner behavior in the PTAB. So the earliest PTAB cases (from 2012) could have been filed in the shadow of district court or ITC litigation from up to a year before (from 2011).

256. As to enforceability, the ITC upheld twelve out of twelve case-patent pairs (100%) and did not find any design patents unenforceable.

257. See Vishnubhakat, Rai & Kesan, *supra* note 17 (assessing strategic behavior in PTAB and district court proceedings).

cases) for decades.²⁵⁸ Even before the AIA established the PTAB with its trial-type proceedings for revoking patents, a 2006 Supreme Court decision had already begun to send patent owners away from the Article III courts to the ITC.²⁵⁹ Nevertheless, the PTAB has quickly grown into a mature tribunal with extensive experience in adjudicating patent validity, outpacing the ITC and even a great many district courts.²⁶⁰ That experience has also extended, on a smaller scale, to design patents.

We focus here on two of the three types of PTAB trials: inter partes reviews (IPR) and post-grant reviews (PGR). Covered business method (CBM) reviews are irrelevant to our analysis both because design patents were ineligible for CBM proceedings²⁶¹ and because, as of September 2020, the eight-year legislative sunset provision on CBM reviews has run its course, leaving only IPR and PGR proceedings still in place.²⁶²

Overall, the survival rate of design patents in AIA proceedings at the PTAB is 79%, reflecting a survival rate of 78% among IPR cases and of 81% among PGR cases. The notion of an overall survival rate calls for further explanation. Unlike the district courts or the ITC, the PTAB hears cases discretionarily. Petitions for IPR or PGR make an initial

258. The federal district courts have had that authority for over a century. *See* Act of Aug. 29, 1842, ch. 263, § 3, 5 Stat. 543, 543–44 (1842) (creating design patents and providing a right of action in federal court).

259. In *eBay Inc. v. MercExchange, L.L.C.*, the Court held that injunctions should be granted only sparingly rather than with the high frequency that patent owners had previously enjoyed upon a finding of liability. 547 U.S. 388 (2006). As a result, patent owners flocked to the ITC in pursuit of exclusion orders, which are equivalent in most respects to an injunction and which are not subject to *eBay* insofar as the ITC is not an Article III tribunal and so is not bound by traditional principles of equity. *See generally* Colleen V. Chien & Mark A. Lemley, *Patent Holdup, the ITC, and the Public Interest*, 98 CORNELL L. REV. 1 (2012) (exploring this trend in detail).

260. *See* Vishnubhakat, Rai & Kesan, *supra* note 17.

261. AIA, *supra* note 185, § 18(d)(1) (providing that “the term ‘covered business method patent’ means a patent that claims a method or corresponding apparatus for performing data processing or other operations used in the practice, administration, or management of a financial product or service, except that the term does not include patents for technological inventions”).

262. Pub. L. No. 112-29 § 18(a)(3); *see also* Saurabh Vishnubhakat, *The Lackluster Revolution of CBM Review*, FED CIR. BLOG (Sept. 15, 2020), <http://www.fedcircuitblog.com/2020/09/15/online-symposium-the-lackluster-revolution-of-cbm-review> [<https://perma.cc/9LPZ-URCT>] (assessing lessons learned from the CBM review’s eight-year lifespan).

case for invalidity,²⁶³ in response to which the patent owner is entitled to offer counterarguments in support of its patent's validity.²⁶⁴ Based on this initial argumentation, the assigned three-judge panel of the PTAB determines whether review ought to be instituted, i.e., whether the case ought to be accepted.²⁶⁵ The standard for institution is a likelihood of success on the merits. For IPR, there must be a "reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition."²⁶⁶ For PGR, it must be "more likely than not that at least 1 of the claims challenged in the petition is unpatentable"²⁶⁷—or, alternatively, the petition must raise "a novel or unsettled legal question that is important to other patents or patent applications."²⁶⁸

Within this framework, design patents survive the institution phase at a rate of 64%, reflecting a survival rate of 61% among IPR cases and of 71% among PGR cases. The denial of institution usually means that the PTAB has found an inadequate likelihood of success on the merits—though it may also mean in certain cases that there is a sufficient likelihood of success but that the PTAB is declining to hear the case for other reasons, such as avoiding duplication with other pending cases.²⁶⁹

Unsurprisingly, the design patent survival rate for instituted cases is lower. In instituted cases, design patents survive at a rate of only 30%, reflecting a 39% survival rate among IPR cases but 0% among PGR cases.²⁷⁰ The relatively low survival rate among post-institution cases is

263. 35 U.S.C. §§ 312, 322.

264. *Id.* §§ 313, 323.

265. *Id.* §§ 314, 324.

266. *Id.* § 314(a).

267. *Id.* § 324(a).

268. *Id.* § 324(b).

269. See Vishnubhakat, *Patent Inconsistency*, *supra* note 18.

270. Again, the overall numbers here are small and we caution against overreading this data. We found, as of August 10, 2020, only twenty-eight instituted AIA design patent proceedings with final decisions. Of those twenty-eight, nine out of twenty-eight survived (32%). For PGRs, it was zero out of five and nine out of twenty-three for IPR. Our analysis can be replicated using data from the Docket Navigator service, which provides free and low-cost access to coded metadata about patent cases in the U.S. federal courts as well as the PTAB. Like LexMachina and other widely used patent litigation data services, Docket Navigator obtains its underlying litigation data from the federal judiciary's Public Access to Court Electronic Records (PACER) service, which is the principal data source of many innovation studies. Neither PACER nor the commercial services that rely on it permit researchers to disclose significant portions of their database. Accordingly, we describe the Docket Navigator data we used with the

to be expected. After all, the very act of instituting review requires an informed prediction that patent invalidity could be in the offing. Thus, the overall survival rate (79%) is the most sensible point of comparison with other tribunals such as the district courts and the ITC. If we look at all of the design patents challenged at the PTAB, it cannot be said that the PTAB is invalidating two-thirds of the design patents challenged there.

C. Enforcing Design Patents

Among district-court cases decided from 2011 to 2021, the share of decisions in which the court found infringement has shown some volatility during the past decade, during which litigation has taken place in the shadow of concurrent revocation proceedings in the PTAB. However, taken as a twelve-month moving average, the share of design patent decisions in which the court found infringement has remained almost entirely above 50% since 2011.²⁷¹ Since 2015, the share of design patent decisions in which the court found infringement has remained above 80%.

understanding that other researchers can readily access it to replicate our study. *See* Vishnubhakat, Rai & Kesan, *supra* note 17, at Appendix A.

271. Again, we are focusing on patent-by-patent adjudications, regardless of how the asserted claims are bundled into court cases. So, by “design patent decisions,” we mean instances in which the infringement of a single patent was adjudicated. One court case may involve multiple design patent decisions.

*Figure 6: DCT Infringement Decisions Finding Infringement
(Twelve-Month Average, 2011–2021)*



The data from the ITC tells a similar story, though the number of cases decided by the ITC during the same period is considerably smaller than those decided by district courts. Out of a total of twenty-two infringement decisions upon case-patent pairs, the ITC found infringement in nineteen instances (86.3%). Overall, these data indicate there is a slightly lower rate of invalidation in district courts and the ITC as compared to the newer PTAB proceedings; however, design patents survive the vast majority of the time in all three arenas.

IV. IMPLICATIONS

This Part discusses the important normative lessons that emerge both from our assessment of the prior literature and from our own novel analysis of design patent acquisition and enforcement.

A. The Weak Case for Design Patent Reform

Commentators, bar-association leaders, and legislators have argued—and continued to argue—for changes to design patent law

based on various dire empirical assertions.²⁷² Some argue that design patent standards should be relaxed in order to correct for supposedly high rates of rejection in the USPTO or supposedly high rates of invalidation in the courts.²⁷³ Others argue for the creation or adaptation of other forms of IP to correct for the supposedly inadequate protection of design patents.²⁷⁴

These proposals fall short for at least two reasons. First, they are empirically faulty both with respect to the few outdated and unreliable studies on which they rely and in light of current data. Second, these proposals are analytically underspecified because they fail to offer any theory about the optimal rates of patent grant and patent vindication.²⁷⁵ Those who favor *sui generis* forms of protection for designs may still argue that design patents take too long to get and are too expensive, at least compared to copyright.²⁷⁶ But everything is slow and expensive compared to copyright, which is instantaneous (upon fixation) and free.²⁷⁷ Without some theory of why instantaneous and free is the optimal standard for granting IP rights in designs, such arguments are, at best, incomplete.²⁷⁸

B. Causation

Our data show that, statistically, it is easy to get and keep a design patent today. But the data do tell us why. Crouch posited that the high

272. See *supra* Part I (reviewing these claims).

273. See, e.g., Church, *supra* note 48, at 521 (arguing that the law of ornamentality should be changed “because courts continue to find ways to invalidate a large percentage of litigated design patents”).

274. See, e.g., Hemphill & Suk, *supra* note 4, at 1184–90 (proposing a new IP right for fashion designs).

275. See, e.g., *supra* Section I.B.3 (critiquing these studies).

276. See Perry J. Saidman, *The Crisis in the Law of Designs*, 89 J. PAT. & TRADEMARK OFF. SOC’Y 301, 331 (2007) (“Some of the biggest objections to design patents over the years have been that they take too long to get, that they cost too much, that you can only protect one design per application, and that it is hard to satisfy the design patent standard of ‘non-obviousness.’”).

277. See Burstein, *Standard Criticisms*, *supra* note 7, at 310–11 (“Unlike design patent protection, copyright protection arises automatically when a qualifying work is ‘fixed in any tangible medium of expression.’ Copyright protection is, therefore, instantaneous and essentially costless.”) (citing 17 U.S.C. § 102(a)).

278. See *id.* at 334–35 (pointing out problems in the “too expensive” arguments that have been made). Indeed, the costliness of design patent protection—in both money and time—can be seen as feature, not a bug. Burstein, *Costly*, *supra* note 142, at 149; see also Buccafusco, Lemley & Masur, *supra* note 142, at 135 (arguing for the “establish[ment of] a meaningful costly screen to design patents”).

design patent grant rate was a result of “the USPTO’s *sub silentio* abdication of its gatekeeper function in the realm of design patents.”²⁷⁹ But if such were the case, we would expect to see more design patents invalidated in court and in the PTAB.²⁸⁰ Some design patent practitioners have suggested that design patents are surviving PTAB challenging because they are so well-drafted and well-examined.²⁸¹ This explanation is also unsatisfying. We have no reason to doubt that design patent examiners do the best work they can and that many design patent prosecutors do good work. However, it seems unlikely that excellent prosecution is the only—or even the main—thing going on here.²⁸²

Ultimately, it seems the most likely explanation is that the substantive standards of design patentability are extremely friendly to design patent owners and applicants. As one of us has argued, the Federal Circuit’s tests for design patent validity are easy to satisfy in theory.²⁸³ The data we have collected here indicate that those tests are also easy to satisfy in practice.

279. Crouch, *supra* note 8, at 19.

280. As noted above, the small size of the ITC dataset leaves us hesitant to draw any broad conclusions from it.

281. Tracy-Gene G. Durkin & Pauline M. Pelletier, *Why Design Patents Are Surviving Post-Grant Challenges*, LAW360 (Mar. 22, 2017, 12:42 PM), <http://www.law360.com/articles/903876/why-design-patents-are-surviving-post-grant-challenges>; *id.* (“[T]he ability of design patents to withstand post-grant scrutiny [. . .] reflects the quality of original examination.”); *see also* Tracy-Gene G. Durkin & Daniel A. Gajewski, *PTAB Follows Case Law, Design Examiners Should Too*, LAW360 (Apr. 26, 2017, 4:40 PM), <https://www.law360.com/articles/917457> (“[T]he board’s treatment of design patents has shown the overwhelming strength of the outcome of design patent prosecution, which is a testament to the work that USPTO design examiners and practitioners do together to ensure that only valid patents are issued.”).

282. We can, of course, see why prosecutors would want to take this position in trade publications that would be read by examiners and clients.

283. *See* Burstein, *Lax?*, *supra* note 7, at 624; Burstein, *Standard Criticisms*, *supra* note 7, at 336. Notably, this is not inconsistent with substantive observations made by practitioners. For example, Durkin and Pelletier averred that “the difficulty petitioners are having in successfully challenging design patents [at the PTAB] seems to come from their failure to assert prior art that is similar enough to the claimed design.” Durkin & Pelletier, *supra* note 281. But while Durkin and Pelletier seem to suggest that this “failure to assert” is the result of bad lawyering, it may well be that challengers struggle to find art that’s close enough because the Federal Circuit requires such a high level of visual similarity. *See supra* Section II.A.1.a (explaining the high level of similarity required for anticipation under § 102 and for primary references under § 103).

In future research, it would be valuable to break down the available data further to determine the bases on which design patents are more or less likely to be invalidated, both in courts and in the PTAB. It would also be helpful to know how many (of the currently small percentage of) design patent invalidations are based on third-party prior art as opposed to, say, improper priority claims.²⁸⁴ This kind of information would help inform conversations about whether the Federal Circuit's tests for design patentability should be modified. And because so many past commentators have suggested that certain fields—most notably fashion—are the subject of undue scrutiny, it may be helpful to break down the available data by industry.²⁸⁵

In order to understand fully what is going on in the system, however, we need access to rejected design patent applications. The USPTO should publish design patent applications, as it does with other patent applications.²⁸⁶ Doing so would allow patent applicants to learn how the USPTO is actually applying the design patent laws and its own design patent rules, so as to better prepare their own applications. It would also support research that allow stakeholders, including the public, to better understand the design patent system.

Moreover, we see no good reason why design patent applications should be kept confidential.²⁸⁷ Some may argue that design publication would allow for designs to be copied by others. That may be true. But if the design is ultimately patented, the owner would be able to recover pre-issuance damages.²⁸⁸ And if design patent protection is rejected,

284. Cf. Final Written Decision, *Munchkin Inc. v. Luv N' Care Ltd.*, IPR2013-00072 (Apr. 21, 2014); *In re Owens*, 710 F.3d 1362, 1368–69 (Fed. Cir. 2013).

285. We note that Schwartz & Giroud have started this work. See *supra* note 11.

286. Others have also argued for design application publication. See William T. Fryer, III, *Design Patent System for the Twenty-First Century*, 24 AIPLA Q.J. 331, 344 (1996) (arguing that “regular access to most pending design applications helps to reduce potential conflicts and related litigation”); Gary L. Griswold, *Publishing Design Patent Applications: Time to Act*, PATENTLY-O (May 8, 2015), <http://patentlyo.com/patent/2015/05/publishing-design-patent-applications.html> [https://perma.cc/5PME-FB7L] (arguing that “all U.S. design applicants—not just Hague applicants—should have the benefits that come from this type of universal examination transparency”).

287. Indeed, it is not clear why design patent applications were excluded from the publication requirement when it was enacted in 1999. See Intellectual Property and Communications Omnibus Reform Act of 1999, Pub. L. No. 106-113, app. I, 113 Stat. 1501, 1501A-521.

288. See 35 U.S.C. § 154(d) (authorizing such damages).

then the design should be free for others to use anyway.²⁸⁹ The public deserves to know how the USPTO is handling design patent applications, especially those that fail. Accordingly, Congress should amend 35 U.S.C. § 122 to require the publication of all design patent applications.

At this point, we do not express an opinion on when design patent applications should be published, so long as it is done in a reasonably timely manner. Our initial impression is that eighteen months—the period used for utility patents—is probably a good outer limit. A shorter period may be appropriate for designs, given their shorter average pendency.²⁹⁰

A shorter period would also allow third parties to submit prior art to the examiner.²⁹¹ It is unclear how much of a difference this would make in most cases, given the above-discussed legal standards.²⁹² That said, there may be some cases where third-party submissions could be useful.²⁹³ There seems to be no good reason to exclude designs from the USPTO's general system of third-party pre-issuance submissions.

C. Further Research

Our literature review also serves as a cautionary tale for those engaged in empirical or normative research in design patents—indeed, in law and policy generally. Undue reliance on the summaries and descriptions of others can, over time, distort what a study actually says and stands for.²⁹⁴ Old data warrants skepticism, especially if there have been potentially

289. Unless of course it is covered by some other IP right. *See generally* Burstein, *Standard Criticisms*, *supra* note 7, at 308–13 (explaining the different types of IP protections available for designs in the United States).

290. For February 2022, the USPTO reported an average design pendency rate of 20.7 months as compared to the average utility patent pendency rate of 23.6 months. *Design Dashboard*, *supra* note 38; *Patent Pendency Data February 2022*, U.S. PAT. & TRADEMARK OFF., <https://www.uspto.gov/dashboard/patents/pendency.html> (last visited Apr. 12, 2022).

291. *See* 35 U.S.C. § 122(e).

292. Burstein, *Lax?*, *supra* note 7, at 625.

293. *See id.* For example, perhaps someone with a Vogue subscription could have notified the examiner that Minling Lin did not invent two handbags that Lin has patented. *See A Mysterious Chinese “Inventor” Is Amassing Patents for Others’ “It” Bags*, FASHION LAW (June 27, 2019), <http://www.thefashionlaw.com/a-little-known-inventor-is-amassing-patent-protections-for-others-it-bags> [https://perma.cc/S7TR-X7QP] (discussing U.S. Patent Nos. D843,109, D851,396).

294. *See, e.g.*, the citation “telephone” phenomenon we observed with Lindgren’s infringement data. *Supra* Section I.C.

important intervening events, such as the creation of a new specialist appeals court.²⁹⁵ In such situations, simply repeating past conclusions can be problematic, especially if no one has yet taken the time to update old studies. These points may seem obvious, but the imprecise citations and other distortions we document here reflect the ongoing importance of these lessons.

CONCLUSION

Contrary to the conventional wisdom, the situation facing design patents and applicants today is anything but dire. Three empirical assertions are often repeated in the design literature: (1) half of all design patent applications are rejected; (2) most design patents are found invalid in litigation; and (3) most litigated design patents are not found infringed. As we have shown, these assertions are drawn from flawed studies that were not empirically robust and rely on pre-Federal Circuit data. Thus, no one should assume those studies represent what is happening in design patent law and practice today.

And indeed, they do not reflect what is going on in design patent law and practice today. As we have shown:

- Today, it is not true that half of all design patent applications are rejected.
 - To the contrary, from the late 1990s to the present, it appears that only 10–15% of design patent applications were rejected.²⁹⁶
 - In other words, from the late 1990s to the present, it appears that upwards of 85–90% of design patent applications were granted.
- Today, it is not true that most litigated design patents are found invalid.
 - To the contrary, in district-court cases filed between 2008–2020, when validity was adjudicated, design patents were invalidated only 11.6% of the time.

295. See *supra* Section II.B.1 (arguing that periods of historical oscillation in the field are separated “not by gradual institutional change but by structural breaks,” making it difficult to conduct and assess empirical analysis across these periods).

296. *Supra* Section III.A.

- In other words, in district-court cases filed between 2008–2020, when validity was adjudicated, the design patent was upheld 88.4% of the time.
- Today, it is not true that most litigated design patents are found not infringed.
 - To the contrary, as a twelve-month moving average, the share of design patent decisions in which the court found infringement has remained almost entirely above 50% since 2011.
 - Since 2015, the share of design patent decisions in which the court found infringement has remained above 80%.

To be clear, we make no comparative claims here. We do not conclude that design patent success rates changed after the Federal Circuit started deciding design patent cases, as we did not collect or separately analyze pre-Federal Circuit data. And, given the problems we have identified with the old empirical studies, we would caution readers against making comparisons between those studies' findings and our own. We also express no view on whether the current design patent success rates are good or bad. We simply report that those rates are very different from the conventional wisdom. We call on others to join us in further investigating this ever-more important area of the law and on Congress to change the provision that exempts design patent applications from publication.

We have also gone beyond the prior literature and analyzed how design patents are faring at the ITC and in the relatively new AIA proceedings at the PTAB.

- Between 2011–2020:
 - When validity was adjudicated, the ITC only invalidated the design patent once (5% of the time). It upheld the patent 95% of the time.
 - When infringement was adjudicated, the ITC found infringement 86.3% of the time.
- Between 2012 and August 2020, the overall survival rate for design patents challenged in post-grant-review proceedings in the PTAB was 79%. Specifically, the rate was 78% for IPR challenges and 81% for PGR challenges.

We caution that the populations we study have often been relatively small, especially with respect to post-grant-review proceedings in the PTAB or Section 337 proceedings in the ITC. Therefore, we caution against drawing strong conclusions about strategic behavior or causal effects across different tribunals. These data are only a first step, albeit an important one, to understanding what is happening with design patents in these new fora.

Overall, these data do not support any suggestion that courts—or other relevant fora—are “hostile” to design patents.²⁹⁷ Instead, they show that the contemporary requirements for design patentability are not “demanding” in any reasonable sense of that word.²⁹⁸ Our findings also undermine several reform proposals that rely, at least in part, on the dire statistics we have debunked here.

We suspect that commentators will find other things to criticize about the design patent system. But if we are to debate the merits of the design patent system, let us do it based on the design patent system as it is, not as it might have been forty years ago.

297. See, e.g., Aoki, *supra* note 114, at 349 n.290 (citing examples of alleged “judicial hostility to design patent validity”).

298. See, e.g., Hemphill & Suk, *supra* note 4, at 1150 n.10 (asserting that design patents have “demanding standards for protection”).