
IN THE
Supreme Court of the United States

MICROSOFT CORPORATION,
Petitioner,

v.

14I LIMITED PARTNERSHIP AND
INFRASTRUCTURE FOR INFORMATION, INC.,
Respondents.

**On Writ of Certiorari
to the United States Court of Appeals
for the Federal Circuit**

**BRIEF OF CTIA – THE WIRELESS ASSOCIATION®
AS *AMICUS CURIAE* IN SUPPORT OF PETITIONER**

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TABLE OF CONTENTS

	Page
TABLE OF AUTHORITIES	ii
INTEREST OF <i>AMICUS CURIAE</i>	1
INTRODUCTION AND SUMMARY	3
ARGUMENT	7
I. THE CLEAR-AND-CONVINCING-EVIDENCE STANDARD INJURES INNOVATION.....	7
A. The Standard Has Made Validity Challenges Significantly Less Likely To Succeed.....	7
B. The Standard Leads to Lower Quality Jury Decisions	10
C. The Standard Increases the Value of Weak Patents.....	17
1. The Settlement Value of Weak Patents Increases when They Cannot Be Reliably Invalidated	17
2. Increasing the Value of Weak Patents Encourages Applications for More of Them	20
II. THE CURRENT PATENT LANDSCAPE IMPEDES INNOVATION IN THE WIRELESS INDUSTRY	23
III. GIVING FULL EFFECT TO <i>KSR</i> REQUIRES REJECTING THE CLEAR-AND-CONVINCING-EVIDENCE STANDARD	27
CONCLUSION.....	30

TABLE OF AUTHORITIES

	Page
CASES	
<i>American Hoist & Derrick Co. v. Sowa & Sons, Inc.</i> , 725 F.2d 1350 (Fed. Cir. 1984)	7
<i>Bausch & Lomb, Inc. v. Alcon Labs., Inc.</i> , 79 F. Supp. 2d 252 (W.D.N.Y. 2000)	14
<i>Dennison Mfg. Co. v. Panduit Corp.</i> , 475 U.S. 809 (1986)	28
<i>eBay Inc. v. MercExchange L.L.C.</i> , 547 U.S. 388 (2006)	18-19, 25
<i>KSR Int’l Co. v. Teleflex Inc.</i> , 550 U.S. 398 (2007)	6, 27, 30
<i>Loctite Corp. v. Ultraseal Ltd.</i> , 781 F.2d 861 (Fed. Cir. 1985)	29
<i>Novo Nordisk A/S v. Becton Dickinson & Co.</i> , 304 F.3d 1216 (Fed. Cir. 2002)	14
<i>NTP, Inc. v. Research in Motion, Ltd.</i> , No. Civ. A. 3:01CV767, 2003 WL 23100881 (E.D. Va. Aug. 5, 2003), <i>aff’d in part, rev’d in part, vacated in part, and remanded</i> , 418 F.3d 1282 (Fed. Cir. 2005)	20
<i>Panduit Corp. v. Dennison Mfg. Co.</i> :	
774 F.2d 1082 (Fed. Cir. 1985), <i>vacated</i> , 475 U.S. 809 (1986)	28, 29, 30
810 F.2d 1561 (Fed. Cir. 1987)	28

STATUTES AND RULES

Patent Act (35 U.S.C.):

35 U.S.C. § 102	8
35 U.S.C. § 103	8, 27
35 U.S.C. § 112	8
Fed. R. Civ. P. 52(a).....	28
Sup. Ct. R.:	
Rule 37.3(a).....	1
Rule 37.6	1

ADMINISTRATIVE MATERIALS

Dep't of Commerce, <i>Patent Reform: Unleashing Innovation, Promoting Economic Growth & Producing High-Paying Jobs</i> (2010)	22
Federal Trade Comm'n, <i>To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy</i> (Oct. 2003), available at http://www.ftc.gov/os/2003/10/innovationrpt.pdf	10, 22, 26
Nat'l Science Found., <i>National Patterns of R&D Resources: 2008 Data Update</i> (Mar. 2010), available at http://www.nsf.gov/statistics/nsf10314/	21
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John R. Allison & Mark A. Lemley, <i>Empirical Evidence on the Validity of Litigated Pat- ents</i> , 26 AIPLA Q.J. 185 (1998).....	8, 11
John R. Allison et al., <i>Extreme Value or Trolls on Top? The Characteristics of the Most- Litigated Patents</i> , 158 U. Pa. L. Rev. 1 (2009)	26
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Philip K. Anthony et al., <i>How Jurors’ Values and Perceptions Influence Decisions in Patent Cases</i> , 949 PLI/Pat 305 (2008)	12, 13, 14
Nicholas M. Cannella & Timothy J. Kelly, <i>Jury Trials and Mock Trials</i> , 375 PLI/Pat 731 (1993)	12, 13
Committee on Intellectual Property Rights in the Knowledge-Based Economy, National Research Council, <i>A Patent System for the 21st Century</i> (Stephen A. Merrill et al. eds., 2004).....	21, 22
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P. J. Federico, <i>Adjudicated Patents, 1948-54</i> , 38 J. Pat. Off. Soc'y 233 (1956)	8
Bronwyn H. Hall, <i>Exploring the Patent Exploration</i> , 30 J. Tech. Transfer 35 (2005).....	22
Matthew D. Henry & John L. Turner, <i>The Court of Appeals for the Federal Circuit's Impact on Patent Litigation</i> , 35 J. Legal Stud. 85 (2006).....	7, 8, 9, 10
ADAM B. JAFFE & JOSH LERNER, INNOVATION AND ITS DISCONTENTS: HOW OUR BROKEN PATENT SYSTEM IS ENDANGERING INNOVATION AND PROGRESS, AND WHAT TO DO ABOUT IT (2007 ed.)	16, 18, 22, 23
Jay P. Kesan & Gwendolyn G. Ball, <i>How Are Patent Cases Resolved? An Empirical Examination of the Adjudication and Settlement of Patent Disputes</i> , 84 Wash. U.L. Rev. 237 (2006)	17, 18
GLORIA K. KOENIG, PATENT INVALIDITY: A STATISTICAL AND SUBSTANTIVE ANALYSIS (rev. ed. 1980)	8
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Mark A. Lemley & Carl Shapiro, <i>Patent Hold-up and Royalty Stacking</i> , 85 Tex. L. Rev. 1991 (2007)	19, 20, 24

Christopher R. Leslie, <i>The Anticompetitive Effects of Unenforced Invalid Patents</i> , 91 Minn. L. Rev. 101 (2006)	15
Doug Lichtman & Mark A. Lemley, <i>Rethinking Patent Law's Presumption of Validity</i> , 60 Stan. L. Rev. 45 (2007)	9, 22, 23
Glynn S. Lunney, Jr., <i>Patent Law, the Federal Circuit, and the Supreme Court: A Quiet Revolution</i> , 11 Sup. Ct. Econ. Rev. 1 (2004).....	8, 9
Deborah Platt Majoras, <i>A Government Perspective on IP and Antitrust Law</i> , 38 Rutgers L.J. 493 (2007)	25
Alan C. Marco, <i>The Selection Effects (and Lack Thereof) in Patent Litigation: Evidence from Trials</i> , Topics in Econ. Analysis & Pol'y, vol. 4, iss. 1, art. 21 (2004), available at http://www.bepress.com/bejeap/topics/vol4/iss1/art21	9
Robert D. Minick & David H. Weinberg, <i>How Jurors See the Issues in Patent Cases</i> , in Practising Law Institute, <i>Jury Research</i> , 833 PLI/Corp 71 (1993)	13, 14
Kimberly A. Moore:	
<i>Judges, Juries, and Patent Cases – An Empirical Peek Inside the Black Box</i> , 99 Mich. L. Rev. 365 (2000).....	12
<i>Juries, Patent Cases, and a Lack of Transparency</i> , 39 Hous. L. Rev. 779 (2002)	15
PricewaterhouseCoopers, <i>2010 Patent Litigation Study: The Continued Evolution of Patent Damages Law</i> (Sept. 2010), available at http://www.pwc.com/us/en/forensic-services/publications/assets/2010-patent-litigation-study.pdf	11, 12

Matthew Sag & Kurt Rohde, <i>Patent Reform and Differential Impact</i> , 8 Minn. J.L. Sci. & Tech. 1 (2007).....	16-17
Carl Shapiro:	
<i>Injunctions, Hold-up, and Patent Royalties</i> , 12 Am. L. & Econ. Rev. 280 (2010)	19
<i>Navigating the Patent Thicket: Cross Licenses, Patent Pools, and Standard Setting</i> , in INNOVATION POLICY AND THE ECONOMY 119 (Adam B. Jaffe et al. eds., 2001).....	25
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Amy Tindell, <i>Toward a More Reliable Fact-Finder in Patent Litigation</i> , 13 Marq. Intell. Prop. L. Rev. 309 (2009)	15

INTEREST OF *AMICUS CURIAE*¹

CTIA – The Wireless Association[®], formerly known as the Cellular Telecommunications & Internet Association, represents all sectors of the wireless communications industry. Members of CTIA include service providers, manufacturers, wireless data and Internet companies, as well as other contributors to the wireless industry. CTIA frequently participates in regulatory and judicial proceedings and coordinates efforts to educate government agencies and the public about wireless industry issues.

The wireless communications industry in the United States is currently undergoing an enormous surge of innovation on several interlocking levels. CTIA's members are deploying advanced new broadband wireless networks that permit consumers to receive and send enormous amounts of data at speeds that would have been inaccessible (indeed, inconceivable) to consumers only a few years ago. These advanced networks support next-generation smartphones and other devices that permit consumers to make full use of the newly available network capacity. And CTIA's members, working with a broad range of other service and content providers,

¹ Pursuant to Supreme Court Rule 37.6, counsel for *amicus* represents that no counsel for a party authored this brief in whole or in part and that none of the parties or their counsel, nor any other person or entity other than *amicus*, its members, or its counsel, made a monetary contribution intended to fund the preparation or submission of this brief. Counsel for *amicus* notes that petitioner and several other *amici* supporting petitioner are among *amicus*'s members and thus pay dues to *amicus* that finance its activities (including its advocacy activities) but did not make any particular monetary contribution related to this brief. Pursuant to Rule 37.3(a), counsel for *amicus* represents that all parties have filed letters with the Clerk giving blanket consent to the filing of *amicus* briefs.

are generating and distributing a tremendous variety of applications and content in ways that are quickly transforming daily life. These innovations have offered many public benefits: generating economic growth when it is sorely needed, enhancing productivity in myriad ways, advancing public safety through enhanced personal communications capabilities, and offering consumers the opportunity to select from a variety of content and functionality for education, entertainment, or whatever purposes they choose.

As a result of their presence on the front lines of innovation, CTIA and its members have also obtained direct experience of the realities of modern patent litigation and of licensing negotiations in the shadow of litigation. CTIA's members have viewed these processes from all perspectives: as patent holders, as licensees, and as accused infringers. That experience, taken as a whole, has led CTIA to the conclusion that, although valid patents need to be protected, requiring patents to be proven invalid by clear and convincing evidence, rather than by a preponderance of the evidence, serves primarily to protect from invalidation too many patents that should never have issued. The result is to encourage more meritless patent applications and to raise the costs that real innovators pay in litigation and licensing.

CTIA thus files this brief as *amicus curiae* in support of petitioner Microsoft and in support of the position (advanced by fellow *amici* Google and Verizon, among others) that there is no statutory warrant or other legal justification for the clear-and-convincing-evidence standard to apply when a patent's validity is challenged.

INTRODUCTION AND SUMMARY

Challenges to the validity of a patent should be sustained if supported by a preponderance of the evidence. Petitioner Microsoft and its other *amici* have well explained the lack of any legal foundation for the Federal Circuit's contrary standard, which requires clear and convincing evidence to support such a challenge. This brief focuses on research that shows the impact of the clear-and-convincing-evidence standard and on the defects of that standard as a guide to reasoned decisionmaking by courts and in particular by juries.

Because the standard makes weak patents easy to defend, it is particularly damaging from the perspective of the wireless industry, where companies must navigate a complex patent landscape covered with traps for the unwary in order to bring innovative technologies to market. Real, substantive judicial scrutiny of patent validity is as important to protect innovation as is the existence of the underlying patent right in the first place. Accordingly, CTIA urges this Court to hold that the evidentiary standard to be applied in all challenges to patent validity is proof by a preponderance of the evidence, the "default standard of proof in civil cases." Pet. Br. 14; *see* Brief of Google Inc., Verizon Communications Inc., et al. As *Amici Curiae* in Support of Petitioner 6 ("Google-Verizon Br.").

I.A. Empirical studies of patent litigation show that the Federal Circuit's adoption and strengthening of the clear-and-convincing-evidence standard in the early 1980s coincided with a distinct increase in the number of patents that survived validity challenges in court. Scholars who have reviewed that evidence have concluded that the change in the legal

standard was likely a substantial contributing factor to the marked change in case outcomes. That conclusion is reinforced by the views of many judges and patent practitioners.

B. The clear-and-convincing-evidence standard not only affects case outcomes – it also degrades the quality of jury decisionmaking by promoting excessive juror deference to the determination of the Patent and Trademark Office (“PTO”) to issue a patent. Patent holders have demanded a vastly increased number of jury trials in patent cases, recognizing (as empirical evidence confirms) that jurors tend to rule in favor of patent holders and especially tend to reject challenges to patent validity.

Studies and reports by jury consultants show vividly that jurors arrive at patent trials with strong inclinations to defer to the PTO. That deference is based on widespread misconceptions about the time, resources, and independent effort that patent examiners are able to devote to patent applications. The Federal Circuit, moreover, has sharply limited the ability of accused infringers to educate jurors with actual facts about the PTO process that might correct these misconceptions.

The clear-and-convincing-evidence standard reinforces jurors’ deferential inclinations and sends a message to jurors that their proper role in reviewing claims of invalidity is minimal. Further, when a case involves complex technologies and a battle of two or more testifying experts, it becomes very difficult to persuade lay jurors that anything about the evidence is clear. As a result, the standard undermines the ability of the courts to protect innovation by invalidating patents of dubious validity.

C. By making weak patents more difficult to challenge – and therefore more valuable – the clear-and-convincing-evidence standard has negative effects that reach far beyond the courtroom. One such effect is the standard’s impact on the settlement of patent disputes. Most patents are never litigated, but parties’ beliefs about likely litigation outcomes nevertheless shape the contours of licensing agreements and settlements – as does the threat of injunctive relief that can severely damage an unlucky defendant’s business. By increasing those risks, the clear-and-convincing-evidence standard allows patent holders to demand significantly greater licensing fees, even for patents that would probably be held invalid at trial.

The standard also appears to have contributed to the surge in patent applications (and in patents issued) that has taken place between the 1980s and today. That surge shows no signs of stopping: a record number of patents were issued in 2010, and the proportion of patent applications to research-and-development (“R&D”) expenditures has also continued to increase through 2008. Further, as numerous government agencies and scholars have found, the increased *number* of patents issued has been accompanied by a decrease in the *quality* of patents issued. The clear-and-convincing-evidence standard both encourages these dismaying trends and deprives the courts of the tools they need to deal with the results.

II. Weak patents – that is, patents for which there is a good reason to think they are invalid – undermine innovation in the wireless industry. Innovative wireless technologies can be accused of infringing very large numbers (hundreds, if not thousands)

of patents. The extensive (and costly) negotiation and litigation required to resolve the potential disputes from these situations, which have become an unfortunate fact of life for industry participants, create a substantial barrier to the development and deployment of new products and services.

Wireless industry members regularly expend additional time and resources, however, on negotiation and litigation with non-practicing entities (also known as “patent trolls”) that do not themselves either develop or commercialize the patents they assert. The current state of patent law gives non-practicing entities considerable ability to disrupt the deployment of new technologies. Non-practicing entities can extort unjustified fees from industry members that fear the disruptive effect of lawsuits in which, because of the clear-and-convincing-evidence standard, it is very difficult to overturn invalid patents. Abuse of the patent system by non-practicing entities is a widely recognized problem. The difficulty of invalidating even weak patents under the clear-and-convincing-evidence standard magnifies the adverse effects that non-practicing entities are able to have on innovation.

III. In *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398 (2007), this Court took an important step to eliminating artificial impediments on the most common type of invalidity challenge – a claim that a patent is invalid as obvious. *KSR* rightly focused on the decisionmaker’s common sense and on the need for a flexible evaluation of whether a patent reflects more than merely ordinary creativity. Fulfilling *KSR*’s promise, however, requires rejecting the clear-and-convincing-evidence standard as the Federal Circuit applies it. That standard tells the factfinder

to disregard common sense in favor of deference to an undeserving administrative process. This Court should reaffirm that there is a meaningful place in the statutory and administrative scheme for thorough judicial scrutiny of patent validity and no such place for a judge-made heightened evidentiary standard that prevents such scrutiny.

ARGUMENT

I. THE CLEAR-AND-CONVINCING-EVIDENCE STANDARD INJURES INNOVATION

A. The Standard Has Made Validity Challenges Significantly Less Likely To Succeed

Patent litigation has been the subject of considerable empirical analysis over the last 20 years. As part of that analysis, several independent studies have found that, in the aftermath of the Federal Circuit's adoption in 1984² of the clear-and-convincing-evidence standard for challenges to patent validity, a significantly greater proportion of patents have survived judicial challenges to their validity.

A comprehensive 2006 study by Professors Henry and Turner³ examined 4,792 patent cases for the period from 1953 to 2002, including almost every litigation for which at least one decision (district or appellate) was published in the United States Patent Quarterly during that period. The authors concluded that, since Congress created the Federal Circuit, "district courts have been roughly half as likely to issue a decision of invalidity, patentees have been

² See *American Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1359-60 (Fed. Cir. 1984).

³ Matthew D. Henry & John L. Turner, *The Court of Appeals for the Federal Circuit's Impact on Patent Litigation*, 35 J. Legal Stud. 85, 95-96 (2006) ("Henry & Turner").

about 25 percent more likely to appeal these decisions, and the appeals court has been nearly three times more likely to not affirm a decision of invalidity.”⁴

Other studies have reached similar results. A study of 300 district and appellate patent validity decisions from 1989 to 1996 determined that patents survived validity challenges in 54% of cases, and compared this result to studies of pre-Federal Circuit decisions that had found an average survival rate of about 35%.⁵ A study of 1,307 Federal Circuit decisions from 1982 to 1994 similarly found that the Federal Circuit ultimately determined that between 58% and 64% of challenged patents had not been shown to be invalid, depending on the statutory provision under which they had been challenged.⁶

⁴ *Id.* at 90.

⁵ See John R. Allison & Mark A. Lemley, *Empirical Evidence on the Validity of Litigated Patents*, 26 AIPLA Q.J. 185, 205-06 (1998) (“Allison & Lemley”). For their pre-Federal Circuit data, Professors Allison and Lemley relied on P. J. Federico, *Adjudicated Patents, 1948-54*, 38 J. Pat. Off. Soc’y 233 (1956), and GLORIA K. KOENIG, *PATENT INVALIDITY: A STATISTICAL AND SUBSTANTIVE ANALYSIS* (rev. ed. 1980). See Allison & Lemley at 206 n.53.

⁶ See Donald R. Dunner et al., *A Statistical Look at the Federal Circuit’s Patent Decisions: 1982-1994*, 5 Fed. Cir. B.J. 151, 154-55 (1995) (58% of patents challenged under 35 U.S.C. § 102 or § 103 held not to be invalid; 64% of those challenged under § 112). For additional research showing that patents were less likely to be declared invalid after the formation of the Federal Circuit, see Glynn S. Lunney, Jr., *Patent Law, the Federal Circuit, and the Supreme Court: A Quiet Revolution*, 11 Sup. Ct. Econ. Rev. 1, 15 (2004) (“Lunney”) (examining the relative rates of different types of patent-claim failure and concluding that “patent invalidity is significantly less likely to be the reason why a claim of patent infringement fails under the Federal Circuit”)

Scholars and commentators have persuasively linked the “sharp reduction in invalidity results” under the Federal Circuit to its “relentless[] enforce[ment of] the presumption of validity for issued patents.”⁷ Professors Henry and Turner, for example, concluded that “the timing, synchronicity, and intuitive consistency” of the changes in case outcomes provided “strong evidence that the [Federal Circuit’s] stronger presumption of validity has had a significant impact” on the way cases are decided.⁸ Professors Lichtman and Lemley similarly identified “the stronger presumption of validity” applied by the Federal Circuit as “one of the most plausible” causes of the post-Federal Circuit shift in invalidity outcomes.⁹ Many other professors and practitioners concur.¹⁰

(footnote omitted), and Alan C. Marco, *The Selection Effects (and Lack Thereof) in Patent Litigation: Evidence from Trials*, Topics in Econ. Analysis & Pol’y, vol. 4, iss. 1, art. 21, at 26 (2004) (finding that “[i]f a case was filed prior to 1982 it was less likely to receive a positive ruling on validity”).

⁷ Lunney at 18. Professor Lunney also attributed the reduction in invalidity results in part to a “reduc[tion]” by the Federal Circuit in “the extent of the technological advance required to sustain a patent.” *Id.* at 19-20.

⁸ Henry & Turner at 90.

⁹ Doug Lichtman & Mark A. Lemley, *Rethinking Patent Law’s Presumption of Validity*, 60 Stan. L. Rev. 45, 69-70 (2007) (“Lichtman & Lemley”). Although the professors expressed frustration with the difficulty of “prov[ing] that presumptions matter,” they nevertheless had “confiden[ce] that [the Federal Circuit’s presumption] does [affect] . . . at least some cases and that a change in the presumption really can alter patent holder behavior.” *Id.*

¹⁰ *E.g.*, Symposium, *Do Overly Broad Patents Lead to Restrictions on Innovation and Competition?*, 15 Fordham Intell. Prop. Media & Ent. L.J. 947, 998 (2005) (remarks of Herbert Schwartz) (stating of the clear-and-convincing-evidence stan-

B. The Standard Leads to Lower Quality Jury Decisions

1. The clear-and-convincing-evidence standard not only affects case outcomes – it changes them for the worse, leading patents to be upheld that should never have been issued. As Microsoft has shown, “the PTO is unable to provide [a] . . . robust assessment of [patent] validity” because of the legal and institutional constraints under which it operates. Pet. Br. 51. Those constraints include the *ex parte* nature of the patent prosecution process; a framework of legal presumptions that requires patent examiners essentially to presume that a patent should be granted; and an extraordinarily burdensome caseload that leaves examiners with only a short time (the FTC in 2003 estimated between 8 and 25 hours)¹¹ to devote to each patent application. See Google-Verizon Br. 15-29 (setting forth in greater detail the constraints on the PTO).

Even with the advantage of expertise, the PTO’s deliberately weighted and highly truncated process is not calculated to produce outcomes that are more reliable than the outcome of an adversary trial conducted using a preponderance-of-the-evidence standard. See *id.* at 26-27. It follows that placing a thumb on the trial scales to increase the amount of

dard: “[a]s someone who has litigated patents, I know of no single change effected by the Federal Circuit that had more long-term effect in sustaining patents’ validity”). For additional references to views expressed by “[n]umerous patent attorneys and legal scholars” noting the Federal Circuit’s “strengthening of the presumption” of validity and its effects on litigation, see Henry & Turner at 87 & n.7.

¹¹ FTC, *To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy* 9-10 (Oct. 2003) (“*FTC Report*”).

deference accorded the PTO is not a good way to improve the reliability of the system as a whole.

2. The tendency of the clear-and-convincing-evidence standard to create excessive deference to the PTO is particularly important in jury cases. Jury trials are now a regular feature of patent litigation, although that was not the case before the creation of the Federal Circuit. A recent study by PricewaterhouseCoopers found that, in 2009, jury trials represented “almost 70[%]” of patent cases that went to trial, as compared to the 1980s, when they represented only 14%.¹² A few years earlier, in 1978, the percentage of jury trials was as low as 8.3%.¹³

The apparent reason for this “fundamental change in the nature of patent litigation,” as Professors Allison and Lemley note, is that “somebody – presumably patentees – thinks trial by jury will benefit them.”¹⁴ There is much empirical evidence that jury trials indeed do benefit patent holders, especially when challenges to a patent’s validity are involved. Jurors are markedly less open to such challenges than are judges. Professors Allison and Lemley found this difference to be “striking”: juries rejected validity challenges 67.1% of the time, while judges in bench trials rejected such challenges only 57.3% of the time.¹⁵ A 2000 study by Professor Moore likewise found a “significant difference between judge and

¹² PricewaterhouseCoopers, *2010 Patent Litigation Study: The Continued Evolution of Patent Damages Law* 9-10 (Sept. 2010) (“*PwC Study*”). These figures include disputes about infringement as well as validity challenges. *See id.* at 26.

¹³ *See* Allison & Lemley at 211.

¹⁴ *Id.*

¹⁵ *Id.* at 211-12.

jury adjudication of validity,” with jurors rejecting validity challenges after trial in 71% of cases, and judges in 64%.¹⁶ The recent *PwC Study* confirms that patent holders going to trial have achieved better results before juries than before judges in every year from 1995 to 2009.¹⁷

3. The findings of jury consultants and other researchers who study patent trials strongly suggest that deference to the PTO – based on unrealistic beliefs about the agency’s capacities – is a key factor in patent holders’ remarkable success rates before juries. Jurors tend to come into patent cases with numerous misconceptions about the way the patent system operates: “most jurors” believe that “[p]atent applications are thoroughly reviewed and evaluated by the [PTO],” and do not realize “that the [PTO] relies on inventors for information.”¹⁸

¹⁶ Kimberly A. Moore, *Judges, Juries, and Patent Cases – An Empirical Peek Inside the Black Box*, 99 Mich. L. Rev. 365, 392 (2000). Professor Moore noted that she observed a somewhat smaller judge-jury difference than had Professors Allison and Lemley because she excluded “validity decisions rendered by the court on dispositive motion.” *Id.* at 392 n.110. Although trial verdicts are more strictly comparable, the higher rate of invalidation by dispositive motions does help show that judges generally feel less compelled to defer to the PTO than do juries.

¹⁷ *PwC Study* at 9-10.

¹⁸ Philip K. Anthony et al., *How Jurors’ Values and Perceptions Influence Decisions in Patent Cases*, 949 PLI/Pat 305, 313 (2008) (“Anthony et al.”); see Nicholas M. Cannella & Timothy J. Kelly, *Jury Trials and Mock Trials*, 375 PLI/Pat 731, 741 (1993) (“Cannella & Kelly”) (summarizing research showing that jurors tend to believe that “patent applications are thoroughly reviewed by” the PTO); Ellen L. Leggett & Dan R. Gallipeau, *Computer Litigation: Jurors’ Perceptions and Reactions*, 9 Computer Law. 18, 19 (Aug. 1992) (“Leggett & Gallipeau”) (reporting that a majority of jurors assume that the PTO “conducts a

One consulting firm found that 68% of jurors believed that the PTO has its own “obligation to do a search of the prior art” and that as many as 36% of jurors believed that the PTO “has a technical library and labs to evaluate new applications” – while “[m]ost remaining jurors d[id] not know and [we]re willing to assume” that the PTO had such resources.¹⁹ Others report that jurors tend to approach patent cases on the basis of “myths” about the PTO: that “several patent examiners” work on each patent application, that the PTO “tests the device or conducts research on the composition or process” for which a patent is sought, and that the team of examiners “spend weeks if not months investigating the claimed invention.”²⁰

Because of these misconceptions, jurors generally come to cases with “immense faith in the patent process”²¹ and believe that “[v]ery strict standards must be met . . . in order to obtain a patent,”²² and that patents are accordingly “almost impossible”²³ to obtain. Although it can sometimes be effective to dispel juror misconceptions by “educat[ing]” them

thorough review of all patent applications and prior art before granting any new patents”).

¹⁹ Leggett & Gallipeau at 19.

²⁰ Robert D. Minick & David H. Weinberg, *How Jurors See the Issues in Patent Cases*, in Practising Law Institute, *Jury Research*, 833 PLI/Corp 59, 71, 72-73 (1993) (“Minick & Weinberg”).

²¹ Anthony et al. at 310.

²² Leggett & Gallipeau at 19.

²³ Anthony et al. at 312; see Cannella & Kelly at 741 (jurors believe that patents are “almost impossible to get”); Leggett & Gallipeau at 19 (jurors assume that patents are the result of a “process [that] must be quite difficult” to complete successfully).

“about how the process works,”²⁴ the Federal Circuit and district courts following its lead have placed sharp constraints on an accused infringer’s ability to do so. The Federal Circuit, for example, has treated an accused infringer’s argument that “patent examiners are prone to error because they are overworked and inexperienced” as an “[i]nflammatory insinuation[]” that should not be permitted to “prejudice the jury.” *Novo Nordisk A/S v. Becton Dickinson & Co.*, 304 F.3d 1216, 1220 (Fed. Cir. 2002).²⁵

It is not surprising that, confronted with the “inaccessible” legal and “confusing” technical issues upon which patent cases often turn, coupled with the undeniable observation that even the parties’ “experts . . . cannot agree” on those technical points, “many jurors simply throw up their hands and . . . defer to the original decision of the Patent Office.”²⁶

²⁴ Anthony et al. at 312; *see* Minick & Weinberg at 72 (jurors “can be convinced that Patent Examiners can make mistakes because of the volume of patents they process”). Although Minick and Weinberg, writing in 1993, stated optimistically (at 72) that the “myths” jurors believe about the patent process can be “easily dispelled,” that assessment did not account for later judicial decisions such as *Novo Nordisk*, which rejected attempts by accused infringers to provide jurors with accurate information about the PTO. Today, “find[ing] admissible ways” to get information about the difficulties faced by patent examiners before a jury poses a difficult problem. Anthony et al. at 312 (writing in 2008).

²⁵ *See also, e.g., Bausch & Lomb, Inc. v. Alcon Labs., Inc.*, 79 F. Supp. 2d 252, 255 (W.D.N.Y. 2000) (excluding expert testimony about “the difficulties [e]xaminers face in discovering and obtaining prior art references other than patents” and about “the time constraints under which [e]xaminers in the PTO must operate” because such testimony would “undermine the presumption of validity”) (internal quotations omitted).

²⁶ Minick & Weinberg at 71.

This tendency of “juries [to] woodenly accord great deference to PTO examinations” is recognized by judges who have presided over patent trials.²⁷ It is likewise well-accepted in the academic literature that jurors, even more than judges, are “unlikely to second-guess” the PTO.²⁸

4. The clear-and-convincing-evidence standard exacerbates these difficulties. Jurors who are not inclined to revisit the PTO’s determinations in the first place are very likely to take the standard as judicial confirmation of their initial assumption that, in light of the PTO’s earlier determination, there is little for them to do. As one experienced patent litigator put the problem in testimony to the FTC:

What is clear and convincing evidence? When you actually put that notion in front of a jury, their eyes glaze over. It really reinforces the

²⁷ William Alsup, *A District Judge’s Proposal for Patent Reform*, 24 Berkeley Tech. L.J. 1647, 1650 (2009); see also *Public Hearings: Competition and Intellectual Property Law and Policy in the Knowledge-Based Economy*, FTC and Dep’t of Justice Antitrust Div. 117 (July 11, 2002) (“*FTC-DOJ Hearings*”) (testimony of Judge Ellis) (describing a “standard technique used by patentees” to “take advantage” of juror deference to the PTO by displaying to the jury a “certified copy” with a “nice blue ribbon”).

²⁸ Kimberly A. Moore, *Juries, Patent Cases, and a Lack of Transparency*, 39 Hous. L. Rev. 779, 787 (2002); see also, e.g., Christopher R. Leslie, *The Anticompetitive Effects of Unenforced Invalid Patents*, 91 Minn. L. Rev. 101, 135 (2006) (noting the extent to which “juries defer to the perceived expertise of the PTO”); Amy Tindell, *Toward a More Reliable Fact-Finder in Patent Litigation*, 13 Marq. Intell. Prop. L. Rev. 309, 321 (2009) (“Commentators believe that juries are more susceptible to pressure to defer to PTO ‘experts’ than are judges and thus are less likely to support invalidity or unenforceability defenses of alleged infringers.”).

notion that the patent with the gold seal and the ribbon on it is something that they as lay persons are not really qualified to look behind and question because someone with training has already checked this out at the [PTO].²⁹

Another experienced practitioner has written that the clear-and-convincing-evidence standard essentially serves as “a handy tool that jurors may well use to resolve validity issues without making any realistic effort to understand the underlying technical issues.”³⁰

The effects of the standard are magnified further by the enormous complexity of many litigated patent cases and the practical difficulties of adequately educating jurors about unfamiliar technologies (as well as unfamiliar law). As several commentators have noted, “[i]f . . . jurors are simply befuddled by the evidence, the most likely outcome is that they will conclude that neither side has made a convincing case.”³¹

²⁹ *FTC/DOJ Hearings* at 381-82 (Feb. 27, 2002) (testimony of James Pooley); *see also id.* at 154 (Oct. 25, 2002) (testimony of Prof. James B. Gambrell) (“[J]urors hear clear and convincing evidence, and I don’t care how good the art is before the office versus outside the office for the court, I think they’re inclined to believe that they really have to lean over backwards to hold that patent invalid or unenforceable.”).

³⁰ B. D. Daniel, *Heightened Standards of Proof in Patent Infringement Litigation: A Critique*, 36 *AIPLA Q.J.* 369, 412 n.252 (2008) (“Daniel”) (noting that “[l]awyers for patentees certainly argue their cases as if this proposition were true”).

³¹ ADAM B. JAFFE & JOSH LERNER, *INNOVATION AND ITS DISCONTENTS: HOW OUR BROKEN PATENT SYSTEM IS ENDANGERING INNOVATION AND PROGRESS, AND WHAT TO DO ABOUT IT* 195-96 (2007 ed.) (“JAFFE & LERNER”); *see also* Matthew Sag & Kurt Rohde, *Patent Reform and Differential Impact*, 8 *Minn. J.L. Sci.*

The clear-and-convincing-evidence standard thus creates a climate in which technology companies are often forced to conclude that litigating the validity or enforceability of even an apparently weak patent is a risky scenario, especially in light of the possibly devastating remedies that are available to patent holders who succeed in surviving invalidity challenges and proving infringement. As a result, the clear-and-convincing-evidence standard drives up the licensing and settlement value of weak patents. That increase in value, in turn, causes harm to innovation that reaches far beyond the relatively small proportion of patent cases that are actually litigated.

C. The Standard Increases the Value of Weak Patents

1. The Settlement Value of Weak Patents Increases when They Cannot Be Reliably Invalidated

Most filed cases, including patent cases, settle before resolution on the merits. For patent disputes in particular, “approximately 80% of patent cases settle.”³² This figure, moreover, does not take into account the cases in which litigation is threatened

& Tech. 1, 36-37 (2007) (“Given that juries in patent cases are comprised of lay people who are unfamiliar with both the relevant law and the relevant technology, it is hard to know confidently *ex ante* whether the most convincing evidence in the world will actually prove to be clear and convincing in a court room setting.”); Daniel at 412 n.252 (“[A]ny lawyer with even minimal jury trial experience knows that jurors have a difficult time understanding any of the technical issues in a patent case.”).

³² Jay P. Kesan & Gwendolyn G. Ball, *How Are Patent Cases Resolved? An Empirical Examination of the Adjudication and Settlement of Patent Disputes*, 84 Wash. U.L. Rev. 237, 259 (2006).

but an agreement is reached without a complaint being filed. In addition, challenges to a patent's validity "are among the most expensive patent cases" to litigate, so that parties have a particular incentive to settle them rather than pay the attorneys' and experts' fees that usually are necessary to obtain a ruling on the merits.³³ This is true even when the accused infringer has a strong validity challenge, because of the combined effects of litigation costs and the difficulty of overcoming the clear-and-convincing-evidence standard.

Accordingly, one important but hard-to-measure effect of the clear-and-convincing-evidence standard is its influence on the settlement of patent disputes where the validity of the patent is part of the dispute. As discussed above, *see supra* pp. 7-9, there are reasons to think both that the standard does in fact make invalid patents more difficult to challenge and that many members of the patent bar recognize that it does. The predictable outcome is a "profound impact on . . . negotiations and settlements" because "patent-holders [become] more eager to assert their rights, and accused infringers more inclined to pay up and settle rather than fight it out in court."³⁴

The threat of litigation over weak patents is particularly troublesome when coupled with the vigorous remedies available to a patent holder – in particular, injunctive relief. As a four-justice concurrence observed in *eBay Inc. v. MercExchange L.L.C.*, 547 U.S.

³³ *Id.* at 246; *see id.* at 309-10 (summarizing evidence showing that parties are reluctant to pursue invalidity claims because of the expense).

³⁴ JAFFE & LERNER at 107 (stating that, although this effect cannot be observed in tabulated statistics, "conversations with business people and their attorneys confirm" that it occurs).

388 (2006), the threat of “an injunction, and the potentially serious sanctions arising from its violation,” can be used to obtain “undue leverage in negotiations” over licensing fees. *Id.* at 396 (Kennedy, J., concurring). When patents are “vague[] and [of] suspect validity,” *id.* at 397 – the type of patents that the scholarly literature refers to as “weak” – the consequences of injunctive relief may be particularly damaging to the public interest and future innovation.

Elaborating on that insight, subsequent research by Professors Lemley and Shapiro shows in detail how the threat of injunctive relief “can easily enable a patent holder to negotiate a settlement for an amount of money significantly exceeding the amount that the patent holder could expect to earn in damages based on reasonable royalties” because the accused infringer cannot afford to take the risk of “an injunction shutting down [its] core product.”³⁵ Notably, this result holds even for weak patents; a more recent article by Professor Shapiro finds that “the owners of weaker patents, i.e., the ones least likely to represent genuine innovation, benefit disproportionately” from the availability of injunctive relief.³⁶

³⁵ Mark A. Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 Tex. L. Rev. 1991, 2008-09 (2007) (“Lemley & Shapiro”).

³⁶ Carl Shapiro, *Injunctions, Hold-up, and Patent Royalties*, 12 Am. L. & Econ. Rev. 280, 303 (2010). In brief, the reasoning supporting this conclusion is that, however weak a patent may appear, a company cannot avoid the risk of a potentially crippling injunction except by avoiding the use of the purportedly patented technology entirely. *See id.* at 299-300.

Real-life examples are not hard to find: one, well-known to CTIA and its members, involved a \$612.5 million payment by the manufacturer of the popular BlackBerry product – more than 18 times the \$33.5 million damages award in the same case.³⁷ The present case, which involved an injunction that applied to “all versions of” the industry-leading software Microsoft Word “that were available at the time of judgment,” Pet. 11, could very well have been another example, if Microsoft had not had the resources and determination to redesign its product in the course of this litigation and to press this case all the way to this Court for resolution. Other technology companies watching high-profile cases such as these can only conclude that they are exposing their product lines to significant risks by refusing to license any patent that is presented to them – and the resulting costs are inevitably passed on to the consumers who buy those products.

*2. Increasing the Value of Weak Patents
Encourages Applications for More of Them*

In addition, by increasing the chances that even weak patents will be upheld after a litigated validity challenge, and by increasing the value of such patents in negotiations, the clear-and-convincing-evidence standard also increases the incentive that parties have to seek patents without regard to their strength.

³⁷ See Lemley & Shapiro at 2009 (discussing *NTP, Inc. v. Research in Motion, Ltd.*, No. Civ. A. 3:01CV767, 2003 WL 23100881, at *1 (E.D. Va. Aug. 5, 2003), *aff’d in part, rev’d in part, vacated in part, and remanded*, 418 F.3d 1282 (Fed. Cir. 2005)).

In absolute terms, “[t]he number of U.S. patents issued to both U.S. and foreign entities nearly tripled from 66,290 in 1980 to 184,172 in 2001.”³⁸ More recently, the number of patents issued annually has remained high with 233,127 patents issued in 2010 – an all-time record and an increase of 22.6% over the preceding year.³⁹ Research and development expenditures during the 1980s and 1990s also grew, but that growth was “significant[ly]” outstripped by the surge in patents: in 1985, there were 0.18 patents per million dollars of R&D expenditures, but, by 1997, that number had increased to 0.34 patents per million dollars.⁴⁰ A comparison of PTO and National Science Foundation (“NSF”) figures for 2008 suggests that the trend has continued, with the number of patents per million dollars of R&D as high as 0.46.⁴¹

³⁸ Committee on Intellectual Property Rights in the Knowledge-Based Economy, National Research Council, *A Patent System for the 21st Century* 28 (Stephen A. Merrill et al. eds., 2004) (“*NRC Report*”).

³⁹ See PTO, *Performance and Accountability Report – Fiscal Year 2010*, at 129 (2011) (preliminary figure) (“*PTO 2010 Report*”). The large percentage increase in patents issued in 2010 was primarily attributable to clearing a backlog of applications, rather than to an increase in new applications. New applications were also at a record high (509,367), but that figure represented an increase of only 4.7% over the previous year. See *id.* at 126.

⁴⁰ *NRC Report* at 28.

⁴¹ See *PTO 2010 Report* at 129 (182,556 patents issued in 2008); NSF, *National Patterns of R&D Resources: 2008 Data Update*, Table 1 (Mar. 2010) (\$397,629,000 spent on R&D in 2008), available at <http://www.nsf.gov/statistics/nsf10314/>. The calculation is a rough estimate only, because the PTO issues statistics by fiscal year, and the NSF statistics are by calendar year.

This growth in patents has been accompanied by widespread “concerns about the number of questionable patents issued” by the PTO.⁴² A recent paper issued by the Department of Commerce found that “the current U.S. [patent] system is highly prone to . . . inconsistent quality” in the patents issued by the PTO.⁴³ In 2004, Professors Jaffe and Lerner noted with regret:

If th[e] increase in patenting reflected an explosion in U.S. inventiveness, it would be cause for celebration. But unfortunately it is clear that the rapid increase in the rate of patenting has been accompanied by a proliferation of patent awards of dubious merit.⁴⁴

As the National Research Council found in 2004, most “[e]conomists who have studied” the “patenting surge” of the 1980s and 1990s “give a good deal of credit to . . . policy changes, . . . especially the creation of the Federal Circuit and the resulting higher rates at which patent validity and patent holders prevailed in litigation.”⁴⁵ It is likely as well that the

⁴² *FTC Report* at 5 (noting that numerous participants in the FTC’s hearings raised such concerns).

⁴³ Dep’t of Commerce, *Patent Reform: Unleashing Innovation, Promoting Economic Growth & Producing High-Paying Jobs* 4 (2010).

⁴⁴ JAFFE & LERNER at 11-12; *see also* Lichtman & Lemley at 47 n.5 (“Calls for patent reform have echoed loudly over the past several years, with industry organizations, patent scholars, and government agencies all publicly announcing that the patent system is broken and that the PTO in particular is letting a large number of undeserving patents be issued.”).

⁴⁵ *NRC Report* at 28; *see* Bronwyn H. Hall, *Exploring the Patent Explosion*, 30 *J. Tech. Transfer* 35, 41 (2005) (concluding that the creation of the Federal Circuit, and the resulting increased likelihood that patents would be “upheld in litigation,”

rise of the clear-and-convincing-evidence standard has contributed to the decline in patent quality: in an environment where “courts . . . regularly enforce overbroad and undeserved patents, . . . strategic applicants [will] continue to apply for undeserved patents knowing that there is a good chance the PTO will err.”⁴⁶

To be sure, it is unlikely that this evidentiary standard is the *sole* force behind the surge in issued patents and the deterioration in their quality. A persistent lack of resources dedicated to ensuring patent quality for the PTO, for example, plays a significant part.⁴⁷ On the whole, however, a standard under which weak patents cannot be reliably invalidated encourages a greater number of companies to acquire such patents – and leaves the patent system less able to deal with the resulting harm to innovators and innovation.

II. THE CURRENT PATENT LANDSCAPE IMPEDES INNOVATION IN THE WIRELESS INDUSTRY

CTIA writes from the perspective of the wireless industry. That industry is well-aware of the proliferation of patents covering wireless technologies – and, therefore, of the ways in which the clear-and-convincing-evidence standard makes it especially dif-

served to “provide[] an impetus for the increase in growth rate” in patent applications and patent grants); JAFFE & LERNER at 185 (identifying the “enhanced value of patent protection since the creation of the” Federal Circuit as likely contributing to the increase in patent applications).

⁴⁶ Lichtman & Lemley at 48.

⁴⁷ See JAFFE & LERNER at 129, 130-50 (describing the “profound challenges” that have put the PTO under “critical stress”); see also Google-Verizon Br. 19-21.

difficult to invalidate weak patents that stand in the way of future innovation.

Innovative wireless technologies tend to fall within the scope of many patents, not just a few. Professors Lemley and Shapiro illustrate the situation by discussing the number of issued patents that apply to several important standards that are used in the wireless industry. As of early 2004, two important industry standards were at least arguably subject to hundreds or thousands of patents: the WCDMA standard, to 6,872 patents globally, divided into 732 “patent families”; and the CDMA2000 standard, to 924 patents, divided into 527 families. These patents are owned by 41 different companies.⁴⁸ Similarly, as of 2006, more than 35 companies had come forward identifying themselves as the owners of patents essential to developing technologies using the family of standards formally known as IEEE 802.11, and generally called “WiFi.” The number of patents applicable to WiFi again reaches a total in the “hundreds, perhaps even thousands.”⁴⁹

The point is not that all of these patents are weak or questionable – many reflect genuine innovations and would likely survive judicial scrutiny of their validity under a preponderance-of-the-evidence standard. Nevertheless, the sheer numbers are enough to make the point that innovative wireless technologies are necessarily developed and brought to market under conditions in which it is impossible to identify

⁴⁸ Lemley & Shapiro at 2026. The “members” of a “patent family” are “patents obtained in different countries for a single invention,” *id.*, so the smaller “family” numbers are probably a better guide to the number of U.S. patents that arguably apply to a particular standard.

⁴⁹ *Id.* at 2027.

and clear patent rights in advance⁵⁰ or to be confident in the ability to challenge invalid patents.

Generally, when the companies involved obtain patents on technologies that they themselves have created or commercialized, this uncertainty is resolved through cross-licensing negotiations.⁵¹ These negotiations do not invariably succeed, however, and breakdowns can lead to complex litigation in which multiple industry participants each assert that the others have violated its patents. Many manufacturers of wireless devices and carriers of wireless communications have direct experience with such litigation, either as direct participants or as innocent bystanders whose products and services use allegedly patented technologies. Because of the cost and uncertainty involved, litigation under these conditions imposes significant and unjustified costs on innovation and consumers – costs that the clear-and-convincing-evidence standard only exacerbates.

Complexity and uncertainty in patent rights can become even greater barriers to innovation, moreover, when patents are held and asserted by “firms [that] use patents not as a basis for producing and selling goods but, instead, primarily for obtaining licensing fees.” *eBay*, 547 U.S. at 396 (Kennedy, J., concurring). Actual and threatened litigation

⁵⁰ See, e.g., Deborah Platt Majoras, *A Government Perspective on IP and Antitrust Law*, 38 Rutgers L.J. 493, 497-98 (2007) (discussing industries in which “so many patents [are] at issue” that “infringing another firm’s patent can be inevitable”).

⁵¹ See Carl Shapiro, *Navigating the Patent Thicket: Cross Licenses, Patent Pools, and Standard Setting*, in INNOVATION POLICY AND THE ECONOMY 119 (Adam B. Jaffe et al. eds., 2001) (analyzing from an economic perspective the business arrangements that firms use to survive under such conditions).

by patent owners of this stripe (often referred to as “non-practicing entities” or, more colloquially, “patent trolls”) is an “important phenomenon in the modern patent system.”⁵²

As the FTC observed in 2003, because non-practicing entities have no products of their own, they do not face any risk of “countersuit” in patent litigation – they are free to, and do, pursue aggressive litigation strategies and rely on the “threat[] . . . [of] infringement [liability] and an injunction” to support their demands for licensing payments.⁵³ See *supra* pp. 18-20 (discussing the role of injunctions in licensing negotiations). When the holders of significant numbers of patent rights lack an incentive to participate reasonably in cross-licensing and joint-licensing negotiations, industry strategies for negotiating the complex patent landscape break down. It is at this point that the clear-and-convincing-evidence standard, and its known effect on jury trials, has bite. If a non-practicing entity can credibly threaten litigation – even when its patent rights are quite weak by any objective assessment – then its ability to extract a royalty increases dramatically.

As an example of the problem, *amicus*’s member company Verizon Wireless is, as of this filing, actively defending 20 cases alleging patent infringement. Of those 20 cases, 18 are brought by non-practicing entities. Although Verizon Wireless has meritorious defenses in these suits, the clear-and-convincing-

⁵² John R. Allison et al., *Extreme Value or Trolls on Top? The Characteristics of the Most-Litigated Patents*, 158 U. Pa. L. Rev. 1, 32 (2009) (finding that actions brought by non-practicing entities “represent over 80% of the suits filed involving the most-litigated patents”).

⁵³ *FTC Report*, ch. 3, at 38.

evidence standard and its effect on juries weigh heavily on the mind of any defendant that is estimating its likelihood of success at trial. The results are more settlements, higher settlement payments, and a higher cost paid by consumers for innovative products and services – as a result of patents that likely would not have survived even-handed scrutiny by a factfinder applying a preponderance-of-the-evidence standard.

III. GIVING FULL EFFECT TO *KSR* REQUIRES REJECTING THE CLEAR-AND-CONVINCING-EVIDENCE STANDARD

This Court’s reasoning and analysis in *KSR* took an important step towards solving the problems posed for innovators by the current U.S. patent system. *KSR* set forth one way in which weak and questionable patents can be challenged by focusing on the importance of a “factfinder[’s] recourse to common sense” in determining whether a patent is obvious under the statutory standard of 35 U.S.C. § 103. 550 U.S. at 421. In so doing, the Court recognized that a factfinder in a patent case can (and, to perform its function, must) “take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *Id.* at 418. It therefore rejected the Federal Circuit’s prior “overemphasis on the importance of published articles and the explicit content of issued patents” in determining obviousness. *Id.* at 419.

KSR’s discussion of “common sense” (a term it uses repeatedly) and of “ordinary creativity,” *id.* at 421, captures an important point about modern innovation and patent litigation. Whether or not generalist judges and lay jurors are the best possible decision-makers for patent validity disputes, they are the *only*

decisionmakers in the present system to consider questions of patent validity in a more than cursory fashion. Their decisions are crucial to ensuring that the system protects companies' incentives, and often their very ability, to develop and deploy innovative technologies. It is therefore critical that trial factfinders have, and are permitted to use, the flexibility and indeed the imagination needed to step into the shoes of one of ordinary skill in the relevant art.

The clear-and-convincing-evidence standard does not permit the factfinder to undertake a common-sense inquiry – on the contrary, it is designed and has been applied by the Federal Circuit precisely to foreclose that possibility. As we have already shown, *see supra* pp. 15-16, the standard's practical effect is to “reinforce[] the notion that the patent with the gold seal and the ribbon on it is something that [jurors] as lay persons are not really qualified to look behind.”⁵⁴ That is, moreover, exactly what the Federal Circuit has said the standard should do. The point is well-illustrated by *Panduit Corp. v. Dennison Manufacturing Co.*, 774 F.2d 1082 (Fed. Cir. 1985), *vacated on other grounds*, 475 U.S. 809 (1986) (per curiam),⁵⁵

⁵⁴ *FTC/DOJ Hearings* at 382 (Feb. 27, 2002) (testimony of James Pooley).

⁵⁵ This Court summarily vacated and remanded the judgment in *Panduit* because of the Federal Circuit's failure to “explicitly apply the clearly-erroneous standard” mandated by Federal Rule of Civil Procedure 52(a) in its rejection of the district court's factfinding or to explain why that standard did not apply. *Dennison Mfg. Co. v. Panduit Corp.*, 475 U.S. 809, 811 (1986) (per curiam). On remand, the Federal Circuit issued a new opinion, but also reaffirmed almost all of its earlier opinion, including the portions cited in the text. *See Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1575 & n.33 (Fed. Cir. 1987).

and by *Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861, 872 (Fed. Cir. 1985).

In *Panduit*, the Federal Circuit reversed a district court for failing to apply the clear-and-convincing-evidence standard appropriately. Among other things, the district judge in *Panduit* candidly acknowledged that it was “‘not easy’ to reach” a conclusion that the challenged patent was obvious, that he had “‘go[ne] back and forth’ on the question,” and that he had invalidated the patent only with “‘great reluctance.’” 774 F.2d at 1097. His description of his deliberations was – as the Federal Circuit itself acknowledged – entirely consistent with a “careful and conscientious” approach, *id.* at 1090, to a hard problem in a technical field.

The Federal Circuit reversed, holding that the district court’s very “uncertainty” about the appropriate outcome in the case “should have, in view of [35 U.S.C.] § 282, ended the obviousness inquiry.” *Id.* at 1097. It later built on that holding in *Loctite*, in which it treated a district court’s “acknowledge[ment] that the obviousness question was ‘close’” (even though the court had also found that there was “‘clear evidence to support a finding of obviousness’”) as evidence of reversible error. 781 F.2d at 872. Indeed, it is hard to read *Panduit* and *Loctite* without concluding that the Federal Circuit would endorse the reasoning of a juror who concludes that “someone with training has already checked this out”⁵⁶ – regardless of how inaccurate that juror’s assumptions about the patent system may be.

⁵⁶ *FTC/DOJ Hearings* at 382 (Feb. 27, 2002) (testimony of James Pooley).

The *Panduit* court also heavily criticized the district judge's reliance, as finder of fact, on "general engineering principles and general principles of physics" and on "the common experience of mankind." 774 F.2d at 1097 (internal quotations omitted); see *id.* at 1090, 1092, 1098 (repeatedly quoting or paraphrasing this part of the district court's opinion and describing it as error). The similarity between that district judge's approach and the common-sense approach this Court later endorsed in *KSR* is telling. It is equally telling that the Federal Circuit considered that approach foreclosed by the clear-and-convincing-evidence standard.

The Federal Circuit's rule thus tells the factfinder *not* to rely on common sense and general background knowledge. That message is a logical extension of that court's often-stated belief that the principal danger in an invalidity challenge is that "hindsight bias" will lead to the invalidation of meritorious patents. *KSR*, 550 U.S. at 421; see *Panduit*, 774 F.2d at 1090 (describing "hindsight" as an "insidious and powerful phenomenon"). The teaching of *KSR* is that the desire to prevent hindsight bias does not justify arbitrary restrictions on the factfinder's role. See 550 U.S. at 421 (rejecting use of "[r]igid preventative rules" for this purpose). The clear-and-convincing-evidence standard, in the hands of the Federal Circuit, has become just such a restriction.

CONCLUSION

This Court should hold that the appropriate evidentiary standard for challenges to the validity of issued patents is a preponderance of the evidence, and should reverse the judgment of the Federal Circuit and remand for a new trial applying that standard.

Respectfully submitted,

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