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THE ROAD TO TRANSPARENCY: ABOLISHING BLACK-BOX VERDICTS ON PATENT OBVIOUSNESS

Indraneel Ghosh

The criteria of novelty, utility, and nonobviousness are considered the gatekeepers of the modern patent system. The novelty requirement is defined strictly such that only "a single prior art reference which discloses each and every element of the claimed invention" can defeat novelty. The utility requirement is satisfied quite easily in most cases outside of the chemical and bio-technology fields. The nonobviousness criterion, on the other hand, can be more complicated for two reasons. First, nonobviousness attempts to measure technical accomplishment or non-triviality—a more abstract inquiry than either novelty or utility. Second, when the nonobviousness of a patented invention is challenged in the context of patent litigation, lay persons (juries or judges) are called upon to measure the level of technical accomplishment even though they are usually unfamiliar with the technology involved.

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1. See, e.g., Bonito Boats, Inc. v. Thunder Craft Boats, Inc., 489 U.S. 141, 150-51 (1989) (noting that the patent system embodies a bargain encouraging the creation and disclosure of "new, useful, and nonobvious" advances in technology in return for a limited monopoly).
3. ROBERT PATRICK MERGES & JOHN FITZGERALD DUFFY, PATENT LAW AND POLICY: CASES AND MATERIALS, 612 (4th ed. 2007) (discussing the lax utility requirement) [hereinafter MERGES, PATENT].
4. Id. at 222 (discussing the utility requirement in the chemical and bio-technology fields).
5. Id. at 612 (discussing the nonobviousness requirement).
6. See id. at 683 (discussing the "non-specialist" bias of juries or judges who are not skilled in the art); see also Parke-Davis & Co. v. H. K. Mulford Co., 189 F. 95, 115 (S.D.N.Y. 1911). In Parke-Davis, a novelty and patentable-subject-matter case involving a chemical patent, Judge Learned Hand stated, I cannot stop without calling attention to the extraordinary condition of the law which makes it possible for a man without any knowledge of even the rudiments of chemistry to pass upon such questions as these. The inordinate expense of time is the least of the resulting evils, for only a trained chemist is really capable of passing upon such facts . . . .
So, it might not be surprising that litigants care about the format of jury verdicts on patent obviousness; the format affects the amount of information disclosed regarding the factual findings underlying the verdict. As is the case for other legal matters, there are three basic formats for jury verdicts on patent obviousness. A general verdict is one in which the jury finds in favor of one party or the other, as opposed to resolving specific fact questions. When the jury renders a general verdict, it not only determines the facts of a case but also applies the controlling law to those facts. General verdicts are also referred to as “black box” verdicts because the jury is asked to resolve the ultimate issue (e.g., a yes or no answer on obviousness) without disclosing its subordinate factual findings. When the jury renders a special verdict, it only finds the facts and leaves the court to apply the controlling law to those facts. Special interrogatories are a hybrid verdict where the jury answers specific factual questions and also renders a general verdict.

In a recent case, Wers v. Master Lock Co., the Federal Circuit reviewed a jury's “black-box” verdict on patent obviousness. The case involved mechanical patents for hitch-pin locks used in automobile trailers, and the jury had found the claims were nonobvious. The Federal Circuit reversed the jury's nonobviousness verdict for all the claims in question, holding that it was a matter of common sense to combine the asserted prior-art references. It also held that a person having ordinary skill in the art would have had a reasonable expectation of success in doing so.

Judge Linn concurred in the conclusion reached and in the reasoning expressed in the majority opinion, but wrote separately to highlight the problems posed by general verdicts on patent obviousness. Patent obviousness is a mixed question of law and fact, in which a court reviewing an obviousness verdict first reviews the jury's underlying factual determinations for clear error but then reviews de novo the ultimate "legal

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7. BLACK’S LAW DICTIONARY 754, 1696 (9th ed. 2009).
10. FED R. CIV. P. 49(a); BLACK'S, supra note 7, at 1697.
11. See FED R. CIV. P. 49(b); Moore, Juries, supra note 9, at 783 n.20.
13. Id. at 1233.
14. Id. at 1243, 1245.
15. Id. at 1247.
determination” of obviousness. Judge Linn wrote that there is no way to
determine the jury’s specific factual findings from a general verdict, and in
reviewing such a black-box verdict, the court “is left to infer whether
substantial evidence existed from which the jury could have made the factual
findings necessary to support the verdict.” He noted that the Federal
Circuit had repeatedly encouraged trial courts to provide juries with special
interrogatories on obviousness in order to facilitate review and to “reveal
more clearly the jury’s underlying factual findings.” However, Judge Linn
also noted that the Federal Circuit had not adopted a “hard and fast rule”
regarding special interrogatories on obviousness, leaving the form of the jury
verdict to the “sound discretion of the trial court.”

Although the Federal Circuit’s deference to trial courts may be
understandable on many other issues, this Note argues that such deference
for “black box” verdicts on obviousness might be ill-advised. Congress
created the Federal Circuit as an exclusive appellate court for patent cases in
order to promote uniformity that would “strengthen the United States patent
system in such a way as to foster technological growth and industrial
innovation.” In addition to the problems highlighted by Judge Linn, the
non-uniform format of jury verdicts on the issue of patent obviousness
defeats the Congressional purpose of “uniformity” across courts and creates
further incentives for forum-shopping.

The importance of this issue may be inferred from the fact that five
Federal Circuit opinions, written by five different judges over a period of
twenty-six years, have recommended either special interrogatories or special
verdicts on obviousness. If one counts the judges who joined in these

16. Id. at 1247.
17. Id. at 1248.
18. Wyers v. Master Lock Co., 616 F.3d 1231, 1248 (Fed. Cir. 2010) (Linn, J.,
concurring).
19. Id.
Rep. No. 97-312, at 20 (1981)).
21. See infra Section IV.B.
22. See Wyers, 616 F.3d at 1248 (Linn, J., concurring) (recommending special
interrogatories on obviousness); Agrizap, Inc. v. Woodstream Corp., 520 F.3d 1337, 1343
n.3 (Fed. Cir. 2008) (Moore, J) (joined by Bryson, J., Wolle, J.) (recommending special
interrogatories on obviousness); Richardson-Vicks, Inc. v. Upjohn Co., 122 F.3d 1476,
1484-85 (Fed. Cir. 1997) (Plager, J.) (joined by Archer, J., Michel, J.) (recommending special
verdicts on obviousness); Perkin-Elmer Corp. v. Computervision Corp., 732 F.2d 888, 893
(Fed. Cir. 1984) (Markey, J.) (joined by Baldwin, J., Kashiwa, J., Bennett, J.) (recommending
special interrogatories on obviousness); Structural Rubber Prods. Co. v. Park Rubber Co.,
opinions, fourteen different Federal Circuit judges have expressed such concern regarding the opaque nature of "black-box" verdicts on obviousness. The Supreme Court's *KSR v. Teleflex* opinion also directs that the analysis underlying an obviousness verdict "should be made explicit" to facilitate review.

This Note first outlines the basic law on patent obviousness and the Seventh Amendment right to jury trials as it relates to obviousness. Second, the Note argues that the Federal Circuit has the legal authority to mandate special interrogatories on patent obviousness. Third, the Note discusses the risk posed by four extralegal factors that might influence jury verdicts on obviousness. Fourth, the Note reviews the arguments for and against mandating special interrogatories. Finally, the Note suggests measures that may enhance jurors' understanding of patented technology and thereby minimize problems involving conflicting responses to special interrogatory questions.

I. LEGAL BACKGROUND

This section begins by briefly explaining the law on patent obviousness. It then discusses the Seventh Amendment right to jury trials as it relates to the issue of patent obviousness.

A. THE BASICS OF PATENT OBVIOUSNESS

A patent is invalid for obviousness "if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which" it pertains. The ultimate judgment of obviousness is a legal determination, but it is based on underlying findings of fact. The underlying factual inquiries include (1) determining the scope and content of the prior art, (2) comparing the prior art to the claims at issue, and (3) assessing the level of ordinary skill in the art. Such secondary considerations as "commercial success, long felt but unsolved needs, failure of others, etc. might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be

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23. See cases referenced supra note 22.
26. *KSR*, 550 U.S. at 427; see also *In re Kubin*, 561 F.3d 1351, 1355 (Fed. Cir. 2009).
patented." The Supreme Court has also noted the need "to guard against slipping into hindsight" and "to resist the temptation to read into the prior art the teachings of the invention in issue."

In determining the "scope and content of the prior art," the fact-finder must focus on whether the purported prior art is from the "same field of endeavor" or "reasonably pertinent to the particular problem" addressed by the patent. In KSR v. Teleflex, the Supreme Court stressed the role of "common sense" in determining whether a patented invention was obvious at the time it was made, and held that the "legal determination" of obviousness may be resolved through summary judgment in appropriate circumstances.


   a. Whether the invention was commercially successful as a result of the merits of the claimed invention (rather than the result of design needs or market-pressure advertising or similar activities);
   b. Whether the invention satisfied a long-felt need;
   c. Whether others had tried and failed to make the invention;
   d. Whether others invented the invention at roughly the same time;
   e. Whether others copied the invention;
   f. Whether there were changes or related technologies or market needs contemporaneous with the invention;
   g. Whether the invention achieved unexpected results;
   h. Whether others in the field praised the invention;
   i. Whether persons having ordinary skill in the art of the invention expressed surprise or disbelief regarding the invention;
   j. Whether others sought or obtained rights to the patent from the patent holder; and
   k. Whether the inventor proceeded contrary to accepted wisdom in the field.

Id.

30. Id.
32. KSR, 550 U.S. at 421, 427.
B. THE SEVENTH AMENDMENT AND THE RIGHT TO A JURY TRIAL ON THE ISSUE OF PATENT OBVIOUSNESS

The Seventh Amendment to the Constitution provides that “[i]n suits at common law where the value in controversy exceeds twenty dollars, the right to trial by jury shall be preserved . . . .”33 The Supreme Court has held that the right thus preserved is the “right which existed under English common law when the Amendment was adopted.”34 This “historical test” has two parts. The first part requires a court to determine whether it is dealing with a cause of action that “either was tried at law at the time of the founding or is at least analogous to one that was.”35 For subsidiary issues occurring within a jury trial, where historical practice “provides no clear answer,” a court must ask “whether the jury must shoulder this responsibility as necessary to preserve the substance of the common law right of trial by jury.”36 The second part of the “historical test” requires the court to inquire whether the remedy sought is legal or equitable in nature. An action for money damages is generally considered “legal” relief, and thus it is usually (but not always) covered by the right of trial by jury.37

The Federal Circuit has held that submission of a question of law, such as patent obviousness, to a jury is proper when accompanied by appropriate instructions.38 To determine obviousness, many courts use this procedure.39 However, in KSR, the Supreme Court noted that patent obviousness was ultimately “a legal determination” and held that summary judgment on obviousness might be appropriate when “the content of the prior art, the scope of the patent claim, and the level of ordinary skill in the art are not in material dispute.”40 The Court also held that a conclusory affidavit from an expert does not necessarily indicate the existence of a dispute over an issue of material fact, and should not foreclose summary judgment on obviousness.41 Since a grant of summary judgment prevents the jury from deciding the question of obviousness, the Court’s KSR opinion indicates a

33. U.S. CONST., amend. VII.
35. Id.
36. Id. at 377.
41. Id. at 426–27.
willingness to take the issue away from the jury in appropriate cases. This is a departure from the Federal Circuit’s pre-existing practice on obviousness, and it might carry some implications for the jury’s remaining role on the issue of obviousness.\textsuperscript{42}

\section{The Federal Circuit Has the Authority to Mandate Special Interrogatories on Patent Obviousness}

The Federal Circuit’s authority to mandate special interrogatories on obviousness derives from several factors. First, the Federal Rules of Civil Procedure permit courts to use special interrogatories that involve “submit[ting] to the jury forms for a general verdict, together with written questions on one or more issues of fact that the jury must decide.”\textsuperscript{43} In the context of another area of patent law (the doctrine of equivalents), the Supreme Court wrote that in cases that reach the jury, special verdicts or interrogatories on each claim element could facilitate “review, uniformity, and possibly post[-]verdict judgments as a matter of law.”\textsuperscript{44} The Supreme Court expressly left it to the Federal Circuit to determine how to “implement procedural improvements to promote certainty, consistency, and reviewability to this area of the law.”\textsuperscript{45}

In \textit{Panduit Corp. v. All States Plastic Mfg. Co.}, the Federal Circuit ruled that it would “review procedural matters, that are not unique to patent issues, under the law of the particular regional circuit court where appeals from the district court would normally lie.”\textsuperscript{46} Although the exact definition of “patent issues” could be a legitimate subject of debate, at least one commentator has opined that the Federal Circuit’s choice of law rule in \textit{Panduit}, in conjunction with FED. R. CIV. P. 49(a) and the Supreme Court’s \textit{Warner-Jenkinson} opinion, provides sufficient authority for the Federal Circuit to mandate the form of special interrogatories for patent obviousness.\textsuperscript{47} The Supreme Court’s \textit{KSR v.}

\begin{footnotes}
\item[42] Merges, \textit{Patent, supra} note 3, at 684 (noting that \textit{KSR} indicates that pre-existing practice on summary judgment on obviousness must change and pondering how much authority is left for the jury on obviousness).
\item[43] FED. R. CIV. P. 49(b)(1).
\item[45] Id.
\item[47] See Moore, \textit{Juries, supra} note 9, at 796–97.
\end{footnotes}
Teleflex opinion also directs that the analysis underlying an obviousness verdict “should be made explicit” to facilitate review. 48

Admittedly, under Panduit, the Federal Circuit could adopt a tacit mandate by holding that it is an abuse of discretion every time a district court failed to use a special verdict or interrogatories for obviousness. 49 However, only the Seventh Circuit explicitly required the use of detailed special verdicts for obviousness (when it used to handle patent cases); the other circuits did not. As such, the Panduit approach would create confusion and give parties incentive to forum shop if they believed that the Federal Circuit would follow the regional circuit’s rule on this issue. 50 Instead, the better approach may be for the Federal Circuit to explicitly mandate special interrogatories on obviousness based on its “authority to dictate matters of procedure that are ‘unique to’ patent law.” 51

III. EXTRALEGAL FACTORS THAT INFLUENCE JURY VERDICTS ON OBVIOUSNESS

This section discusses four extralegal factors that could influence jury verdicts on obviousness. The presence of these factors supports the use of special interrogatories that could shed light on the reasoning underlying these verdicts.

First, a juror might not adequately understand the technology underlying an invention, which could exacerbate the difficulty of measuring the level of technical accomplishment embodied in the invention. 52 Second, research in psychology suggests that people engage in logical shortcuts (heuristic reasoning) when they lack the time or ability to make more careful and systematic decisions. 53 This factor might affect a jury’s decision process in a trial environment where it is bombarded with unfamiliar and complex technical information. Third, statistical studies indicate that jurors might harbor a bias in favor of individual inventors even where the patents in question are owned by corporate entities. 54 Fourth, in the context of obviousness, courts and commentators have worried about the role of

49. Moore, Juries, supra note 9, at 797–98.
50. Id.
51. Id. at 798–99.
52. Merges, Patent, supra note 3, at 612 (describing the nonobviousness requirement as a measure of “technical accomplishment”); see also Section III.A.
53. See infra Section III.B.
54. See infra Section III.C.
"hindsight bias" which might tempt jurors to erroneously project the teachings of the invention into the prior art.55

A. **JURORS MAY NOT UNDERSTAND THE TECHNOLOGY INVOLVED IN PATENT CASES**

Determining patent obviousness is akin to measuring the level of "technical accomplishment" embodied in the invention.56 It requires many judgment calls that are closely intertwined with the technology underlying the patent: the scope and content of the prior art, the level of skill in the art, and the differences between the prior art and the claims at issue.57 If jurors do not adequately comprehend the basic technology underlying the patented claims and the asserted prior-art references, their ability to render a fair verdict on this issue may be seriously compromised, and this might undermine the Fifth Amendment's due process guarantees.58 One judge who has tried patent cases marveled at their factual complexity and expressed serious reservations about trying such cases to juries.59 In the words of prominent patent litigator Donald Dunner, "Give jurors a complicated biotechnology case or one involving lasers or computers and their eyes glaze over."60 Psychological research also indicates that jurors may have difficulty making sense of complicated scientific evidence.61

Some commentators think that courts exacerbate this problem by excusing better educated potential jurors from serving in patent cases because such trials can last quite long.62 Many circuit courts have endorsed the practice of excusing "practicing physicians, dentists, [and] lawyers" from

55. See **infra** Section III.D.
56. MERGES, PATENT, supra note 3, at 612 (discussing the nonobviousness requirement).
58. Elizabeth A. Faulkner, *Using the Special Verdict to Manage Complex Cases and Avoid Compromise Verdicts*, 21 ARIZ. ST. L.J. 297, 300 (1989) (arguing that the Fifth Amendment's due process guarantees could be undermined if a jury does not understand complicated issues involved in the case).
60. *Id.* at 848 n.1. Some patent litigators have observed that they have to break down complex patent cases into a "good guy versus bad guy" story for juries, while others have felt that jury decisions were based on emotion instead of the facts or law. *Id.* at 848 n.3.
62. Moore, *Demands*, supra note 59, at 848 n.2; see also MENELL, supra note 39, at 8-17 (noting the difficulty of finding jurors who are able to commit the time and attention demanded by long patent trials).
jury service upon a request if the district court finds that such service "would entail undue hardship or extreme inconvenience." Thus, it may be fair to infer that highly educated people are underrepresented on patent juries. Because jurors with more extensive education may be more adept at learning and applying new principles to complicated subjects, some have suggested that the underrepresentation of college-educated people on juries could impair juries' ability to handle complex patent cases.

Understandably, many commentators have proposed impaneling more educated juries in complex cases such as those involving technically complicated patents. Whether or not one subscribes to the aforementioned stereotypes regarding patent jurors, this proposal is unlikely to be an adequate solution for several reasons. First, the constitutionality of such "special juries" is hardly a foregone conclusion. While the Supreme Court has ruled that the Sixth Amendment requires that juries in criminal trials must be chosen from a "fair cross section" of the community, the Court has yet to render a corresponding ruling with respect to the Seventh Amendment right to a jury trial in civil cases. Therefore, it remains uncertain whether the "fair cross section" requirement applies to civil cases or whether requiring education qualifications as a pre-requisite to jury service would violate that requirement.

Second, blanket educational requirements for jury service may exclude many people who lack a formal education, but nevertheless possess the knowledge or aptitude necessary to make informed decisions about the technology involved in a given case. On the other hand, blanket educational requirements may keep jurors with formal education, but lack the knowledge

63. United States v. Van Scoy, 654 F.2d 257, 262, 262 n.7 (3d Cir. 1981); see also United States v. Goodlow, 597 F.2d 159, 161 (9th Cir. 1979).
65. Id.; see also Moore, Demands, supra note 59, at 848 n.1 (describing patent litigators' complaints regarding the educational level of many jurors and the jurors' lack of comprehension).
69. Leibold, supra note 64, at 651–52.
70. Id. at 649.
or aptitude needed. Third, although some have proposed using jury panels comprising people who are "experts" in the subject matter at hand, there is a risk that the more specialized the decision-maker, the more willing she might be to use her own views rather than the facts on the record.

Chief Judge Rader of the Federal Circuit has shared some empirical evidence on this issue, and his experience does not inspire confidence in the efficacy of impaneling highly-educated ("blue ribbon" or "blue panel" juries). Chief Judge Rader has often presided over many jury trials by designation. In one such patent trial, Chief Judge Rader made an extra effort to select a "blue panel" jury, where every juror was a college graduate except for one person, who was a college senior studying the specific subject of the patent involved in that case. While discussing the pros and cons of using "special juries," Judge Rader specifically noted that in his experience of serving as a trial judge, this was the only case where he had to reverse a jury's decision.

In summary, the issue of jurors' lack of comprehension regarding the basics of patented technology might be one that defies simple solutions such as impaneling "blue ribbon" juries.

B. **Heuristic Reasoning Could Short-Circuit the Jury's Decision Process**

In addition to not understanding the technology involved in a patent case, jurors could also have trouble comprehending the complex technical information presented in patent cases. This might expose the jury's reasoning process to a logical fallacy familiar to psychologists.

Psychology suggests that decision makers use two basic modes of information processing. When decision makers are adequately motivated, and have sufficient time and information, they carefully and systematically consider the evidence or information available. However, when these

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71. Id.
74. Id.
75. Id.
76. Id.
78. Id.
conditions are not present, people often resort to less-effortful decision making techniques, primarily "heuristics," that enable people to make rapid decisions in complex situations. Psychology research indicates that the use of heuristics tends to rise when jurors are presented with complicated testimony. Thus, in patent cases involving complex technology that is unfamiliar to a typical juror, it is likely that jurors will frequently take refuge in such heuristic reasoning.

For instance, when jurors have difficulty understanding complicated evidence, they tend to rely more heavily on the perceived credibility (including credentials) of the testifying expert as opposed to the substance of the testimony. Another example is the "representativeness heuristic," which is a "shortcut used to estimate the probability that a new stimulus is similar to or resembles a category of stimulus with which the perceiver is already familiar." In such a situation, the juror may rely on information that appears representative regardless of its actual predictive value. In the context of patent obviousness, a skilled litigator might use this to her advantage by inducing the jury to rely on superficial distinctions or similarities between the patented invention and prior art. Attorneys might also exploit this phenomenon by glossing over crucial gaps or inconsistencies in their reasoning or evidence, while hoping that the jury would not notice these lacunae. Because heuristic reasoning is a subconscious process, jurors might feel overly confident in the accuracy of their decision and perceive little need to reexamine such reasoning.

C. JURIES TEND TO FAVOR INDIVIDUAL INVENTORS

Another extralegal factor influencing jury verdicts on obviousness is juries’ bias in favor of individual inventors. Although almost 90% of patents are owned by corporations, jurors’ bias in favor of individual inventors (as distinguished from corporate owners) could make them more reluctant to find patents “obvious” in light of the prior art. This may be due in part to jurors feeling that a finding of obviousness would be equivalent to denigrating the inventor’s work.

79. Id. at 53–56.
80. Id. at 54.
81. Id.
82. Groscup, supra note 77, at 55.
83. Id.
In a 2007 article, Judge Moore of the Federal Circuit examined all patent trials from 1990 to 2003 and found that patentees won 64.8% of cases in jury trials but only 52.1% in bench trials. After accounting for other factors, Judge Moore found that the patentee was more likely to win a jury trial if: (1) the patentee was the plaintiff; (2) the infringer was foreign; and (3) the patentee was an individual. Significantly, having fewer inventors on the patent increased the patentee's likelihood of winning, even when the patentee was a corporation.

A few observations can help explain these statistics. The most salient factor is probably popular culture’s imagination of the individual inventor as the hero of the patent world—“an eccentric individual who has a brilliant insight, obtains a patent and proceeds to fame and fortune by making and selling the patented invention.” When most Americans think of inventors, they think of people like “Samuel Morse with his great white beard and his chest covered with medals,” ticking off the message “What Hath God Wrought” on his telegraph key. They imagine “Eli Whitney grinding away at his cotton gin,” and they see “Edison standing stiffly by [his] incandescent bulb,” oblivious to the crowd of admirers around him. Therefore, it should come as no surprise that in nearly all patent litigation, the inventor will be “the first person to testify” and explain the invention and its importance and “how she came up with the idea that eluded others.” Even when a corporation is the patent owner, the inventor’s testimony puts a sympathetic and admirable human face on the corporate entity even though the inventor will not collect any of the damage awards. The jury feels that if it finds for the patentee, it is validating the inventor’s efforts. Conversely, there is no comparable human figure closely or personally linked with a corporate infringer. This “iconization” of the individual inventor could also explain why juries are not as favorably disposed towards patents with multiple

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86. Id. at 103.
87. Id. at 107–08.
88. MERGES, PATENT, supra note 3, at 1141.
89. Moore, Populism, supra note 85, at 105–06.
90. Id. at 106.
91. Id. at 107.
92. Id. Given the proliferation of corporate scandals and the pervasive skepticism regarding corporate morality, it is plausible that the average juror might also harbor some level of anti-corporate prejudice. Id. at 76–77.
93. Id. at 107.
94. Moore, Populism, supra note 85, at 107.
inventors. The idea of teams of people working together on a solution is not as appealing as the image of the solitary inventor "toiling away at a problem."

Of course, this popular image does not always correspond with modern reality. Research and development today is dominated by collaborative teams of researchers working for large corporations to which they assign away their patent rights. Additionally, even though corporate defendants might view some individual patent owners as rent-seeking "trolls," that is a relatively new phenomenon and has yet to color the typical juror's perceptions regarding inventions developed by individual inventors. Therefore, jurors may hesitate to find a patent "obvious" because they might think that such a finding would be tantamount to devaluing the inventor's work.

D. "HINDSIGHT BIAS" MAY PLAY A ROLE IN DETERMINING PATENT OBVIOUSNESS

When a jury examines the issue of patent obviousness, it must compare the patented invention (the "claims at issue") to the prior art that existed before the date of invention. This process is vulnerable to the logical fallacy of "hindsight bias," which may unfairly prejudice the patentee. "Hindsight bias refers to the process whereby once the outcome of a particular event is known, individuals are prone to overestimate the likelihood that the outcome would have occurred, to better remember events consistent with that outcome, and to judge less likely the feasibility of alternative outcomes."

Since the jury will already know that the patented invention was made, the Supreme Court in Graham cautioned against "slipping into hindsight"
when deciding on the question of obviousness. It emphasized the need to “resist the temptation to read into the prior art the teachings of the invention at issue.”\textsuperscript{102} One experimental study using mock-jurors suggests that “hindsight bias” may be a real problem in patent obviousness cases.\textsuperscript{103} Moreover, analogous situations from other legal fields indicate that judicial admonitions to guard against “hindsight bias” are frequently ineffective.\textsuperscript{104} Paradoxically, such instructions might “backfire” and induce the jury to pay greater attention to the evidence that they are asked to disregard or consider only for a limited purpose.\textsuperscript{105}

However, the situation regarding this kind of hindsight bias might not be as dire as such studies would suggest. First, jurors tend to hold the work of individual inventors in high regard, and at least for inventions developed by individual inventors, such considerations might counteract the risk of “hindsight bias” to some extent.\textsuperscript{106} Second, there might be a possibility that jurors are subject to a counter-balancing “non-specialist” bias such that they may consider a technological problem more difficult than it would be to a person of skill in the art.\textsuperscript{107} Finally, in KSR, the Supreme Court held that the Federal Circuit had taken an excessively rigid approach to guarding against “hindsight bias” in patent obviousness cases.\textsuperscript{108} The Court disfavored the use

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\footnote{102. Graham, 383 U.S. at 36.}
\footnote{103. Gregory N. Mandel, Patently Non-Obvious: Empirical Demonstration that the Hindsight Bias Renders Patent Decisions Irrational, 67 Ohio St. L.J. 1391, 1406–10 (2006) (documenting experimental results which showed that mock-jurors were more likely to find an invention obvious if they already knew the invention had been developed); see also MERGES, PATENT, supra note 3, at 683 (noting that this research indicates that hindsight bias may be a real problem).}
\footnote{104. Mandel, supra note 103, at 1411–12 (2006) (describing a study on hindsight bias in tort law); see also Lieberman, supra note 101, at 80 (contending that judicial instructions to disregard—or limit the use of evidence are frequently unsuccessful).}
\footnote{105. See Lieberman, supra note 101, at 79–80 (describing the “backfire effect” for inadmissible or limited use evidence).}
\footnote{106. See supra Section III.C (describing statistical evidence tending to show jurors’ respect for individual inventors).}
\footnote{107. MERGES, PATENT, supra note 3, at 683 (noting the possibility of “non-specialist” bias among jurors); see also supra Section III.A (noting that jurors might have some difficulty understanding complex technology in patent cases).}
\footnote{108. KSR Int’l. Co. v. Teleflex Co., 550 U.S. 398, 421 (2007). While discussing the rigid application of the Federal Circuit’s TSM (teaching, suggestion or motivation) test, the Court wrote,}

\begin{quote}
The Court of Appeals finally, drew the wrong conclusion from the risk of courts and patent examiners falling prey to hindsight bias. A factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon ex post reasoning. See Graham (warning against a “temptation to read into the prior art the teachings of
of "[r]igid preventative rules that deny fact-finders recourse to common sense" when guarding against hindsight bias. The Court also seemed to imply that an excessively pro-patent obviousness analysis can reflect its own form of hindsight bias if it tends to disregard the teachings of other prior art that might tend to prove obviousness.

IV. THE PROS AND CONS OF MANDATING SPECIAL INTERROGATORIES ON OBVIOUSNESS

This section first discusses the advantages of using special interrogatories on obviousness and then proceeds to evaluate some perceived drawbacks of this procedural device.

A. THE CASE FOR SPECIAL INTERROGATORIES

There are numerous arguments that favor mandating special interrogatories on obviousness. First and foremost, in its unanimous KSR opinion, the Supreme Court wrote that the “analysis [underlying a ruling on obviousness] should be made explicit” in order to “facilitate review.” In so holding, the Court effectively divided obviousness cases into two categories.

the invention in issue” and instructing courts to “guard against slipping into use of hindsight”). Rigid preventative rules that deny factfinders recourse to common sense, however, are neither necessary under our case law nor consistent with it.

Id. (internal citations omitted).

109. Id.

110. See id. at 426 (asserting that ignoring the teaching of some prior art could reflect the "very hindsight bias" that is to be avoided); see also Merges, Patent, supra note 3, at 683 (noting the Court's concern that an excessively pro-patent obviousness analysis can reflect its own form of hindsight bias).

111. KSR Int'l. Co. v. Teledex Co., 550 U.S. 398, 418 (2007). The Court wrote that: Following these principles might be more difficult in other cases than it is here because the claimed subject matter may involve more than the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement. Often, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue. To facilitate review, this analysis should be made explicit. As our precedents make clear, however, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.

Id. at 417–18 (emphases added) (internal citations omitted).
The first category includes relatively simple cases where summary judgment on obviousness would be appropriate—i.e., the question would not reach the jury since there would be no genuine dispute over an issue of material fact. The second category includes cases where “following [the principles articulated by the Court in KSR] might be more difficult” because they involve the evaluation of many intertwined issues such as “the interrelated teaching of multiple patents” etc. It is plausible that these relatively complicated cases are more likely to reach the jury since they will probably involve genuine disputes over issues of material fact, and yet the Supreme Court recommends “explicit” analysis (to be conducted by the court) for this “more difficult” category of obviousness cases.

A jury’s “black-box” general verdict on obviousness contains no analysis, however. The most plausible readings of KSR would require “explicit” analysis on the issue of obviousness even when the question is decided by a jury, especially when the cases are the types of complicated cases that are likely to survive summary judgment. In such a case, the trial court could make its legal analysis “explicit” by using special interrogatories tailored to that case. The jury would still be charged with answering these questions, and these answers to individual questions would shed light on the jury’s factual findings and its application of law. If the court accepted the jury’s findings and verdict, the questions and the jury’s answers on the special interrogatory form could constitute the “explicit” analysis recommended by the Supreme Court. If the trial court overturned the jury’s findings, it could include the requisite explicit analysis in its opinion.

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112. *Id.* at 426–27 (holding that summary judgment on obviousness is appropriate in some cases where there is no genuine dispute over an issue of material fact); see also *supra* section I.B (discussing KSR within the context of the Seventh Amendment right to a jury trial).

113. *Id.* at 417–18 (noting that following the principles articulated in KSR might be more complicated in some cases).

114. KSR seems to leave open the possibility that some obviousness cases will still reach the jury since it endorses summary judgment on obviousness only in “appropriate” cases. See *id.* at 426–27. Presumably, if the Court recommended taking the question away from the jury in all cases, as it did with respect to the “claim construction” issue in *Markman v. Westview*, the Court would have explicitly said so. See *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 388 (1996).

115. See *id.* at 417–18 (writing that the analysis should be made explicit to facilitate review).

116. MERGES, PATENT, *supra* note 3, at 684 (discussing KSR and noting that juries do not conduct legal analysis and thus, they cannot write legal opinions that makes their analysis “explicit”).

117. See *supra* note 111.
Second, the answers to the specific interrogatory would provide transparency regarding the jury's factual findings, which is especially important for reviewability on a mixed question of law and fact such as patent obviousness. This applies with equal force to post-trial motions such as JNOV or new trial as well as appeals. During appeal, the Federal Circuit reviews the ultimate issue of obviousness de novo because it is a legal question, but it reviews the jury's underlying findings of fact for clear error. However, the form of a general verdict sheds no light on the jury's findings; the reviewing court is left to infer whether substantial evidence existed from which the jury could have made the factual findings necessary to support the verdict. By contrast, a special interrogatory enables the appeals court to pinpoint the source of any error in the jury's verdict. For instance, in one obviousness case, the jury's response on the special verdict form indicated that the jury did not consider that a particular patent was "relevant prior art" even though the patentee's own expert had admitted that it was. The court was thus alerted to this material flaw in the jury's verdict, which affected the obviousness holding in that case.

Third, requiring the jury to answer the specific Graham questions, secondary considerations, and subsidiary issues could help focus the jury's mind and induce it to rely less on the extralegal factors discussed in Part III. The special interrogatories can counter such influences and focus jury deliberations on a detailed consideration of the actual evidence that is relevant to each question in the interrogatory. Thus, special interrogatories hold out the promise of enhancing the fairness and quality of the jury's verdict.

120. Id.; Brodin, supra note 8, at 66.
122. Id.
123. Graham v. John Deere Co., 383 U.S. 1, 17–18 (1966). The Graham factors include (1) determining the scope and content of the prior art, (2) comparing the prior art to the claims at issue, and (3) assessing the level of ordinary skill in the art. Id. Such secondary considerations as “commercial success, long felt but unsolved needs, failure of others, etc. might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. Id.
124. See supra Part III (describing extralegal influences on jury verdicts); see also Brodin, supra note 8, at 63–64.
125. Brodin, supra note 8, at 64–65.
Fourth, since patent cases often involve complex technology and jargon that are likely to be unfamiliar to most jurors, jurors might find it difficult to comprehend the basic technology underlying a patent. Forcing the jury to break the problem down into its constituent parts may make the task seem less daunting and possibly avoid the temptation of engaging in “heuristic reasoning.” Of course, providing a special interrogatory form and instructions may not be sufficient to ensure that the jurors adequately comprehend the technology and additional suggestions are discussed infra.

Fifth, it is recognized that jury deliberations may sometimes result in a “compromise” verdict where individual jury members disagree about many issues pertinent to the verdict but agree on a compromise to “split the difference”—e.g., finding the claim non-obvious but awarding lower damages as a compromise. A general verdict can mask deep divisions within the jury and maintain an illusory appearance of agreement. For instance, if a verdict of non-obviousness could result from a finding that either Fact A, or Fact B, or Fact C is true, a general verdict may be entered in favor of the patentee even if only four jurors found Fact A, four other jurors found Fact B, and the remaining jurors found Fact C. Such an outcome seems particularly inappropriate because patent obviousness is ultimately “a legal determination.”

Sixth, in the context of patent obviousness, not all “secondary considerations” are created equal. For instance, commentators consider “commercial success” to be the weakest of all secondary considerations. Thus, knowing the subsidiary findings underlying the jury’s verdict would enable the reviewer to determine whether some secondary considerations were accorded undue importance vis-à-vis other factors. This might also lead to the development of case law clarifying the relative importance and impact of the different species of secondary considerations.

Seventh, special interrogatories accompanying a general verdict are less controversial than special verdicts because the procedure allows a jury to

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126. See supra Section III.A.
127. See supra Section III.B.
128. See infra Part V.
129. Brodin, supra note 8, at 43.
130. Id. at 66.
131. Id.
133. Id.
retain its traditional role enshrined in the Seventh Amendment.\textsuperscript{134} However, the Supreme Court has not shied away from circumscribing the role of the jury in certain areas of patent law. In \textit{Markman}, a unanimous Court assigned the task of patent claim construction to the judge and not the jury, primarily because “[t]he construction of written instruments is one of those things that judges often do and are likely to do better than jurors unburdened by training in exegesis.”\textsuperscript{135} In \textit{KSR}, the Court wrote that, in appropriate cases, district courts may grant summary judgment on patent obviousness, thus preventing the issue from reaching the jury, because “[t]he ultimate judgment on obviousness is a legal determination.”\textsuperscript{136} Because it does not take away from the jury’s role, mandating special interrogatories on patent obviousness should not raise significant Seventh Amendment concerns.

Finally, the Supreme Court has cautioned against the intrusion of impermissible “hindsight bias” when determining the obviousness of an invention.\textsuperscript{137} Although this might be a nuanced issue due to competing considerations,\textsuperscript{138} the special interrogatory may serve as an additional check against such hindsight bias because it focuses on the questions of “scope and content of the prior art” and the “level of skill in the art” at the time of invention.

B. SCRUTINIZING ARGUMENTS AGAINST MANDATING SPECIAL INTERROGATORIES

Although there are some arguments against mandating special interrogatories on obviousness, they are susceptible to stronger counterarguments. The first argument against special interrogatories is that the Federal Circuit has traditionally deferred to the “sound discretion” of trial courts in deciding the form of obviousness verdicts.\textsuperscript{139} However, this practice results in situations where some district courts use special interrogatories (or special verdicts) on obviousness while others do not.\textsuperscript{140} Such a situation

\textsuperscript{134} See supra Section I.B (discussing the right to a jury trial on the issue of patent obviousness).


\textsuperscript{137} Id. at 421.

\textsuperscript{138} See supra Section III.D (discussing the role of “hindsight bias” in patent obviousness vis-à-vis “non-specialist” bias and “pro-inventor” bias).

\textsuperscript{139} Wyers v. Master Lock Co., 616 F.3d 1231, 1248 (Fed. Cir. 2010) (Linn J., concurring).

would provide incentive for forum-shopping in obviousness cases: patentees will prefer jurisdictions using the general verdict so that they can quickly move past the issue of invalidity while defendants will prefer jurisdictions with special interrogatories or verdicts so that they can have several opportunities to educate the jury on the defense of obviousness. Moreover, due to the perception that jurors have a pro-inventor bias, individual patentees would likely prefer to minimize scrutiny of the bases underlying jury verdicts and thus jurisdictions that utilize general verdicts on obviousness.

Second, some might also argue that such a mandate forces trial courts to devote too many resources on obviousness at the expense of other issues. The parties might dispute the framing of numerous questions on special interrogatories and any accompanying instructions. However, this argument underestimates the ability of courts to crystallize the disputed issues by imposing time and page limits on counsel. For instance, some courts limit the number of summary judgment motions that parties can bring during the life of a case or even the total number of pages of briefing that may be filed. This can induce the parties to identify their best arguments, and it can significantly reduce the burden on the court. A trial court’s inherent power to control cases includes broad authority to impose reasonable time limits during trial, which can force the parties to evaluate what is and is not important to their case.

Third, some commentators argue that a general verdict permits the jury to “inject community values” into legal judgments. For instance, juries mitigated harsh aspects of the old contributory negligence doctrine, which absolutely prevented a damage award if any contributory negligence by the
plaintiff was proved. Some juries implicitly refused to apply that doctrine and invented an ad-hoc comparative negligence regime. However, there does not appear to be any serious argument that patent obviousness is a comparably harsh or unfair law, and the need for such jury nullification is less apparent. Also, since an obviousness case that reaches the jury will feature genuine disputes as to material fact on which reasonable minds may differ, there will probably remain considerable room for the jury to apply community values not only with respect to the specific questions posed by the special interrogatory but also to the ultimate verdict on obviousness. It is likely that most judges will be reluctant to overturn a jury verdict that seems reasonable, even if they disagree with it.

Fourth, some commentators have argued that special interrogatories focus on the need for requisite “unanimity” on each question—for instance, in tort law, juries would need to agree on the specific theory of liability (e.g. defective product design, negligence, breach of warranty) instead of reaching general agreement on liability. This objection may be inapposite for patent obviousness where the three Graham inquiries and secondary considerations are interrelated components of the ultimate legal question of obviousness. For instance, if the jurors cannot agree on whether a key reference is part of the prior art, it might be unfair to gloss over this difference of opinion when reaching a verdict on obviousness.

Fifth, another concern is that the narrowness and numerosness of questions on the special interrogatory form might make it more difficult for the jury to know which party will benefit from particular answers, i.e. the impact of each answer on “who wins.” This concern might be addressed to some extent by focusing on clarity when drafting special interrogatories. Moreover, regardless of the form of the jury verdict, jurors who do not understand the impact of subsidiary questions might be unable to render a rational or fair verdict. Additional measures might be needed to address juror doubts or confusion.

147. Id. (describing how juries dealt with contributory negligence); see also Galbraith v. Thompson, 239 P.2d 468, 471 (Cal. Ct. App. 1952) (describing the implication of finding any contributory negligence).
148. Id. at 1891.
149. Id. at 1858 (describing how juries dealt with contributory negligence).
150. Id. at 1853 (describing the risk that jurors might not understand the impact of particular answers to special verdict questions).
151. See infra Part V.
Finally, some commentators argue that special interrogatories might increase the risk of inconsistent answers on various questions. However, this argument conflates the symptom with the underlying disease, since the special interrogatory seeks to solve the problem that “a general verdict may conceal wildly contradictory findings.” The Federal Rules provide that when the answers of the special interrogatory are consistent with each other but inconsistent with the general verdict, the court may enter judgment based on the consistent answers, direct the jury to reconsider its answers and verdict, or order a new trial. If the answers are inconsistent with each other and at least one answer is inconsistent with the general verdict, the court may either ask the jury to reconsider or order a new trial. When inconsistent verdicts arise, judicial resources would doubtlessly need to be expended to address the issue. However, this expenditure of resources may very well be justified because the basic goal of the judicial system is to ensure a fair and rational verdict. Also, it might be more productive to view an inconsistent verdict as an opportunity to improve the justice system. An inconsistent verdict might reveal the source of juror misunderstanding that led to the verdict and thereby enable the justice system to use that lesson to improve juror education in future cases, especially those involving similar technology.

V. SUGGESTIONS FOR IMPROVING JURY DELIBERATIONS ON OBVIOUSNESS

Since rendering a verdict on obviousness requires the jury to assess the differences between the prior art and the claims at issue, the jury will usually need to acquire a basic understanding of the technology involved in the case. This Part suggests steps that a court can take to promote the jury’s comprehension of the invention, prior-art references, and asserted combinations of prior-art references. These measures should lead to better decisions and fewer inconsistent responses to the special interrogatory questions. (This Part incorporates certain suggestions from the “Patent Case Management Judicial Guide” developed by Prof. Peter Menell and his fellow authors.)

First, because the information provided in a patent case can be difficult to understand and recall, the court can provide “binders” or other written

152. Thornburg, supra note 146, at 1851.
153. Brodin, supra note 8, at 80.
information for the individual jurors to carry with them to the jury room.\textsuperscript{156} The binder can contain relatively “non-partisan items” such as the jury instructions, photographs (e.g., of witnesses) to aid memory, copies of the patents, a glossary of terms, and other items agreed upon by the parties.\textsuperscript{157}

Second, the court can encourage jurors to take notes by “providing notepads and pencils.”\textsuperscript{158} Given the duration and complexity of most patent trials, having notes to review will help jurors comprehend and recall the testimony.\textsuperscript{159} “Juror notes are confidential” and should be subject to appropriate safeguards.\textsuperscript{160} Third, to enhance the jury’s “attentiveness and comprehension” during complicated trial testimony, the jury could be allowed to submit written questions to the court.\textsuperscript{161} The court could hear from counsel before deciding whether to ask, reject, or modify the question.\textsuperscript{162} Since numerous questions can slow down trial proceedings, the court could mention that “questions should be reserved for extraordinary circumstances.”\textsuperscript{163}

Finally, after taking some precautions, the court could permit counsel to make “interim statements” to the jury to help explain the significance of the evidence and testimony presented.\textsuperscript{164} “Interim attorney statements can serve as sign posts for the jury, explaining the purpose of testimony and how the evidence fits into a party’s overall case.”\textsuperscript{165} This may be especially helpful to jurors if voluminous expert testimony can be subdivided into individual infringement and invalidity issues.\textsuperscript{166}

\textbf{VI. CONCLUSION}

The Federal Circuit should mandate that juries use special interrogatories on the complex issue of patent obviousness and abolish the use of “black box” general verdicts on this issue. Several considerations suggest the need for such reform. First, obviousness requires the jury to assess the level of technical accomplishment embodied in the invention. The complexity and

\begin{itemize}
  \item \textsuperscript{156} MENELL, \textit{supra} note 39, at 8-20 (discussing juror binders).
  \item \textsuperscript{157} Id.
  \item \textsuperscript{158} Id. at 8-20 to -21 (discussing juror notetaking).
  \item \textsuperscript{159} Id. at 8-21.
  \item \textsuperscript{160} Id. (discussing juror questions).
  \item \textsuperscript{161} Id.
  \item \textsuperscript{162} Id.
  \item \textsuperscript{163} Id.
  \item \textsuperscript{164} Id.
  \item \textsuperscript{165} Id. at 8-22.
  \item \textsuperscript{166} Id.
\end{itemize}
volume of evidence presented might tend to inhibit a jury’s comprehension, and the extent of the jury’s comprehension of the technology may impact the fairness and rationality of the jury’s verdict. A black box verdict on obviousness does not indicate the jury’s factual findings and thus could mask errors introduced by lack of comprehension or other extraneous factors.

This is problematic because the general verdict may very well compromise reviewability. In KSR, the Supreme Court wrote that the analysis underlying a verdict on the “legal determination” of obviousness “should be made explicit” to facilitate review. Mandating special interrogatories may not only enhance transparency with respect to the jury’s factual findings but may also improve the jury’s deliberation process on this complex issue. By forcing jurors to break down the complex problem into more manageable portions, special interrogatories might make the problem seem less daunting and enable jurors to focus on relevant factors underlying obviousness, thereby improving the quality and fairness of verdicts.

167. See supra Part V.
168. See supra Part III (extraneous factors that could influence jury verdicts).