

United States

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United States courts take a context-sensitive approach to the grant of injunctive relief for US patent infringement. Such context-sensitivity is consistent with the *US Patent Act*, which indicates that courts “may grant injunctions in accordance with the principles of equity to prevent the violation of any right secured by patent, on such terms as the court deems reasonable.”¹ In common law jurisdictions, “equity” is generally viewed as resistant to strict rules and willing to make exceptions in light of particular circumstances.² In accordance with this vision of equity, the generalist trial judges of US district courts³ consider various factors in determining whether injunctive relief is justified and have great discretion to tailor injunctions in a particular case.⁴ On the other hand, US courts have continued to grant injunctive relief in most infringement cases in which a patent owner prevails, particularly when the patent owner is in direct competition with the adjudged infringer.⁵ In contrast, US courts commonly deny injunctive relief for patent owners who are

¹ 35 USC § 283.

² See *eBay* (US 2006, 393–94) (criticizing “expansive principles” tending to require or preclude injunctive relief in “broad swath[s] of cases”).

³ Henderson & Hubbard 2015, S93 (“Federal district court judges are generalists, and it is probable that the minutiae of a specialty area, like securities law, are beyond the ken of the average judge”). In recent years, parties have filed a few thousand patent suits in US district courts annually. See Clark 2020, 4 fig. 1 (reporting just under 3,600 patent suit filings in each of 2018 and 2019); United States Courts 2020. “Even before any appeal, district court proceedings that run through trial commonly span about two years.” Cohen et al. 2017, 1793; see also Clark 2020, 7 fig. 6 (reporting median times to summary judgment of 639 days and to trial of 843 days for the decade from 2010 through 2019).

⁴ See *Weinberger* (US 1982, 312) (“Where plaintiff and defendant present competing claims of injury, the traditional function of equity has been to arrive at a ‘nice adjustment and reconciliation’ between competing claims ‘The essence of equity jurisdiction has been the power of the Chancellor to do equity and to mould each decree to the necessities of the particular case,’” quoting *Hecht* (US 1944, 329)).

⁵ See Cotter & Golden 2019.

“nonpracticing entities” or “patent trolls” – forms of patent-owning entities that do not engage in substantial commercialization or use of the patented invention or variants of it.⁶ Further, the US Court of Appeals for the Federal Circuit has held that the US Patent Act does not authorize injunctions to correct past patent infringement.⁷ Instead, injunctions are to be granted only as a means to prevent future infringement.⁸

A. BASIC STANDARDS WITH RESPECT TO PRELIMINARY AND PERMANENT INJUNCTIONS

In Anglo-American law, injunctions are equitable remedies, traditionally “to be granted only where law damages [and other remedies available at law] were inadequate and, even then, only in the discretion of the court.”⁹ The requirement of inadequate legal remedies helped justify common statements that an “injunction is an exceptional remedy.”¹⁰ But the traditional limitations on injunctive relief left substantial questions of what constitutes inadequacy of legal remedies and how much discretion trial judges retain. In 2006, the Supreme Court of the United States reshuffled understandings on these matters through its decision in *eBay Inc. v. MercExchange, LLC*,¹¹ effectively giving trial judges greater discretion to deny injunctive relief after a judgment of patent infringement.¹² This section discusses the courts’ basic tests for whether to grant injunctive relief in the wake of the Supreme Court’s *eBay* decision.

A key distinction in US remedies law is that between permanent and preliminary injunctions. A permanent injunction is a court order pursuant to a final judgment.¹³ In a patent infringement suit, a court that renders a final judgment in favor of the patent holder may issue a permanent injunction forbidding the adjudged infringer from engaging in specified infringing activities, typically activities involving the particular products or processes that are the basis for the court’s infringement judgment.¹⁴ A preliminary injunction comes before a final judgment: its purpose is to prevent irreparable injury to the plaintiff before the court can issue a final judgment and, relatedly, “to preserve the court’s power to render a meaningful decision” on the fully presented merits.¹⁵ There is substantial overlap between how

⁶ *See id.*

⁷ Golden 2012, 1424–25.

⁸ *Id.*, 1424–25.

⁹ Claus & Kay 2010, 495.

¹⁰ Bray 2015, 1026.

¹¹ *eBay* (US 2006).

¹² *See infra* Section A.1.

¹³ Frost 2018, 1070.

¹⁴ Golden 2012, 1420–24; Stroup et al. 2017, 533.

¹⁵ Wright et al. 2019, 11A: § 2947. Another form of “provisional,” pre-final injunction is the temporary restraining order (TRO), a form of emergency order that a court may issue without

US courts assess whether to issue a permanent injunction and how they assess whether to issue a preliminary injunction. But because a court must generally decide whether to issue a preliminary injunction at a time when the outcome of the case is uncertain, there is necessary difference as well. Thus, these two main types of injunctions are discussed separately in the subsections that follow.

1. *Permanent Injunctions*

For over a century prior to the US Supreme Court's 2006 decision in *eBay*, US courts were described as issuing permanent injunctions "as a matter of course" upon making a final judgment of patent infringement.¹⁶ This practice tracked a more general presumption in favor of granting injunctions in cases involving "continual infringement" of a right,¹⁷ circumstances in which an injunction might be thought particularly helpful in preventing later relitigation of substantially the same dispute.¹⁸ But the practice and presumption were not absolute: consistent with general equitable principles, there was a general sense that a court would decline to grant an injunction that would inflict "grossly disproportionate hardship on the defendant"¹⁹ or would conflict with a substantial public interest.²⁰

The US Court of Appeals for the Federal Circuit reformulated this practice and presumption as amounting to a "general rule that courts will issue permanent injunctions against patent infringement absent exceptional circumstances."²¹ In stating this rule, the Federal Circuit repeatedly acknowledged that a court might nonetheless deny an injunction to protect the public interest.²² The Federal Circuit has also clarified that, where an award of damages compensates a patent holder for use of the invention during the full patent term, a trial court would not abuse its discretion by denying an injunction.²³ But the Federal Circuit was not so active in acknowledging discretion to deny an injunction that would inflict disproportionate hardship on an adjudged infringer.²⁴ Indeed, within a few years of the Federal Circuit's creation in 1982,²⁵ the court signaled a lack of sympathy with such a potential basis for denying an injunction by declaring that the fact that an injunction might put a particular infringer out of business "cannot justify denial of [a

a hearing at which its target may be heard. Dobbs 1993, 1: 8. TROs are so rare in US patent law that they are not discussed in the body of this chapter.

¹⁶ Golden 2007, 2119–20 & n. 38 (internal quotation marks omitted), 2122 & n. 49.

¹⁷ Gergen et al. 2012, 212–13.

¹⁸ *Id.*, 235.

¹⁹ Smith 2009, 2131; Note 1958, 342–43.

²⁰ Schwartz 1964, 1042–43.

²¹ *MercExchange* (Fed. Cir. 2005, 1339).

²² *Id.*, 1338.

²³ *Trans-World* (Fed. Cir. 1984, p.1565).

²⁴ *MercExchange* (Fed. Cir. 2005, 1338).

²⁵ *South Corp.* (Fed. Cir. 1982, 1369).

permanent] injunction”: “One who elects to build a business on a product found to infringe cannot be heard to complain if an injunction against continuing infringement destroys the business so elected.”²⁶

The Federal Circuit’s “general rule” language and practice stood out against a historical background in which the US Supreme Court had said many times “that equitable remedies are exceptional and available only where there is no adequate remedy at law.”²⁷ Hence, in *eBay* the Supreme Court granted *certiorari* to review the Federal Circuit’s “general rule.”²⁸

This review did not favor the general rule. The Supreme Court emphasized the discretion of trial courts in deciding whether to grant injunctive relief.²⁹ At the same time, however, the court held that, in determining whether to issue a permanent injunction against an adjudged infringer, courts must apply a four-pronged test. Under this test, the party moving for an injunction “must demonstrate”:

- (1) that it has suffered an irreparable injury;
- (2) that remedies available at law, such as monetary damages, are inadequate to compensate for the injury;
- (3) that, considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted; and
- (4) that the public interest would not be disserved by a permanent injunction.”³⁰

The first two prongs of this test are somewhat awkward at best. Regarding the first prong, the court presumably meant to indicate that the movant for an injunction must show that it *will* suffer irreparable injury if an injunction does not issue, rather than that it “has suffered irreparable injury” in the past.³¹ Moreover, the first and second prongs are fundamentally redundant.³² These prongs essentially just state and restate the general, threshold requirement that a court find legal remedies such as compensatory damages³³ inadequate before turning to equitable relief such as an injunction.³⁴

The Supreme Court did not explicitly say that no presumptions in favor of the movant for an injunction can apply to analysis of any of these factors.³⁵ But lower courts, including the Federal Circuit, have commonly taken this to be the case, holding that *eBay* required them to drop, for example, presumptions regarding irreparable injury that their preexisting precedent had prescribed.³⁶

²⁶ *Windsurfing* (Fed. Cir. 1986, 1003 n. 12).

²⁷ *Bray* 2015, 1002–03.

²⁸ *eBay* (US 2006, 391).

²⁹ *Id.*, 391, 394.

³⁰ *Id.*, 391.

³¹ *Gergen et al.* 2012, 209–10 & n. 30.

³² *Laycock & Hasen* 2019, 387.

³³ *Rendleman* 2013, 570.

³⁴ *Gergen et al.* 2012, 233–34.

³⁵ *Id.*, 204–05.

³⁶ *Id.*, 205.

Further, the Federal Circuit has added a significant, albeit largely commonsense, gloss to the understanding of the irreparable injury factor. It has held that the patentee must also show a “causal nexus” between the irreparable injury and the infringement – i.e., “that the infringement causes the harm.”³⁷ In short, to obtain an injunction against patent infringement, a patentee needs to show not just that the patentee will suffer irreparable injury in the absence of an injunction, but that the patentee will suffer irreparable injury caused by the infringement in the absence of an injunction.³⁸ The Federal Circuit has explained that “[t]he causal nexus requirement ensures that an injunction is only entered against a defendant on account of harm resulting from the defendant’s wrongful conduct, not some other reason” – such as the defendant’s competitive success relative to the patentee based on noninfringing features of the defendant’s products or processes.³⁹

On the other hand, the Federal Circuit has emphasized that the causal nexus requirement is not to be overly demanding. Determination of whether there is an adequate causal nexus entails “a flexible analysis” of whether there is “‘some connection’ between the patented features and demand for the infringing products.”⁴⁰ If irreparable injury in the form of lost sales is alleged, infringing features need not be “the only cause of the lost sales”⁴¹ or even the “predominant” cause.⁴² Instead, the key question is whether an infringing feature “impacts customers’ purchasing decisions.”⁴³ The Federal Circuit has indicated that evidence of deliberate copying, criticism of non-infringing alternatives to a patented feature, and expert testimony about the value of such a feature can serve as evidence of the requisite causal nexus.⁴⁴

In any event, the first two prongs of the *eBay* test might not be of great interest in jurisdictions that are not rooted in the Anglo-American legal tradition and its historical demand for special justification of equitable as opposed to legal remedies. Thus, for general international purposes, the aspects of the *eBay* test of most significant interest might very well be the third, “balance of hardships,” prong and the fourth, “public interest,” prong. These prongs embody a court’s discretion to deny injunctive relief even when traditional threshold requirements for obtaining a permanent injunction – success on the merits and inadequacy of legal remedies – are met.

³⁷ *Apple* (Fed. Cir. 2015, 639).

³⁸ *See id.*, 640.

³⁹ *See id.*, 640 (“The causal nexus requirement ensures that an injunction is only entered against a defendant on account of harm resulting from the defendant’s wrongful conduct, not some other reason”).

⁴⁰ *Id.*, 641 (quoting *Apple Inc. v. Samsung Elecs. Co.*, 735 F.3d 1352, 1364 (Fed. Cir. 2013)).

⁴¹ *Apple* (Fed. Cir. 2015, 641–42).

⁴² *Id.*, 642.

⁴³ *Id.*, 641.

⁴⁴ *See id.*, 642–43 (discussing evidence of causal nexus).

The “balance of hardships” prong effectively requires courts to consider the proportionality of an injunction’s impact on the defendant to the rightsholder interests that the injunction is meant to vindicate. If the patented invention only constitutes a minor part of an infringing product or process but an injunction against infringement will cause major disruption to an adjudged infringer’s business, a court is substantially likely to find that the “balance of hardships” weighs against an injunction as a result of such disproportionate effect and therefore to deny such relief.⁴⁵ On the other hand, the Federal Circuit has instructed that “expenses . . . incurred in creating the infringing products” and “the cost of redesigning the infringing products” are “irrelevant” to the balance-of-hardships analysis: the focus here is apparently on whether the injunction enables a patent holder substantially to tax value that is not causally related to the infringement itself, rather than to be on relieving an adjudged infringer of more direct “consequences . . . of its infringement.”⁴⁶ Although in principle a patent owner might seek to mitigate the disproportionate effect by making a payment to the adjudged infringer as a condition of injunctive relief,⁴⁷ the author is not aware of a patent case in which such a payment has been offered by a party or demanded by a court.

The “public interest” prong of the *eBay* test can also provide a basis for denying injunctive relief. Traditionally, US courts had tended to focus on public health or safety concerns in relation to this prong.⁴⁸ But a district court held in the wake of *eBay* that a permanent injunction against “Microsoft’s Windows and Office software products” would likely disserve the public interest because of a risk of a substantial negative “effect on the public due to the public’s undisputed and enormous reliance on these products.”⁴⁹

Under some selection or combination of the first three prongs of the *eBay* test, courts have also considered the extent to which a patent owner’s interests will be satisfactorily protected through monetary remedies, such as a backward-looking reward of damages or a forward-looking award of a royalty for any ongoing infringement. US courts have frequently found that such monetary remedies are sufficient for patent owners who are “non-practicing entities” (NPEs) in the sense that they do not engage in substantial activities to commercialize the patented invention and, instead of looking to exclude others from such activities, primarily look to license their patent rights to others for monetary compensation.⁵⁰ The category of NPEs encompasses a wide variety of entities, from universities and other research-oriented

⁴⁵ See *eBay* (US 2006, 396) (Kennedy, J., concurring); *Seaman* 2016, 1996–98 & tab. 3.

⁴⁶ *Id.* (Fed. Cir. 2010, 863).

⁴⁷ Cf. Calabresi & Melamed 1972, 116–17.

⁴⁸ See Riley & Allen 2015, 756.

⁴⁹ *z4 Techs* (ED Tex. 2006, 443–44); see also Riley & Allen 2015, 770–72.

⁵⁰ Hovenkamp & Cotter 2016, 875; see also, e.g., *ActiveVideo* (Fed. Cir. 2012, 1337–38) (“Straight-forward monetary harm [in the form of a lost licensing fee] is not irreparable harm”); *MercExchange* (ED Va. 2007, 569–70).

institutions to patent assertion entities (PAEs), often called “patent trolls,” a derogatory moniker for entities that specialize in acquiring and asserting patent rights.⁵¹ Empirical studies indicate that, even though the US Supreme Court prohibited adoption of a general rule disabling a general category of patent owners such as nonpracticing entities from obtaining injunctive relief,⁵² NPEs are especially unlikely to satisfy the *eBay* criteria for obtaining injunctive relief for patent infringement.⁵³ In contrast, direct competition between an infringer and patent owner appears to be positively associated with grants of injunctive relief.⁵⁴

The Federal Circuit has held⁵⁵ that the International Trade Commission (ITC), an administrative body, is not subject to the *eBay* test in determining when to issue “(1) an exclusion order prohibiting entry of certain articles [associated with patent infringement] into the United States [or] (2) a ‘cease and desist’ order that might, for example, prohibit the sale of infringing matter that has been imported.”⁵⁶ But statutory law instructs the ITC that it may decline to issue an exclusion order and is barred from issuing a cease-and-desist order if, “after considering the effect of such [an order] upon the public health and welfare, competitive conditions in the United States economy, the production of like or directly competitive articles in the United States, and United States consumers, it finds that such order should not be issued.”⁵⁷ Moreover, Congress has empowered the President of the United States to negate such ITC orders “for policy reasons.”⁵⁸ In 2013, the US Trade Representative (USTR), to whom the president has assigned the exercise of this authority, abrogated the ITC’s exclusion and cease-and-desist orders directed at Apple Inc. in light of a determination that certain Apple tablets and smartphones infringed a patent owned by Samsung Electronics Co.⁵⁹ Apparently key concerns for the USTR were that Samsung itself had characterized the relevant patent as standard-essential and had committed to licensing the patent on FRAND terms.⁶⁰ More generally, over the past

⁵¹ See Gabison 2016, 114.

⁵² *eBay* (US 2006, 393).

⁵³ See Cotter & Golden 2019; Seaman 2016, 1988–89.

⁵⁴ Cotter & Golden 2019; see also, e.g., *Apple* (Fed. Cir. 2015, 640–47); *Canon* (ND Ga. 2018, 1344–52).

⁵⁵ *Spansion* (Fed. Cir. 2010, 1359).

⁵⁶ Cotter & Golden 2019.

⁵⁷ 19 USC § 1337(f)(1); see also *id.* § 1337(d)(1).

⁵⁸ *Id.* § 1337(j)(2).

⁵⁹ Letter of Michael Froman, US Trade Representative, to Irving A. Williamson, Chairman, US International Trade Commission (August 3, 2013), https://ustr.gov/sites/default/files/o8o32013%20Letter_1.PDF; see also Certain Electronic Devices, Including Wireless Communication Devices, Portable Music and Data Processing Devices, and Tablet Computers, Inv. No. 337-TA-794, slip op. at 1–2 (July 5, 2013).

⁶⁰ Compare Letter of Michael Froman, *supra* note 60, at 1–3, with *Certain Electronic Devices*, *supra* note 60, at 1–2. “Standard-setting in patent-rich environments often requires participants to disclose relevant patents that they own and license patents essential to the standard to all participants on fair, reasonable, and nondiscriminatory (FRAND) terms.” Hovenkamp 2020, 1683.

decade, the ITC itself has appeared more willing to take public interest concerns into active account.⁶¹

Typically, US courts do not invoke general interests in follow-on innovation as a basis for denying an injunction. On the other hand, if an adjudged infringer has engaged in follow-on innovation and thereby generated an infringing product or process whose value is substantially attributable to such follow-on innovation, injunctive relief could be deemed unwarranted due to the balance of hardships, which will potentially entail a disproportionate burden on the infringer given its separate contributions to overall value. Further, the Federal Circuit has indicated that it believes there is commonly a public interest in granting injunctions against infringement to support the research and development that the patent system is generally thought to promote.⁶²

2. Preliminary Injunctions

US courts similarly consider four factors in deciding whether to issue a preliminary injunction against allegedly infringing activity – i.e., an injunction to prohibit engagement in certain activities that have not yet been adjudged to be infringing.⁶³ To obtain a preliminary injunction, a patentee must generally show:

- (1) a likelihood of success on the merits – i.e., that there is no substantial question about either the validity of a relevant patent claim and that there is no substantial question that this claim is infringed by an accused product or process;
- (2) a likelihood of “suffer[ing] irreparable injury in the absence of preliminary relief” (e.g., because of competitive harm that will be difficult to unwind after litigation has run its course);
- (3) “that the balance of equities tips in his favor”; and
- (4) “that an injunction is in the public interest.”⁶⁴

The likelihood-of-success factor calls for courts to consider the possibility that the accused infringer will prevail in challenging the validity of one or more patent claims. There also might be a failure of likelihood of success on grounds of obstacles to the patent owner’s proving infringement or the possibility that a court will find a patent unenforceable on grounds such as patent misuse or inequitable conduct in proceedings before the Patent and Trademark Office.⁶⁵ The Federal Circuit has held that a patent owner has failed to show a likelihood of success if “an

⁶¹ Chien & Lemley 2012, 28.

⁶² *Sanofi-Synthelabo* (Fed. Cir. 2006, 1383); cf. *Abbott* (Fed. Cir. 2008, 1362–63) (affirming a district court’s grant of a preliminary injunction).

⁶³ See Friedenthal et al. 1993, 703–06.

⁶⁴ *Winter* (US 2008, 20), quoted in *Trebro* (Fed. Cir. 2014, 1165).

⁶⁵ Mueller 2013, 550–51.

accused infringer . . . demonstrate[es] a substantial question of validity or infringement” – i.e., about whether the patent owner will prevail with respect to such issues.⁶⁶ Thus, despite the presumption of validity of issued patent claims,⁶⁷ any substantial question about “validity, enforceability, or infringement” can bar the granting of a preliminary injunction.⁶⁸ Unsurprisingly, therefore, preliminary injunctions are generally difficult to obtain under US patent law.⁶⁹

Even if a patent owner succeeds in establishing a likelihood of success on the merits of its infringement case, the owner will still need to address any concerns with respect to the balance of hardships and the public interest. Here, US courts will generally consider the same sorts of circumstances that inform decisions about these factors in the context of a permanent injunction. On the other hand, the Federal Circuit has indicated that the patent holder’s likelihood of success on the merits should inform the weight given to the patent holder’s interest in relief under the balance-of-hardships analysis,⁷⁰ with the result that uncertainty about infringement, patent validity, or patent enforceability can contribute secondarily through the balance-of-hardships analysis to the difficulty in obtaining a preliminary injunction. The Supreme Court has not explicitly said that courts may not take such a “sliding scale” approach to satisfaction of one or more of the four preliminary-injunction factors.⁷¹ Under a “sliding scale” approach, a very strong showing on one factor can lead to a court awarding a preliminary injunction based on “a lesser showing” on another factor than the court would otherwise demand.⁷²

Preliminary injunctions bring with them an additional wrinkle regarding requirements for bonds that the four-part test does not explicitly reflect. In case the movant for a preliminary injunction later loses on the merits, the Federal Rules of Civil Procedure require that a successful applicant for a preliminary injunction “give . . . security[, commonly in the form of an injunction ‘bond,]’ in an amount that the court considers proper to pay the costs and damages sustained by any party found to have been wrongfully enjoined or restrained.”⁷³ Likewise, if a court grants a stay of injunctive relief at a preliminary or later stage – for example, because of an anticipated appeal – the court may demand a bond of the accused or adjudged infringer to help ensure compensation of the patent holder for any infringement

⁶⁶ *Trebro* (Fed. Cir. 2014, 1165).

⁶⁷ *Sanofi-Synthelabo* (Fed. Cir. 2006, 1375).

⁶⁸ *Genentech* (Fed. Cir. 1997, 1364).

⁶⁹ Golden 2010, 514; *see also* Menell et al. 2016, 3–4 fig. 3.1.

⁷⁰ *Abbott* (Fed. Cir. 2008, 1367). At least prior to *eBay*, such “sliding scale” analysis had led courts sometimes to permit a lower showing of likelihood of success when the threat of harm from the lack of an injunction is especially great, *see* Gergen et al. 2012, 211 n. 35, but the Federal Circuit’s “substantial question” analysis for likelihood of success in patent-infringement cases does not seem generally to weigh the intensity of the threat of harm. *See supra* text accompanying notes 65–70.

⁷¹ Laycock & Hasen 2019, 453–54.

⁷² *Id.*, 453.

⁷³ Fed. R. Civ. P. 65(c); *see also* *Hupp* (Fed. Cir. 1997, 1467).

during the period of the stay.⁷⁴ The possibility of such bonds and the sense of their likely effectiveness in securing the interests of one party or another could affect a court's assessment of the balance of hardships associated with granting or denying early injunctive relief.

B. OTHER FACTORS IN THE AVAILABILITY OF INJUNCTIVE RELIEF

1. *Sovereign Immunity*

Under US law, both federal and state governments of the United States generally enjoy sovereign immunity from suit in US courts.⁷⁵ The US federal government has waived such immunity for suits for patent infringement, but only for purposes of permitting reasonable royalties, not injunctions against the government.⁷⁶ State governments also enjoy sovereign immunity with respect to allegations of patent infringement, but a suit against individual state government actors may be brought to seek an injunction against their continued violation of the federal patent laws.⁷⁷

2. *Additional Grounds for Patent Unenforceability or Denial of Injunctive Relief*

US patents are sometimes held to be unenforceable, with the result that no relief, injunctive or otherwise, is available for infringement.⁷⁸ For example, a US patent may be held unenforceable due to patent misuse, which can result from behavior in the nature of an antitrust violation or from behavior otherwise seeking to leverage patent rights beyond what courts have held to be the proper reach⁷⁹ – for example, certain activities involving “(1) requiring the purchase of unpatented goods for use with patented apparatus or processes, (2) prohibiting production or sale of competing goods, and (3) conditioning the granting of a license under one patent upon the acceptance of another and different license.”⁸⁰ But as a practical matter, patent misuse is rarely found in the application of US patent law,⁸¹ the Federal Circuit

⁷⁴ See *Robert Bosch* (Fed. Cir. 2011, 1147 n. 2).

⁷⁵ See *Sisk* 2005, 443.

⁷⁶ 28 USC § 1498(a); see also *Golden et al.* 2018, 1009.

⁷⁷ See *Golden et al.* 2018, 1010–11. Multiple district courts have held that Native American Indian tribes similarly enjoy sovereign immunity from patent-infringement suits, see, e.g., *MicroLog* (ED Tex. 2011) (citing additional cases), but the correctness of such rulings is controversial, see *Robinson* 2007, 244; see also *Navajo Nation* (DNM 2014) (noting, in a trademark case, courts' disagreement over the applicability of tribal immunity in the face of general federal statutes).

⁷⁸ See *Mueller* 2013, 550–51.

⁷⁹ See *id.*, 568–69.

⁸⁰ *Chisum* 2021, 19.04[3] The courts have also “held that a patent holder cannot charge royalties for the use of his invention after its patent term has expired.” *Kimble* (US 2015, 2405).

⁸¹ See *Strandburg* 2011, 289 (observing that patent misuse is one of a set of doctrines that “are never or increasingly rarely applied”).

having emphasized that the conduct has “narrow scope” and “is not available to a presumptive infringer simply because a patentee engages in some kind of wrongful commercial conduct, even conduct that may have anticompetitive effects” or in fact is proven to involve “an antitrust violation.”⁸²

Another basis for declaring a patent unenforceable is a finding of inequitable conduct in proceedings before the US Patent and Trademark Office.⁸³ Inequitable conduct can come in the form of affirmative misrepresentations but can also come from silence in the form of failures to disclose material prior art.⁸⁴ Relatedly, but distinctly, a patent may also be found unenforceable for “prosecution laches” – i.e., for “an unreasonable and unexplained delay in prosecution [of a patent application before the US Patent and Trademark Office (PTO)] even though the applicant complied with pertinent statutes and rules.”⁸⁵

Beyond bases for declaring a patent unenforceable, there are a variety of additional equitable grounds for denying injunctive relief or blocking suit by a patentee altogether. These include laches in the form of undue delay in bringing an assertion of patent infringement to the courts;⁸⁶ equitable estoppel from effectively inviting another party’s reliance on nonassertion of patent rights;⁸⁷ and unclean hands,⁸⁸ which blocks access to equitable relief in situations “where some unconscionable act of one coming for relief has immediate and necessary relation to the equity that he seeks in respect of the matter in litigation.”⁸⁹ On the other hand, parties are not generally restricted to relief specified in their pleadings.⁹⁰

3. *Parallel Proceedings and Appeals*

Courts may also choose to stay injunctive relief in light of relevant parallel proceedings, such as reexamination, other post-grant proceedings at the PTO, or an appeal, when such proceedings may result in a pertinent holding that, for example, relevant

⁸² *Princo* (Fed. Cir. 2010, 1329).

⁸³ See *Mueller* 2013, 551.

⁸⁴ See *Golden et al.* 2018, 868.

⁸⁵ *Symbol* (Fed. Cir. 2002, 1363–68).

⁸⁶ *Ecolab* (Fed. Cir. 2001, 1371) (“Laches requires proof that the patentee unreasonably and inexcusably delayed filing suit and that the delay resulted in material prejudice to the defendant”).

⁸⁷ *Id.*, 1371 (“Three elements must be established to bar a patentee’s suit by means of equitable estoppel: 1) the patentee, through misleading conduct, leads the alleged infringer to reasonably infer that the patentee does not intend to enforce its patent against the alleged infringer, 2) the alleged infringer relies on that conduct, and 3) due to its reliance, the alleged infringer will be materially prejudiced if the patentee is allowed to proceed with its claim”).

⁸⁸ *Cf. Sanofi-Synthelabo* (Fed. Cir. 2006, 1384) (upholding district court’s rejection of assertion of unclean hands defense on the facts).

⁸⁹ *Keystone* (US 1933, 245).

⁹⁰ Fed. R. Civ. P. 45(c) (“Every other final judgment [distinct from a default judgment] should grant the relief to which each party is entitled, even if the party has not demanded that relief in its pleadings”).

patent claims are invalid, unenforceable, or of insufficient scope to encompass an accused product or process.⁹¹ In deciding whether to grant a stay pending appeal, courts apply a four-factor balancing test under which courts consider:

- “(1) whether the stay applicant has made a strong showing that [it] is likely to succeed on the merits;
 (2) whether the applicant will be irreparably injured absent a stay;
 (3) whether issuance of the stay will substantially injure the other parties interested in the proceeding; and
 (4) where the public interest lies.’”⁹²

Sliding-scale analysis applies to consideration of these factors: “When harm to applicant is great enough, a court will not require ‘a strong showing’ that applicant is ‘likely to succeed on the merits.’”⁹³ More specifically, the Federal Circuit has indicated: “To obtain a stay, pending appeal, a movant must establish a strong likelihood of success on the merits or, failing that, nonetheless demonstrate a substantial case on the merits provided that the harm factors militate in its favor.”⁹⁴ Instead of staying an injunction for the entire pendency of an appeal, a district court may delay the effective date of the injunction for a set time period – for example, “two weeks . . . to give the Court of Appeals an opportunity to consider any expedited appeal relating to the denial of the stay”⁹⁵ or ninety days so that an infringer’s merchant-clients have time to adapt their conduct in conformity with the injunction.⁹⁶

Under longstanding precedent, if the PTO cancels a patent claim, a court should refuse any injunctive relief based on that patent claim or dissolve an injunction previously based on that patent claim.⁹⁷ As the Federal Circuit has observed, “[i]t is well established that an injunction must be set aside when the legal basis for it has ceased to exist.”⁹⁸ The Federal Circuit has also held that, once a nonfinal injunction, whose validity was still pending, is set aside, civil contempt sanctions for violating that injunction must also be vacated.⁹⁹ In contrast, criminal contempt sanctions would remain enforceable despite the later setting aside of an injunction.¹⁰⁰

⁹¹ See *Amado* (Fed. Cir. 2008, 1358–59); *Menell et al.* 2016, 9–19.

⁹² *Standard Havens* (Fed. Cir. 1990, 512) (quoting *Hilton* (US 1987, 776)).

⁹³ *Id.*, 513.

⁹⁴ *Gen. Protecht* (Fed. Cir. 2011, 451).

⁹⁵ *Bio-Rad* (D. Del. 2019, *6).

⁹⁶ *Solutran* (D. Minn. 2018, *2–3).

⁹⁷ See *ePlus* (Fed. Cir. 2015, 1354).

⁹⁸ *Id.*, 1354.

⁹⁹ *Id.*, 1361.

¹⁰⁰ *Id.*, 1356.

C. GENERAL JUDICIAL DISCRETION TO TAILOR INJUNCTIVE RELIEF

United States patent law does not provide for automated compliance fines for patent infringement, and the Federal Circuit has held that courts are not authorized to provide backward-looking, reparative injunctions to remedy or mitigate past harms from patent infringement,¹⁰¹ such as an injunction to destroy material originally manufactured in the United States in contravention of US patent rights but now only existing abroad with no prospect of future involvement in activity contrary to those same US patent rights.¹⁰² Instead, patent-infringement injunctions are limited to serving the purpose of preventing future infringement.¹⁰³ But subject to these limitations and a procedural requirement that the scope of an order of injunctive relief be clear,¹⁰⁴ US trial courts generally have substantial discretion in crafting the details of injunctive relief, including the specific time at which an injunction will become effective.¹⁰⁵ The clarity requirement means, however, that courts are generally forbidden from issuing simple “do not infringe” orders.¹⁰⁶ Instead, injunctions must generally target specific products or processes plus variations no more than “colorably different” from them.¹⁰⁷

1. *Timing*

Consistent with restriction to the purpose of preventing infringement,¹⁰⁸ US injunctions based on patent infringement generally are available, and extend, only until a patent expires.¹⁰⁹ On the other hand, as noted above, US courts have discretion to stay injunctions when parallel or appellate proceedings might undercut the basis for the injunction.¹¹⁰ A court might also stay an injunction or otherwise delay relief when such a delay will help prevent an injunction from imposing an undue burden

¹⁰¹ See *supra* text accompanying notes 7–8.

¹⁰² See Golden 2012, 1404.

¹⁰³ See *id.*

¹⁰⁴ See *id.*, 1422–23.

¹⁰⁵ Cf. *Amado* (Fed. Cir. 2008, 1358) (noting the district courts’ “broad equitable authority” with respect to injunctions); *Russell* (US 1881, 441–42) (“Since the discretion of imposing terms upon a party, as a condition of granting or withholding an injunction, is an inherent power of the court, exercised for the purpose of effecting justice between the parties, it would seem to follow that, in the absence of an imperative statute to the contrary, the court should have the power to mitigate the terms imposed, or to relieve from them altogether, whenever in the course of the proceedings it appears that it would be inequitable or oppressive to continue them”).

¹⁰⁶ See Golden 2012, 1422–23.

¹⁰⁷ See *id.*, 1422–23.

¹⁰⁸ See *supra* text accompanying notes 7–8.

¹⁰⁹ See *Douglas* (Fed. Cir. 2013, 1339) (“Because the [relevant] patent has expired, any permanent injunction as to this patent is now moot, and the ongoing royalty ceases to apply after the date of expiration”).

¹¹⁰ See *supra* text accompanying note 92.

on its target or from substantially harming the public interest.¹¹¹ Thus, for example, a US court might stay an injunction to permit an adjudged infringer or its customers time to implement a redesign for an infringing product or otherwise to alter course to avoid further infringement.¹¹² As when a permanent injunction is denied or an injunction is stayed pending appeal, the district court may order payment of a royalty for infringing activities for the remainder of the patent term or during the intervening time period, respectively.¹¹³

2. Tailoring of Scope

The classic form for a patent-infringement injunction issued by a US district court is that of an order specifically enjoining an adjudged or accused infringer from continuing to engage in statutorily specified activities (e.g., making, using, or selling) with one or more particular products or processes that the court has determined to be infringing or with respect to which, in the preliminary injunction context, the court has found there to be no substantial question as to infringement.¹¹⁴ According to Federal Circuit precedent, a patent-infringement injunction is generally not supposed to be an “obey the law” injunction, in this case a bare order that its target not violate the patent laws, not infringe one or more specified patents, or not infringe specified patent claims.¹¹⁵ On the other hand, even an order that specifically forbids only activities involving a particular product or process is generally read to encompass activities involving products or processes no more than colorably different from that specified, and many injunctions explicitly extend their reach to this extent.¹¹⁶ Moreover, where the trial record supports finding an injunction to be directed at particular products or processes, the courts may read a technically deficient “obey the law” injunction to have the classic scope, tying the injunction to particular products or processes reflected in the record.¹¹⁷

Trial courts have discretion to tailor injunctive relief in ways that differ from the classic form. One catalog classifies various injunction variants as “(i) correlated-activity injunctions (type-C); (ii) destruction, disablement, or delivery injunctions

¹¹¹ See *Apple* (Fed. Cir. 2015, 638 & 646) (observing that a proposed thirty-day delay for the effective date of an injunction helped justify a trial judge’s determination that the infringer “would ‘not face any hardship’” from the requested injunction); *Golden* 2007, 2148 n. 136.

¹¹² See, e.g., *Broadcom* (Fed. Cir. 2008, 687 & 704) (noting that “carefully constructed sunset provisions” “allowing [several months of] continued sales pursuant to a mandatory royalty” helped neuter arguments that the balance of hardships favored denial of a permanent injunction).

¹¹³ Cf. *Broadcom* (CD Cal. 2008, 1188).

¹¹⁴ See *Golden* 2012, 1420.

¹¹⁵ See *id.*, 1421–23.

¹¹⁶ See *id.*, 1421.

¹¹⁷ See *id.*, 1423.

(type-D); (iii) ‘reformulated-bounds’ injunctions (type-B); and (iv) moderated injunctions (type-M).¹¹⁸ A study of patent-infringement injunctions issued by US district courts in 2010 found that, among the over 140 injunctions identified, about 20 percent had a type-C aspect, about 5 percent had a type-D aspect, about 5 percent featured type-B tailoring, and about 3 percent had a type-M aspect.¹¹⁹

A correlated-activity (type-C) injunction forbids “activities that overlap significantly, but not entirely, with activities that by themselves can constitute infringement.”¹²⁰ For example, some patent-infringement injunctions in the United States have prohibited the transport of infringing items or the display of images of infringing items even though these activities do not by themselves infringe patent rights.¹²¹ Although technically reaching beyond the scope of patent rights to correlated activities, such “prophylactic” injunctions might advance interests in clarity and enforceability by encompassing activities that are commonly correlated with infringement.¹²²

A “destruction, disablement, or delivery” (type-D) injunction also technically reaches beyond patent scope by “requiring the destruction, disablement, or delivery [to another entity] of specified material.” Compliance with such an order necessarily eliminates a capacity to engage in further activities with such material that are noninfringing in themselves but that are often correlated with infringement. Thus, like an injunction forbidding correlated activities, an injunction ordering destruction, disablement, or delivery acts as a form of prophylactic order, promoting clarity and enforceability by technically demanding more than general background patent law requires. A court can, however, narrowly tailor a type-D injunction to focus its prophylactic effect: the court might issue an injunction that requires only the disablement or removal of a specified part or aspect of a particular product or process that the court has found to fall within a patent’s scope.¹²³

For a reformulated-bounds injunction, a district court may specify an injunction’s scope by defining the scope of products or processes implicated by an injunction in much the same way that a patent claim seeks to delineate a patent’s scope – i.e., by delineating technological specifications or features of the products or processes falling within the injunction’s scope.¹²⁴ For purposes of clarity, enforceability, protective effect, or equitable balance, these reformulated bounds might be broader

¹¹⁸ *Id.*, 1449–50.

¹¹⁹ *See id.*, 1450–55.

¹²⁰ *Id.*, 1450.

¹²¹ *Id.*, 1450.

¹²² *See id.*, 1450–51.

¹²³ *Cf. Apple* (Fed. Cir. 2015, 646) (observing that “Apple’s proposed injunction was narrowly tailored to cause no harm to Samsung other than to deprive it of the ability to continue to use Apple’s patented features”); *TiVo* (Fed. Cir. 2011, 877) (noting that an injunction required EchoStar “to disable the DVR functionality in existing receivers that had already been placed with EchoStar’s customers”).

¹²⁴ *See Golden* 2012, 1452–55.

or narrower than associated patent claims, and they might be broader on one dimension but narrower on another.¹²⁵ For example, an injunction issued by a US district court in 2010 prohibited standard forms of infringing activity (e.g., making or using in the United States) involving “a precast concrete block” that had “a recess or notch” satisfying a dimensional requirement – an explicit restriction on width – that did not appear in associated patent claim language and that presumably helped clarify the resulting injunction’s scope.¹²⁶

Finally, there are a variety of ways in which a court might design a moderated (type-M) injunction, one “that includes an explicit carve out for [a subset of] infringing (or likely infringing) behavior.”¹²⁷ A district court might “grandfather” certain already manufactured or already sold products, at least temporarily enabling their distribution, use, or support in order to protect the public interest or to prevent an injunction from imposing a disproportionate impact on an adjudged or accused infringer.¹²⁸ Likewise, a district court could limit an injunction so that it permits an infringer, upon paying a court-determined royalty, to continue to provide support, including replacement parts or other “consumables,” for systems already sold to customers.¹²⁹ Such a limitation could help protect a public interest in avoiding excessive disruption to the customers’ work or other activities.¹³⁰

3. Ongoing Royalties

Except in certain situations involving federally funded inventions, the United States Patent Act does not make general provision for compulsory licensing of patent rights.¹³¹ Nonetheless, in lieu of an injunction forbidding specified activities or in association with the stay of such an injunction, a district court may provide a remedy that can operate as a sort of case-specific compulsory license: specifically, the court may order the payment of “ongoing royalties” for continuing activity that would

¹²⁵ See *id.*, 1453–55.

¹²⁶ *Id.*, 1453–54 (quoting order) (internal quotation marks omitted).

¹²⁷ *Id.*, 1455.

¹²⁸ Cf. *Apple* (Fed. Cir. 2015, 638) (“Apple’s proposed injunction included a 30-day ‘sunset period’ that would stay enforcement of the injunction until 30 days after it was entered by the district court, during which Samsung could design around the infringing features”); *Broadcom* (CD Cal. 2008, 1188) (describing a “sunset provision” for an injunction which stayed the injunction for over one year with respect to “existing or prior customers” for certain infringing products that “were on sale in or imported into the United States” more than seven months before the injunction order).

¹²⁹ See *Bio-Rad* (D. Del. 2019, ¶4–5).

¹³⁰ *Id.*, ¶4 (noting a contention that the infringer’s “customers, many of whom are in the middle of long-term studies, would lose valuable data and funding if forced to stop using their 10X systems and switch to new systems mid-study”).

¹³¹ See Golden 2010, 516 & n. 57. Some other statutory regimes authorize US administrative agencies to order compulsory licensing, but such orders “have been rare.” Contreras 2015, 45. A further statutory regime, antitrust law, has sometimes provided occasion for US courts to order compulsory licensing for purposes of promoting competition. Contreras 2015, 45.

otherwise constitute infringement involving products or processes adjudged to infringe or to be no more than colorably different from those adjudged to infringe.¹³² Indeed, the availability of such relief may support a court's holding that an injunction forbidding continued infringement is unwarranted because the patent owner's interests may be adequately protected through a combination of backward-looking damages and forward-looking ongoing royalties.¹³³ The Federal Circuit has indicated that, before ordering a court-set ongoing royalty, a trial judge should first "instruct the parties to try to negotiate" one.¹³⁴ Further, an ongoing royalty should not be awarded if already-provided monetary relief covers all found or expected "damages for past, present, and future infringement," as when a jury calculates a lump-sum royalty for all activities involving infringing subject matter for the duration of the patent term.¹³⁵

There has been some question in the United States of whether a court should specify a rate for an ongoing royalty that is higher than necessary to compensate the patent owner, presumably on grounds that continuing infringement by an adjudged infringer is necessarily willful and therefore properly subject to enhanced damages.¹³⁶ This reasoning and the associated practice have been criticized on grounds that the adjudged infringer might, through sunk investments, have become effectively "locked into" a course of infringing conduct and thus have become unable to avoid continuing infringement without undertaking undue costs that might have been part of the very reason for denying an injunction against infringement itself.¹³⁷

On more solid ground, the Federal Circuit has indicated that "changed economic circumstances" might mean that the rate for an ongoing royalty should differ from the royalty rate that was the basis for a jury award of past damages.¹³⁸ For example, the post-verdict development of a "non-infringing alternative [that] takes market share from the patented products" might "justify the imposition of rates that were lower than the jury's."¹³⁹ Alternatively, analysis of standard factors for determining a reasonable royalty could justify "an ongoing royalty amount higher than the jury rate."¹⁴⁰

D. ENFORCEMENT OF INJUNCTIONS THROUGH CONTEMPT PROCEEDINGS

In the United States, a party may be found in contempt of court for an "act which is calculated to embarrass, hinder, or obstruct [a] court in administration of justice, or

¹³² See *SRI* (Fed. Cir. 2019, 1311–12); *Cotter & Golden* 2019; *Menell et al.* 2016, 9–20.

¹³³ See *ActiveVideo* (Fed. Cir. 2012, 1340) ("ActiveVideo's loss of revenue due to Verizon's infringement can be adequately remedied by an ongoing royalty").

¹³⁴ *Prism* (Fed. Cir. 2017, 1377).

¹³⁵ *Id.*, 1378–79.

¹³⁶ See *Lemley* 2011, 702–03.

¹³⁷ See *Siebrasse et al.* 2019.

¹³⁸ See *XY* (Fed. Cir. 2018, 1297).

¹³⁹ *Id.*, 1298.

¹⁴⁰ *Artie Cat* (Fed. Cir. 2017, 1370).

which is calculated to lessen its authority or its dignity.”¹⁴¹ Contempt may be civil or criminal, with civil contempts including “failure to do something which a party is ordered by the court to do for the benefit or advantage of another party to the proceeding before the court,” whereas a criminal contempt is “an offense against the dignity of the court” itself, “such as willful disobedience of a lawful writ, process, order, rule, or command of court.”¹⁴² Hence, if violation of a court’s injunction is willful, it could be a basis for both civil and criminal contempt proceedings. In patent-infringement cases, US district courts have authority to enforce injunctions through contempt proceedings in which they may impose monetary sanctions, more burdensome injunctions, coercive imprisonment to bring about compliance, and even punitive criminal penalties.¹⁴³ Criminal penalties are rarely imposed, however, perhaps in large part because of the added costs of criminal procedure.¹⁴⁴ Moreover, even civil contempt proceedings appear to be relatively rare.¹⁴⁵

E. CONCLUSION

The United States’ context-sensitive approach to injunctive relief leaves trial judges with substantial discretion but also demands certain findings relating to inadequacy of legal remedies, the balance of hardships between the plaintiff and defendant, and the public interest before such relief is awarded. The courts enforce a demanding requirement of likelihood of success before a preliminary injunction may issue. Trial judges appear to have especially wide discretion in tailoring the timing and scope of injunctive relief, and such tailoring can mitigate potentially disproportionate effects or other negative social impacts from a court’s injunction against further infringement. Although the *eBay* decision’s disruption of courts’ prior approaches to injunctive relief has invited criticism, the resulting rearticulation of the law on injunctive relief has highlighted how many doctrinal tools can be used to guide the deployment of this remedial option – from the substantive showings demanded of proponents or opponents of such relief, to presumptions and burdens of proof associated with those required showings, to the room for structuring a specific injunction so that it better serves the ends that patent law is meant to advance. Even if a jurisdiction rejects use of one of these tools – for example, by choosing to issue injunctions essentially automatically after a final judgment of patent infringement – that jurisdiction might still improve its performance through wise deployment of another – such as the judicious use of stays to prevent disproportionate hardship to the infringer or even widespread social harm from a more immediately effective order.

¹⁴¹ Nolan & Nolan-Haley 1990, 319.

¹⁴² *Id.*

¹⁴³ See Golden 2012, 1409–12.

¹⁴⁴ See *id.*, 1409–10.

¹⁴⁵ See *id.*, 2095.

REFERENCES

Cases

- Abbott Labs. v. Sandoz, Inc.*, 544 F.3d 1341 (Fed. Cir. 2008).
- ActiveVideo Networks, Inc. v. Verizon Commc'ns*, 694 F.3d 1312 (Fed. Cir. 2012).
- Amado v. Microsoft Corp.*, 517 F.3d 1353 (Fed. Cir. 2008).
- Apple Inc. v. Samsung Elecs. Co.*, 809 F.3d 633 (Fed. Cir. 2015).
- Arctic Cat Inc. v. Bombardier Recreational Prods. Inc.*, 876 F.3d 1350 (Fed. Cir. 2017).
- Bio-Rad Labs. Inc. v. 10X Genomics, Inc.*, No. 15-cv-152-RGA, 2019 WL 3322322 (D. Del. July 24, 2019).
- Broadcom Corp. v. Qualcomm Inc.*, 543 F.3d 683 (Fed. Cir. 2008).
- Broadcom Corp. v. Qualcomm Inc.*, 585 F. Supp. 2d 1187 (CD Cal. 2008).
- Canon, Inc. v. Color Imaging, Inc.*, 292 F. Supp. 3d 1339 (ND Ga. 2018).
- Douglas Dynamics, LLC v. Buyers Prods. Co.*, 717 F.3d 1336 (Fed. Cir. 2013).
- eBay Inc. v. MercExchange, LLC*, 547 US 388 (2006).
- Ecolab, Inc. v. Envirochem, Inc.*, 264 F.3d 1358 (Fed. Cir. 2001).
- ePlus, Inc. v. Lawson Software, Inc.*, 789 F.3d 1349 (Fed. Cir. 2015).
- Genentech, Inc. v. Novo Nordisk A/S*, 108 F.3d 1361 (Fed. Cir. 1997).
- Gen. Protecht Group, Inc. v. Leviton Mfg. Co.*, 407 Fed. Appx. 450 (Fed. Cir. 2011) (nonprecedential).
- Hecht Co. v. Bowles*, 321 US 321 (1944).
- Hilton v. Braunskill*, 481 US 770 (1987).
- Hupp v. Siroflex of Am., Inc.*, 122 F.3d 1456 (Fed. Cir. 1997).
- i4i Ltd. P'ship v. Microsoft Corp.*, 598 F.3d 831 (Fed. Cir. 2010), *aff'd*, 564 U.S. 91 (2011).
- Keystone Driller Co. v. Gen. Excavator Co.*, 290 U.S. 240 (1933).
- Kimble v. Marvel Entertainment, LLC*, 135 S. Ct. 2401 (2015).
- MercExchange, LLC v. eBay, Inc.*, 401 F.3d 1323 (Fed. Cir. 2005), *vacated in relevant part by* eBay Inc. v. MercExchange, LLC, 547 US 388 (2006).
- MercExchange, LLC v. eBay, Inc.*, 500 F. Supp. 2d 556 (ED Va. 2007).
- MicroLog Corp. v. Cont'l Airlines, Inc.*, No. 6:10-CV-260, 2011 WL 13141413 (ED Tex. July 21, 2011).
- Navajo Nation v. Urban Outfitters, Inc.*, CIV No. 12-195 LH/LAM, 2014 WL 11511718 (DNM Sept. 19, 2014).
- Princo Corp. v. Int'l Trade Comm'n*, 616 F.3d 1318 (Fed. Cir. 2010) (en banc).
- Prism Techs. LLC v. Sprint Spectrum L.P.*, 849 F.3d 1360 (Fed. Cir. 2017).
- Robert Bosch LLC v. Pylon Mfg. Corp.*, 659 F.3d 1142 (Fed. Cir. 2011).
- Russell v. Farley*, 105 US 433 (1881).
- Sanofi-Synthelabo v. Apotex, Inc.*, 470 F.3d 1368 (Fed. Cir. 2006).
- Solutran, Inc. v. U.S. Bancorp & Elavon, Inc.*, No. 13-cv-02637, 2018 WL 6681748 (D. Minn. Dec. 19, 2018).
- South Corp. v. United States*, 690 F.2d 1368, 1369 (Fed. Cir. 1982) (en banc).
- Spansion, Inc. v. Int'l Trade Comm'n*, 629 F.3d 1331 (Fed. Cir. 2010).
- SRI Int'l, Inc. v. Cisco Sys., Inc.*, – F.3d – (Fed. Cir. 2019), *available at* 2019 WL 3162421.
- Standard Havens Prods., Inc. v. Gencor Indus., Inc.*, 897 F.2d 511 (Fed. Cir. 1990).
- Symbol Techs., Inc. v. Lemelson Med.*, 277 F.3d 1361 (Fed. Cir. 2002).
- TiVo Inc. v. EchoStar Corp.*, 646 F.3d 869 (Fed. Cir. 2011).
- Trans-World Manufacturing Corp. v. Al Nyman & Sons, Inc.*, 750 F.2d 1552 (Fed. Cir. 1984).
- Trebro Mfg., Inc. v. Firefly Equipment, LLC*, 748 F.3d 1159 (Fed. Cir. 2014).

- XY, LLC v. Trans Ova Genetics, LC*, 890 F.3d 1282 (Fed. Cir. 2018).
Weinberger v. Romero-Barcelo, 456 US 305 (1982).
Windsurfing International, Inc. v. AMF, Inc., 782 F.2d 995 (Fed. Cir. 1986).
Winter v. Natural Res. Def. Council, Inc., 555 US 7 (2008).
z4 Techs., Inc. v. Microsoft Corp., 434 F. Supp. 2d 437 (E.D. Tex. 2006).

Regulatory and Legislative Materials

- 19 USC § 1337.
 28 USC § 1498.
 35 USC § 283.
 Fed. R. Civ. P. 45.
 Fed. R. Civ. P. 65.

Books, Articles and Online Materials

- Bray, Samuel. 2015. "The Supreme Court and the New Equity," *Vanderbilt Law Review* 68 (4): 997–1054.
- Calabresi, Guido & A. Douglas Melamed. 1972. "Property Rules, Liability Rules, and Inalienability: One View of the Cathedral," *Harvard Law Review* 85(6): 1089–128.
- Chien, Colleen V. & Mark A. Lemley. 2012. "Patent Holdup, the ITC, and the Public Interest," *Cornell Law Review* 98(1): 1–46.
- Chisum, Donald S. 2021. *Chisum on Patents*. Matthew Bender & Co.
- Clark, Geneva. 2020. *Lex Machina: Patent Litigation Report*. Available by request at https://pages.lexmachina.com/Patent-Report-2020_LP—Patent-Report-2020.html.
- Claus, Laurence P. & Richard S. Kay. 2010. "Constitutional Courts as 'Positive Legislators' in the United States," *American Journal of Comparative Law* 58 Supp.: 479–504.
- Cohen, Lauren, John M. Golden, Umit G. Gurun & Scott Duke Kominers. 2017. "Troll Check: A Proposal for Administrative Review of Patent Litigation," *Boston University Law Review* 97(5): 1775–841.
- Contreras, Jorge L. 2015. "A Brief History of FRAND: Analyzing Current Debates in Standard Setting and Antitrust through a Historical Lens," *Antitrust Law Journal* 80(1): 39–120.
- Cotter, Thomas F. & John M. Golden. 2019. "Remedies," in Peter S. Menell & David Schwartz, eds., *Research Handbook on the Economics of Intellectual Property Law, Vol. 2: Analytical Methods*. Cheltenham: Edward Elgar.
- Dobbs, Dan B. 1993. *Dobbs Law of Remedies*. 2nd ed. St. Paul, MN: West Publishing.
- Friedenthal, Jack H., Mary Kay Kane & Arthur R. Miller. 1993. *Civil Procedure*. 2nd ed. St. Paul, MN: West Publishing Co.
- Frost, Amanda. 2018. "In Defense of Nationwide Injunctions," *New York University Law Review* 93(5): 1065–119.
- Gabison, Garry A. 2016. "Spotting Software Innovation in a Patent Assertion Entity World," *Hastings Science and Technology Law Journal* 8(1): 99–136.
- Gergen, Mark P., John M. Golden & Henry E. Smith. 2012. "The Supreme Court's Accidental Revolution? The Test for Permanent Injunctions," *Columbia Law Review* 112(2): 203–49.
- Golden, John M. 2007. "Patent 'Trolls' and Patent Remedies," *Texas Law Review* 85(7): 2111–61.

2010. "Principles for Patent Remedies," *Texas Law Review* 88(3): 505–92.
2012. "Injunctions as More (or Less) than 'Off Switches': Patent-Infringement Injunctions' Scope," *Texas Law Review* 90(6): 1399–472.
- Golden, John M., F. Scott Kieff, Pauline Newman & Henry E. Smith. 2018. *Principles of Patent Law: Cases and Materials*. 7th ed. St. Paul, MN: Foundation Press.
- Henderson, M. Todd & William H. J. Hubbard. 2015. "Judicial Noncompliance with Mandatory Procedural Rules under the Private Securities Litigation Reform Act," *Journal of Legal Studies* 44(S1): S87–105.
- Hovenkamp, Erik & Thomas F. Cotter. 2016. "Anticompetitive Patent Injunctions," *Minnesota Law Review* 100(3): 871–920.
- Hovenkamp, Herbert. 2020. "FRAND and Antitrust," *Cornell Law Review* 105(6): 1683–744.
- Laycock, Douglas, & Richard L. Hasen. 2019. *Modern American Remedies: Cases and Materials*. 5th ed. New York: Wolters Kluwer.
- Lemley, Mark A. 2011. "The Ongoing Confusion Over Ongoing Royalties," *Missouri Law Review* 76(3): 695–707.
- Menell, Peter S., Lynn H. Pasahow, James Pooley, Matthew D. Powers, Steven C. Carlson, Jeffrey G. Homrig, George F. Pappas, Carolyn Chang, Colette Reiner Mayer & Marc David Peters. 2016. *Patent Case Management Judicial Guide*. 3rd ed. Federal Judicial Center. www.fjc.gov/sites/default/files/2017/PCMJG3d_2016_final.pdf
- Mueller, Janice. 2013. *Patent Law*. 4th ed. New York: Wolters Kluwer Law & Business.
- Nolan, Joseph R. & Jacqueline M. Nolan-Haley. 1990. *Black's Law Dictionary*. 6th ed. St. Paul: West Publishing.
- Note. 1958. "The Enforcement of Rights against Patent Infringers," *Harvard Law Review* 72 (2): 328–54.
- Rendleman, Doug. 2013. "Remedies: A Guide for the Perplexed," *St. Louis University Law Journal* 57(3): 567–84.
- Riley, P. Andrew & Scott A. Allen. 2015. "The Public Interest Inquiry for Permanent Injunctions or Exclusion Orders: Shedding the Myopic Lens," *Vanderbilt Journal of Entertainment and Technology Law* 17(3): 751–79.
- Robinson, Eagle H. 2007. Comment, "Infringing Sovereignty: Should Federal Courts Protect Patents and Copyrights from Tribal Infringement?," *American Indian Law Review* 32(1): 233–56.
- Schwartz, Herbert F. 1964. Note, "Injunctive Relief in Patent Infringement Suits," *University of Pennsylvania Law Review* 112(7): 1025–48.
- Seaman, Christopher B. 2016. "Permanent Injunctions in Patent Litigation after *eBay*: An Empirical Study," *Iowa Law Review* 101(5): 1949–2019.
- Siebrasse, Norman V., Rafal Sikorski, Jorge L. Contreras, Thomas F. Cotter, John M. Golden, Sang Jo Jong, Brian J. Love & David O. Taylor. 2019. "Injunctive Relief," in Brad Biddle, Jorge L. Contreras, Brian J. Love & Norman V. Siebrasse eds., *Patent Remedies and Complex Products: Toward a Global Consensus*. Cambridge: Cambridge University Press.
- Sisk, Gregory C. 2005. "A Primer on the Doctrine of Federal Sovereign Immunity," *Oklahoma Law Review* 58(3): 439–68.
- Smith, Henry E. 2009. "Institutions and Indirectness in Intellectual Property," *University of Pennsylvania Law Review* 157(6): 2083–133.
- Strandburg, Katherine J. 2011. "Patent Fair Use 2.0," *UC Irvine Law Review* 1(2): 265–305.

- Stroup, Richard L., Susan Tull & Mindy Ehrenfried. 2017. "Patent Holder's Equitable Remedies in Patent Infringement Actions Before Federal Courts and the International Trade Commission," *Journal of the Patent and Trademark Office Society* 99(4): 530–608.
- United States Courts. 2020. "Just the Facts: Intellectual Property Cases – Patent, Copyright, and Trademark." www.uscourts.gov/news/2020/02/13/just-facts-intellectual-property-cases-patent-copyright-and-trademark
- Wright, Charles A., Arthur R. Miller, Mary Kay Kane, Richard L. Marcus, A. Benjamin Spencer & Adam N. Steinman. 2019. *Federal Practice and Procedure*. St. Paul, MN: Thomson/West.