

ON THE ROLE OF JURIES IN PATENT LITIGATION

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I. Prologue

The foreman insisted that American companies were being systematically shut out of foreign markets, while the U.S. continued its liberal free-trade policy and let foreign companies freely compete in this country. According to him that policy had damaged many U.S. companies, even entire U.S. industries. The foreman explained that, while he did not want to participate in Japanese bashing, the Japanese were the most skilled at keeping American products out of their country. The fact that the Japanese government had refused to grant a patent to the American company in this patent case, while the United States Patent Office had granted one, was evidence of this unfair Japanese treatment toward foreigners and Americans in particular. The foreman further explained that Japanese businessmen had brought upon themselves a worldwide negative reputation because of their own practices, which often included bribing officials. One juror added that, while working as a machinist at a packaging plant, he had seen Japanese businessmen lurk around his plant, obviously trying to learn about its operation so as to exploit that information back in Japan.

The rest of the jurors were keeping their participation to gentle nods and approving mumbles, respecting their foreman's apparent authority. They had been selected from the population of the capital of a mid-western state and had agreed to participate in a mock jury trial for a patent case that was scheduled to be heard in a local federal court. The defendant, a Japanese corporation, had hired a jury consulting firm to organize the affair so as to evaluate its chances, its attorneys' work, and to better understand the plaintiff's position. A second law firm had been hired to play the attorneys for the plaintiff, a small American company.

The mock jurors had been paid \$150.00 for their services, which would last from 9:00 am to 5:00 pm on a Saturday. The mock trial had been accelerated: the parties had presented their

respective cases with opening statements, one expert witness testimony each, and closing arguments. By 4:30 p.m., the jurors were handed jury instructions, and were asked to start deliberations. Several officers of the Japanese corporation and the attorneys were watching and listening to the deliberations behind a one-way mirror. Needless to say, upon hearing the foreman's assertions, the Japanese businessmen were not confident that their company was going to get a fair trial. Things went from bad to worse when the foreman announced that "since none of us are scientists or engineers here, we have to rely on the U.S. Patent Office and find that the plaintiff's patents are valid." Bottom was reached when an elderly woman announced that she did not understand anything about this metal-oxide transistor stuff, but as far as she was concerned the attorney who looked like Robert Redford was more persuasive than the defense's attorney, who looked like Woody Allen. The jury concluded its deliberation by finding the plaintiff's patents valid, enforceable, and willfully infringed.²

II. Introduction

Many non-Americans, especially if they are accused of infringing a U.S. patent, are astonished to learn that U.S. patent cases can be decided by juries. The U.S. may be the only country in the world that uses juries to decide patent disputes.³ In England, patent cases are brought in specialized courts: the Patents Court (which is part of the High Court's Chancery Division) or in the Patent County Court, which was introduced in 1990 for small claimants.⁴ The judges who hear the patent

² Adapted from a video taped session of an actual 1999 mock jury trial.

³ Arnold, Why is ADR the Answer? The Computer Lawyer, 13, July 1998 ("I think none of the other 160 or so countries use juries in patent or other complex commercial cases. Not even Mother England from whom we got the idea").

⁴ Pegram, Should There Be a U.S. Trial Court With a Specialization in Patent Litigation?, J.P.T.O.S., Vol. 82, No. 11, 765, 774 (Nov. 2000).

cases are designated to hear all patent cases and thus become familiar with, if not specialized in, patent issues. English juries are not available in patent cases, or in most other civil cases.

In France, patent cases are also litigated in civil courts that specialize in patent cases and that never impanel juries. There are about ten such specialized courts, in Paris, Marseille, Lyon, etc. French juries are only available for criminal cases handled by the “Cour d’Assises,” and are thus not available for patent cases⁵

In Germany, patent cases are usually split into two trials, and neither involve juries. The issue of patent validity is handled by the Federal Patent Courts, on which five judges sit: three “technical” judges having a technical background relevant to the case, and two “non-technical” judges with “only” a legal background, one of the two legal judges presiding over the court. The issue of infringement is independently handled by one of the Federal Civil Courts, on which three “legal” judges sit. The infringement case is often stayed until the validity case is decided.⁶

In Japan, patent cases are handled by the Japanese Patent Office (JPO) and the district courts: The issue of patent validity is typically the domain of the JPO, while infringement is decided by the courts.⁷ Juries are not available for patent cases in Japan. Two of Japan’s fifty district courts have divisions that specialize in intellectual property cases and that hire ex-JPO examiners as technical advisors: the Tokyo and the Osaka district courts. Nearly 75% of patent infringement cases are filed in Tokyo or Osaka because of their intellectual property divisions.⁸

⁵ R. Signore, French Patent Attorney, private communication.

⁶ P. Erk, German Patent Attorney, private communication.

⁷ See Pegram, *supra* (citing Case No. 1998 (o) 364 and reporting that in April 2000, the Japan Supreme Court held that the courts should also be able to decide patent invalidity)

⁸ *Id.*

In comparison to the rest of the world's practices, why do U.S. courts allow juries to decide patent cases? Because the U.S. Constitution, in its Bill of Rights, requires it. The Seventh Amendment states that "[I]n Suits at common law, where the value in controversy shall exceed twenty dollars, the right of trial by jury shall be preserved." As further discussed below, the expression "common law" refers to English common law, so that the scope of the Seventh Amendment must be determined under a "historical test" that looks at the common law of England at approximately the time the Bill of Rights was ratified, i.e. around December 15, 1791.⁹ Because patent cases were decided in the courts of common law by juries in 18th century England, juries are available in American patent cases, as required by the Seventh Amendment.¹⁰

And so today, under Rule 38 of the Federal Rules of Civil Procedures (FRCP), "[a]ny party may demand a trial by jury . . . by (1) serving upon the other parties a demand therefor in writing at any time after the commencement of the action and not later than 10 days after the service of the last pleading directed to such issue, and (2) filing the demand [with the court within a reasonable time after service]." Furthermore, the parties may specify which issues, triable by a jury, they wish to be tried by a jury.¹¹ Failure to serve and file the demand for a jury trial "constitutes a waiver by the party of trial

⁹ Markman v. Westview instruments, Inc., 517 U.S. 370, 376 (1996) ("Since Justice Story's day . . . we have understood that '[t]he right to trial by jury thus preserved is the right which existed under the English common law when the Amendment was adopted.' In keeping with our longstanding adherence to this 'historical test,' . . . we ask first, whether we are 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 that was If the action in question belongs in the law category, we then ask whether the particular trial decision must fall to the jury in order to preserve the substance of the common-law right as it existed in 1791") (citations omitted).

¹⁰ Id., at 377 ("there is no dispute that [patent] infringement cases today must be tried to a jury, as their predecessors were more than two centuries ago.") See also Markman v. Westview Instrument, Inc., 52 F.3d 967, 1011, 34 USPQ2d 1321, ___ (Fed. Cir. 1995) (en banc), aff'd, 517 U.S. 370, 38 USPQ2d 1461 (1996) (Judge Newman dissenting and citing the 1623 Statute of Monopolies: "In England in 1791, as of at least 1623, actions of the 'force and validity' of letters patent were tried according to the rules of the common law.")

¹¹ FED. R. CIV. P. 38(c).

by jury.”¹² A jury for a federal civil case must include “not fewer than six and not more than twelve members.”¹³ “Unless the parties otherwise stipulate, the verdict must be unanimous.”¹⁴

This paper reviews the present U.S. jury system as applied to patent cases. Specifically, the role of the jury in patent litigation is first reviewed, followed by statistics illustrating the use of juries in patent litigation. The first part of this paper ends with a review of some of the motivations for electing a jury trial and the general problems associated with using juries in patent litigation. The second part of the paper considers a modified jury selection process for patent cases aimed at alleviating these problems.

Most litigated disputes that involve patents are resolved under federal law. A few exceptions exist; for example, a dispute regarding the ownership of a patent or regarding the breach of a license agreement may fall under state contract law. Any litigated dispute related to the infringement, the validity, or the enforceability of a patent, however, involves issues of federal law that must be resolved in a federal court.¹⁵ The present jury system for patent cases is thus based on the federal jury system. Appendix A reviews the jury selection process for federal cases, and is therefore applicable to patent cases.

Although the anecdotal example given in the prologue illustrates some of the potential flaws of the present jury system as applied to patent cases, this paper does not take the position that the present jury system is fundamentally flawed. As discussed, the role of the jury in patent cases is so restricted by various judicial decisions and procedures that a general prohibition against the availability

¹² FED. R. CIV. P. 38(d).

¹³ FED. R. CIV. P. 48.

¹⁴ Id.

of juries in patent cases seems unjustified. Every system has its flaws. There is room, however, for improvement in view of the increasing complexity of patent cases. The modified jury selection process discussed in part IV would arguably improve the present system. Its consideration provides a vehicle to better understand the various issues that arise when considering new types of juries.

III. The Present Jury System for Patent Litigation

A. The Jury's Role in Patent Litigation

1. Law Versus Fact Questions

The general rule that defines the jury's role in patent cases and other civil cases in general is that the jury resolves questions of fact, while the judge resolves the questions of law.¹⁶ Exceptions to this rule exist. Certain questions of fact are part of an overall issue that is deemed to be "equitable in nature". An example of such an equitable issue is whether the patentee committed inequitable conduct in front of the USPTO.¹⁷ This issue involves questions of fact, such as whether the patentee intended to deceive the USPTO, that would appear to be triable by a jury. The factual questions underlying inequitable conduct, however, are sometimes reserved for the judge because of the equitable nature of the overall issue.¹⁸

¹⁵ For this paper, the expressions "patent cases" and "patent litigation" refer to disputes resolved under federal law and involving a patent.

¹⁶ See, e.g., Structural Rubber Products Co. v. Park Rubber Co., 749 F.2d 707, 719-720, 223, USPQ 1264, 1273-74 (Fed. Cir. 1984) ("Litigants have the right to have a case tried in a manner which ensures that factual questions are determined by the jury and the decisions on legal issues are made by the court").

¹⁷ General Electro Music Corp. v. Samik Music Corp., 19 F.3d 1405, 1408 (Fed. Cir. 1994) ("issues of fact underlying the issue of inequitable conduct are not jury questions, the issue being entirely equitable in nature").

¹⁸ See, e.g., General Electro Music Corp. v. Samik Music Corp., 19 F.3d 1405, 1408 (Fed. Cir. 1994) ("issues of fact underlying the issue of inequitable conduct are not jury questions, the issue being entirely equitable in nature").

As another exception to the general rule, the court “may order a trial by a jury of any or all issues.”¹⁹ In other words, while the Constitution requires that the court must let the jury decide a non-equity factual question if one of the parties demands it, the Constitution does not require that a judge decide questions of law. Nevertheless, the general rule that juries decide questions of fact and judges decide questions of law is often used as a first approximation to estimate the jury’s role in a patent case.

Historically, the law versus fact dichotomy was not always determinative. As Millon explains, “[i]n routine civil as well as high-profile criminal cases, the jury’s law determining power was an accepted, legitimate element of the colonial American legal order, reflecting an unwillingness to restrict the jury’s role of fact-finding.”²⁰ Indeed, “[t]he jury’s law-deciding power was a central element” of the agenda for a faction of the founding fathers (the Anti-Federalists) who believed that “trial by jury represented a political mechanism for democratic participation in lawmaking no less important than the right to elect legislators.”²¹ On the other hand, other drafters of the U.S. Constitution, Hamilton for example, believed that “the right to jury trial in federal cases should extend only to a fact-finding function.”²² The issue was not resolved until 1895, when the Supreme Court held in favor of restricting the jury’s role to fact-finding so as to avoid “confusion and uncertainty in the administration of the . . . law.”²³ This view has prevailed to the present, where the need for uniformity, certainty and predictability appears to be justification enough to restrict the jury’s role to fact-finding.²⁴

¹⁹ FED. R. CIV. P. 39(a) and (b).

²⁰ Millon, Juries, Judges, and Democracy, Law and Social Inquiry, American Bar Foundation, 135, 138 (1993).

²¹ Id., at 147.

²² Id., at 148.

²³ Sparf and Hansen v. United States, 156 U.S. 51, 101 (1895).

²⁴ See, e.g., Weiner, The Civil Jury Trial and the Law-Fact Distinction, 54 CAL. L. REV. 1867, 1924 (1966).

The next questions to ask are: what is a question of fact and what is a question of law?

Perhaps the most accurate answers to these questions are the circular ones: a question of fact is any question that can be answered by a jury, and a question of law is any question that can be answered by a judge.²⁵ Indeed, it is difficult to draw a bright line between fact and law, and courts have often decided on where a particular issue falls in a somewhat arbitrary fashion. As one legal commentator warned, “[n]o two terms of legal science have rendered better service than ‘law’ and ‘fact.’ . . . They readily accommodate themselves to any meaning we desire to give them. . . . What judge has not found refuge in them? The man who could succeed in defining them would be a public enemy.”²⁶

In general, it may be said that a question of fact inquires whether specific acts or events actually occurred, or whether conditions actually existed. For example, whether the sale of a product occurred, or whether a publication discloses a claim limitation, present factual issues for jury determination. On the other hand, a question of law involves general principles or rules to be applied to particular facts.²⁷ Courts, however, don’t always follow these simple generalities. Furthermore, an additional difficulty arises when allocating the responsibility of applying the general principle to the specific facts. Courts have not been consistent on allocating this responsibility.²⁸ Finally, certain issues are mixed, involving both questions of fact and law.

The line between fact and law is not fixed, and the courts frequently re-draw it. In 1982, the Court of Appeals for the Federal Circuit (CAFC) was created and given sole appellate jurisdiction for

²⁵ *Id.* at 1868-1869.

²⁶ *Id.* at 1869, footnote 8 (citing Green, *Judge and Jury*, 270 (1930)).

²⁷ See, e.g., *Markman v. Westview Instrument, Inc.*, 52 F.3d 967, 1009, 34 USPQ2d 1321, ___ (Fed. Cir. 1995) (en banc), *aff’d*, 517 U.S. 370, 38 USPQ2d 1461 (1996) (Judge Newman dissenting: “‘Law’ is usually defined as a statement of the general principle or rule, predicated in advance, awaiting application to particular facts as they may arise”).

all patent cases issued from district courts. The CAFC has been attempting to unify the patent law in existence pre-1982. Not surprisingly, the CAFC has drawn its own fact-law line. The following sections review the CAFC's fact/law classification (in some instances reviewed by the Supreme Court) for various issues arising in patent cases.

a. Claim Interpretation

Claim interpretation is perhaps the most important issue in a patent litigation because it affects the findings on the validity, infringement, and enforceability of the patent. In 1996, the U.S. Supreme Court unanimously held “that the construction of a patent, including terms of art within its claims, is exclusively within the province of the court.”²⁹ Reasoning that historical precedents in England and at home were inconclusive regarding the allocation of patent claim construction, the Court turned to “functional considerations” and concluded that “judges, not juries, are better suited to find the acquired meaning of patent terms.”³⁰

The Court may have created yet another exception to the law-fact rule. It is an accepted principle that establishing the meaning of a word in a patent claim for a particular patent case, does not control the meaning of the same word in another patent case.³¹ Instead, the meaning of the word is specific to the patent at issue, based on the patent's specification, drawings, claims, prosecution history, and the common knowledge in the field of the invention, etc.³² In effect, the Markman Court

²⁸ Weiner, supra, at 1871-1876.

²⁹ Markman v. Westview Instrument, Inc., 517 U.S. 370, 372 (1996).

³⁰ Id., at 388.

³¹ See, e.g., Chisum On Patents, Vol. 5A, ' 18.07[1] (“Court decisions interpreting and applying language in particular patent claims cannot create controlling precedent for the interpretation and application of other patents' claims to varying products and processes”).

³² Markman v. Westview Instrument, Inc., 52 F.3d 967, 1010, 34 USPQ2d 1321, ___ (Fed. Cir. 1995) (en banc), aff'd, 517 U.S. 370, 38 USPQ2d 1461 (1996) (Judge Newman dissenting: “The subject matter that the majority now designates as ‘law’ –the disputed meaning and scope of technology terms and words of art as used in particular

undermined the role of juries in patent cases by taking away one of the key elements of a patent case away from juries based on a complexity argument. As a result, district courts now hold Markman hearings, usually before the trial begins, to settle the issue of claim construction. Once the judge rules on claim construction, the outcome of a trial becomes more predictable, so that in many cases a motion for summary judgment is granted or parties settle.

b. Validity Issues

The ultimate question of the validity of a patent is considered a question of law.³³ The underlying questions that must be answered to reach a conclusion on validity, however, are often questions of fact that are the domain of the jury. For this reason, the courts often let the jury decide the validity issue, which is readily resolved once the questions of fact are answered. However, any question of law answered by the jury remains a question of law, and is reviewable on appeal *de novo*.³⁴ (See more on the appellate standards of review in section III-A-2-i Appeals).

i. Utility

A valid patent must claim a useful invention.³⁵ The utility of a claimed invention is a question of fact for the jury determination.³⁶ In practice, invalidating a patent for lack of utility can be more difficult than invalidating it based on other grounds because courts impose a heavy burden of proof on the

inventions—is not law, but fact. . . The meaning of ‘inventory’ is specific to this invention, this patent, this claim, this system, this defendant. Its determination is for the trier of fact.”)

³³ Graham v. John Deere Co., 383 U.S. 1, 17, 86 S. Ct. 684 (1966).

³⁴ Structural Rubber Products Co. v. Park Rubber Co., 749 F.2d 707, 719-720, 223, USPQ 1264, 1273-74 (Fed. Cir. 1984) (“By mandating that validity is a question of law, we understand the Supreme Court to mean that in a bench trial the decision by the trial court with respect to the application of the statute to the facts on the issue of obviousness is a legal decision fully reviewable on appeal. . . . The introduction of a jury can not change the *nature* of the obviousness decision. It continues to be a legal issue for the court”).

³⁵ 35 U.S.C. ' 101.

³⁶ See, e.g., Raytheon Co. v. Roper Corp., 724 F.2d 951, ___, 220 USPQ 592, 596 (Fed. Cir. 1983) (“Utility is a fact question”).

defendant.³⁷ The burden is especially great when the defendant has made, used, offered for sale, or imported the allegedly infringing device. Indeed, the very infringement of the claimed invention tends to show a utility for it. A CAFC decision even held that “[a] correct finding of infringement of otherwise valid claims mandates as a matter of law a finding of utility under ‘ 101.’”³⁸ This kind of estoppel seems somewhat unjustified since an infringer should be able to show that the patentee failed to appropriately disclose the utility of the claimed invention and thus failed to satisfy section 101, even though the accused infringer recognized that utility on its own. In any event, a finding of utility as a matter of law takes away from the jury another factual question. This is another example of how the role of juries is further undermined by judicial decisions.

ii. Enablement

A valid patent must have a disclosure that enables a person of ordinary skill in the art in the field of the invention to make and use the claimed invention.³⁹ Enablement has been labeled a question of law. However, in Spectra-Physics, Inc. v. Coherent, Inc., the court explained “[a]lthough enablement is ultimately a question of law, this court has recognized that there may be underlying factual issues involved.”⁴⁰ Some of the factual issues underlying enablement can include the scope of the teachings of the disclosure, the level of one of ordinary skill in the art, or whether a document incorporated by reference provides adequate disclosure. As an example of a jury determining the

³⁷ See, e.g., E. I. Du Pont de Nemours & Co. v. Berkley & Co., 620 F.2d 1247, 205 USPQ 1 (8th Cir. 1980) (“In short, the defense of non-utility cannot be sustained without proof of total incapacity. . . . Proof of inoperativeness or non-utility must be strong, . . . every reasonable doubt being resolved in favor of the patentee”).

³⁸ Raytheon Co. v. Roper Corp., 724 F.2d 951, ___, 220 USPQ 592, 598 (Fed. Cir. 1983).

³⁹ See 35 U.S.C. ‘ 112, 1st paragraph.

⁴⁰ Spectra-Physics, Inc. v. Coherent, Inc., 827 F.2d 1524, 1533, 3 USPQ2d 1737, 1742-3 (Fed. Cir. 1987), cert denied, 484 US 954 (1987) (citations omitted); see also Alan Organ Co. v. Kimball International, Inc., 839 F.2d 1556, 5 USPQ2d 1769 (Fed. Cir. 1988) (“Although enablement is deemed to be a question of law, it is amenable to resolution by the jury”).

issue of enablement, in Brooktree Corp. v. Advanced Micro Devices, Inc., the jury found claims to a circuit for digital to analog conversion to be enabled by the specification after hearing testimony regarding the interaction between various claimed capacitors and MOS transistors.⁴¹ The jury's finding of enablement and validity was affirmed by a CAFC panel.⁴²

iii. Written Description

A valid patent must contain a written description of the claimed invention.⁴³ The written description requirement is complied with if the disclosure relied upon for the patent “reasonably conveys to the artisan that the inventor had possession at [the filing date of the application] of the latter claimed subject matter.”⁴⁴ The CAFC has labeled “[t]he inquiry into whether the description requirement is met a question of fact.”⁴⁵ As an example of a jury case involving the written description requirement, in Wang Laboratories, Inc. v. Toshiba Corp., the CAFC found that expert testimony provided sufficient evidence to support the jury's factual finding that the Wang patents contained an adequate written requirement for the claimed memory modules.⁴⁶

iv. Best Mode

The patentee of a valid patent must disclose in the patent the best mode of carrying out the claimed invention contemplated by the inventor at the time of filing the patent application.⁴⁷ In Wang

⁴¹ Brooktree Corp. v. Advanced Micro Devices, Inc., 977 F.2d 1555, 24 USPQ2d 1401 (Fed. Cir. 1992).

⁴² Id., at 1573.

⁴³ 35 U.S.C. ' 112, 1st paragraph.

⁴⁴ Ralston Purina Co. v. Far-Mar-Co., Inc., 772 F.2d 1570, 1575, 227 USPQ 177, 179 (Fed. Cir. 1985) (quoting In re Kaslow, 707 F.2d 1366, 1375, 217 USPQ 1089, 1096 (Fed. Cir. 1983)).

⁴⁵ Ralston Purina Co. v. Far-Mar-Co., Inc., 772 F.2d 1570, 1575, 227 USPQ 177, 179 (Fed. Cir. 1985) (Citing In re Wilder, 736 F.2d 1516, 1520, 222 USPQ 369, 372 (Fed. Cir. 1984), cert. denied, 469 U.S. 1209, 105 S. Ct. 1173, (1985)); See also Gentry Gallery, Inc. v. Berkline Corp., 134 F.3d 1473, 45 USPQ2d 1498 (Fed. Cir. 1998) (“Whether a specification complies with the written description requirement of ' 112, & 1, is a question of fact”).

⁴⁶ Wang Laboratories, Inc. v. Toshiba Corp., 993 F.2d 858, 866, 26 USPQ2d 1767, ___ (Fed. Cir. 1993).

⁴⁷ See 35 U.S.C. ' 112, 1st paragraph.

Laboratories, Inc. v. Mitsubishi Electronics America, Inc., the court stated that “[n]oncompliance with the best mode requirement involves a bifurcated factual inquiry. . . . The factfinder must determine that subjectively the inventor knew a better mode of practicing the invention than the specification discloses, and that the inventor concealed the better mode.”⁴⁸ As an example of a jury determining a best mode issue, in Great Northern Corp. v. Henry Molded Products, Inc., the court affirmed a jury’s finding that a patent for a protective roll stacker was invalid for failure to disclose the best mode because the patentee did not disclose that using diamond indentations was part of the preferred manner of carrying out the invention.⁴⁹

v. Novelty

The claimed invention of a valid patent must not be anticipated by the prior art, i.e., the claimed invention must be new over the prior art.⁵⁰ A claimed invention is anticipated only when a single reference teaches explicitly or inherently to a person of ordinary skill in the art every single element recited in the claims.⁵¹ The question of whether a claim is anticipated by the prior art is a question of fact for the jury.⁵² As an example of a jury determining a lack of novelty issue, in Thomson, S.A. v. Quixote Corp., the court affirmed a jury verdict that certain patents to optical information-storage devices were invalid due to a lack of novelty because there was sufficient

⁴⁸ Wang Laboratories, Inc. v. Mitsubishi Electronics America, Inc., 103 F.3d 1571, 41 USPQ2d 1263 (Fed. Cir. 1997), cert. denied, 118 S. Ct. 69 (1997).

⁴⁹ Great Northern Corp. v. Henry Molded Products, Inc., 94 F.3d 1569, 39 USPQ2d 1997 (Fed. Cir. 1996).

⁵⁰ See 35 U.S.C. § 102.

⁵¹ See e.g., Mehl/Biophile International Corp. v. Milgram, 192 F.3d 1362, 52 USPQ2d 1303 (Fed. Cir. 1999) (“To anticipate a claim, a prior art reference must disclose every limitation of the claimed invention, either explicitly or inherently”).

⁵² See, e.g., Atlas Powder Co. v. E.I. DuPont de Nemours & Co., 750 F.2d 1569, 1573, 224 USPQ 409, 411 (Fed. Cir. 1985) (“The district court’s determination of no anticipation was a factual one”); see also In re Schreiber, 128 F.3d 1473, 44 USPQ2d 1429 (Fed. Cir. 1997) (“Anticipation is an issue of fact, . . . and the question whether a claim limitation is inherent in a prior art reference is a factual issue on which evidence may be introduced”).

evidence that a non-party developed an unpatented laser videodisc that anticipated the patents' claims.⁵³

vi. Prior Use or Sale

The patentee of a valid patent must not have commercially exploited the claimed invention, or offered the invention for sale, more than one year prior to the filing date of the patent application.⁵⁴ Whether the patentee lost the right to a patent because of an on-sale bar, or a prior use bar, is a question of law.⁵⁵ However, underlying facts must be determined by the fact-finder. For example, the fact-finder can be asked to find “whether the invention was completed and known to work for its intended purpose, or whether the inventor was continuing to develop and evaluate the invention; whether the inventor was merely exploring the market, or had made an unconditional offer to sell a completed invention.”⁵⁶ As an example of a jury’s involvement in a prior use bar, in Mitsubishi Electric Corp. v. Ampex Corp., a CAFC panel affirmed a jury verdict that a patent to an encoding and decoding system for digital information was invalid because there was sufficient evidence of record for the jury to conclude that the claimed invention was in public use before the critical date, when a device embodying the claimed invention was demonstrated at a convention.⁵⁷

⁵³ Thomson, S.A. v. Quixote Corp., 166 F.3d 1172, 49 USPQ2d 1172 (Fed. Cir. 1999).

⁵⁴ See 35 U.S.C. § 102(b).

⁵⁵ See, e.g., Micro Chemical, Inc. v. Great Plains Chemical Co., Inc., 103 F.3d 1538, 41 USPQ2d 1238 (Fed. Cir. 1997), cert. denied, 117 S. Ct. 2516 (1997) (“Application of the on-sale bar under section 102 is a question of law based upon underlying issues of fact”); Weatherchem Corp. v. J. L. Clark, Inc., 163 F.3d 1326, 49 USPQ2d 1001 (Fed. Cir. 1998) (“Whether premature acts to commercially exploit a patented invention render the patent invalid is a question of law based on underlying issues of fact”).

⁵⁶ Seal-Flex, Inc. v. Athletic Track & Court Constr., 98 F.3d 1318, 1324, 40 USPQ2d 1450, ___, (Fed. Cir. 1996).

⁵⁷ Mitsubishi Electric Corp. v. Ampex Corp., 190 F.3d 1300, 1305, 51 USPQ2d 1910, ___, (Fed. Cir. 1999).

vii. Obviousness

The claimed invention of a valid patent cannot have been obvious to a person of ordinary skill in the art at the time the invention was made.⁵⁸ As explained by the CAFC, “[a] determination of obviousness under 35 U.S.C. § 103 is a legal conclusion involving factual inquiries.”⁵⁹ These factual inquiries include “(1) the scope and content of the prior art; (2) the level of ordinary skill in the art; (3) the differences between the claimed invention and the prior art; and (4) so-called ‘secondary considerations, e.g., long felt need, unexpected results, commercial success.’”⁶⁰ Furthermore, “[t]he presence or absence of a motivation to combine references in an obviousness determination is a pure question of fact.”⁶¹ In some cases, the presence of a trend in a technology can provide the suggestion to make minor changes to the prior art in accordance to the trend to produce the claimed invention. “Whether the prior art discloses a ‘trend’ is a question of fact.”⁶² Accordingly, the legal issue of obviousness is often handed to the jury to decide. As an example of a jury determining the issue of obviousness, in Mitsubishi Electric Corp. v. Ampex Corp., the court affirmed a jury verdict that a patent to a method of transmitting digital data was invalid for obviousness because there was sufficient evidence of record for the jury to conclude that the claimed invention would have been obvious over a combination of references.⁶³

⁵⁸ See 35 U.S.C. § 103.

⁵⁹ Lockwood v. American Airlines Inc., 107 F.3d 1565, 1570, 41 USPQ2d 1961, ___ (Fed. Cir. 1997) (citing Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1050, 5 USPQ2d 1434, 1438 (Fed. Cir. 1988)).

⁶⁰ Atlas Powder Co. v. E.I. DuPont de Nemours & Co., 750 F.2d 1569, 1574, 224 USPQ 409, 412 (Fed. Cir. 1985); see also Winner International Royalty Corp. v. Wang, 202, F.3d 1340, 53 USPQ2d 1580 (Fed. Cir. 2000).

⁶¹ In re Dembiczak, 175 F.3d 994, 1000, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999).

⁶² Monarch Knitting Machinery Corp. v. Sulzer Morat, 139 F.3d 877, 881-2, 45 USPQ2d 1977, ___ (Fed. Cir. 1998).

⁶³ Mitsubishi Electric Corp. v. Ampex Corp., 190 F.3d 1300, 51 USPQ2d 1910, (Fed. Cir. 1999).

c. Infringement Issues

The question of whether an accused infringer's device, method or product is covered by the patent's claims is a question of fact to be resolved by the jury.⁶⁴

i. Literal Infringement

For a finding of literal infringement, the jury must find that the accused infringer's device, method or product literally meets every limitation of the patent's claims. As noted by a CAFC panel, “[t]he literal infringement determination, whether properly construed claims read onto an accused product or method, is a question of fact.”⁶⁵

ii. Infringement by Equivalents

If the accused infringer's device, method or product does not literally meet one (or more) limitation of the patent's claims, the jury then inquires whether the accused infringer's device, method or product incorporates an equivalent of the missing limitation.⁶⁶ Equivalency is established using a “tripartite test” which sets out three questions of fact. In the case of a device, the jury must determine whether the accused device includes something that 1) performs substantially the same function as the claimed element, 2) in substantially the same way, and 3) to give substantially the same result.⁶⁷

⁶⁴See, e.g., Oakley, Inc. v. Int'l Tropic-Cal, Inc., 923 F.2d 167, 169 (Fed. Cir. 1991) (“Infringement is a question of fact”); SRI v. Matsushita Electronic Corp., 775 F.2d 1107, 1125, 227 USPQ 577, ___ (Fed. Cir. 1985) (“It is settled that the question of infringement (literal or by equivalents) is factual”).

⁶⁵General Mills, Inc. v. Hunt-Wesson, Inc., 103 F.3d 978, 41 USPQ2d 1440 (Fed. Cir. 1997).

⁶⁶Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, 38, 41 USPQ2d 1865, ___ (1997) (“The Federal Circuit held that it was for the jury to decide whether the accused process was equivalent to the claimed process. There was ample support in our prior cases for that holding”).

⁶⁷Id. at 35, citing Machine Co. v. Murphy, 97 U.S. 120, 125, 24 L. Ed. 935 (1878) (“if two devices do the same work in substantially the same way, and accomplish substantially the same result, they are the same, even though they differ in name, form, or shape”); see also Id. at 40 (holding that the triplicate test is acceptable, whether framed in terms of “substantial” difference or “insubstantial” differences).

The allocation of the question of equivalents to the jury is somewhat paradoxical: The doctrine of equivalents is often referred to as equitable in nature.⁶⁸ As such, the judge should decide whether an element of the accused device is an equivalent of a patent claim limitation under the doctrine of equivalents. Indeed, based on the equitable nature of the doctrine of equivalents, Judge Lourie proposed in 1993 that the court perform a “separate equitable determination” based on various factors that goes beyond the tripartite test to decide whether the doctrine of equivalents is applicable at all.⁶⁹ Judge Plager later argued that equivalency be decided by judges, not juries, because 1) the doctrine of equivalents is “uniquely equitable [in] nature,” 2) the appeals court would benefit from a better record (from the district court’s opinion) when reviewing the judgment, and 3) judges are better suited to protect the public interest, which is at issue in equivalents cases.⁷⁰ However, the Supreme Court took the position that the doctrine of equivalents is based on fairness and equity in the general sense, but not on equity in the technical sense.⁷¹ Accordingly, the issue of equivalents is presently a question of fact to be decided by the jury.

⁶⁸ See, e.g., Valmont Industries, Inc. v. Reinke Manufacturing Co., Inc., 983 F.2d 1039, 1043, 25 USPQ2d 1451, 1454 (Fed. Cir. 1993) (“The doctrine of equivalents equitably expands exclusive patent rights.”); Charles Greiner & Co., Inc. v. Mari-Med Mfg., Inc., 962 F.2d 1031, 1036, 22 USPQ2d 1526, 1529 (Fed. Cir. 1992) (“Whether in its earliest manifestations or its more recent rebirth, the doctrine retained its traditional equitable limits. It prevented ‘fraud on a patent.’ . . . Specifically, it prevented a copyist from evading patent claims by what the Court believed to be insubstantial changes.’; “careful confinement of the doctrine of equivalents to its proper equitable role . . . promotes certainty and clarity in determining the scope of patent rights.”); Hughes Aircraft Co. v. United States, 717 F.2d 1351, 1361 (Fed. Cir. 1983) (“The doctrine [of equivalents] is judicially devised to do equity”). See also Chisum on Patents, § 18.04[1][c], footnote 219.

⁶⁹ International Visual Corp. v. Crown Metal Manufacturing Co., Inc., 991 F.2d 768, 773-75, 26 USPQ 1588, 1592-94 (Fed. Cir. 1993).

⁷⁰ Hilton Davis Chemical Co. v. Warner-Jenkinson Co., Inc., 62 F.3d 1512, 1538-45, 35 USPQ2d 1641, 1662-68 (Fed. Cir. 1995) (en banc), rev’d & remanded for further proceedings consistent with this opinion, 520 U.S. 17, 41 USPQ2d 1865 (1997).

⁷¹ Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, ___, 41 USPQ2d 1865, ___ (1997).

On the other hand, the recent Festo Corp. v. Shoketsu Kinsoku Kogyo Kabushiki Co. decision⁷² is likely to remove from the jury's consideration the issue of equivalents in a number of cases. In this en banc decision, the CAFC held that any narrowing amendment (voluntary or not) of a claim limitation made for a reason of patentability completely bars the application of the doctrine of equivalents so that the amended claim limitation is limited to its literal interpretation. The court further defined "an amendment made for a reason of patentability" broadly as including any amendment made to satisfy a statutory requirement. In effect, the court eliminated the need for any analysis under the doctrine of equivalents for most claim limitations that were amended during prosecution of the patent application. Because "[w]hether or not an amendment was made for reasons of patentability is a legal question,"⁷³ the courts are now more likely to take away from the jury the factual inquiry of whether an accused device includes an equivalent of a claim limitation.

iii. Reverse Doctrine of Equivalents

Under the reverse doctrine of equivalents, a device, method or product that literally meets every limitation of the patent's claims may not be covered by the claims. As the CAFC explained, "the reverse doctrine of equivalents also raises a fact question, determinable on inquiry into whether a product has been so far changed in principle [from the claimed product] that it performs the same or similar function in a substantially different way."⁷⁴

⁷² Festo Corp. v. Shoketsu Kinsoku Kogyo Kabushiki Co., 234 F.3d 558, 56 USPQ2d 1865 (Fed. Cir. 2000) (en banc).

⁷³ K-2 Corp v. Salomon S.A., 191 F.3d 1356, 1369, 52 USPQ2d 1001, ___ (Fed. Cir. 1999) (citations omitted).

⁷⁴ SRI v. Matsushita Electronic Corp., 775 F.2d 1107, 1124, 227 USPQ 577, ___ (Fed. Cir. 1985).

iv. Prosecution History Estoppel

A patentee may not use the doctrine of equivalents to cover subject matter that was relinquished during the prosecution history of the patent application, for example by narrowly amending the claims.⁷⁵ In other words, prosecution history estoppel provides a limit on the doctrine of equivalents. Application of prosecution history estoppel is a question of law.⁷⁶ When the subject matter was relinquished by amending the claims, the issue of whether the doctrine of equivalents is barred turns on whether the amendment was made “for a substantial reason of patentability.”⁷⁷ The CAFC has taken the position that “[w]hether or not an amendment was made for reasons of patentability is a legal question.”⁷⁸ The judge can thus preclude the jury from addressing the factual question of equivalents by ruling as a matter of law that prosecution history estoppel bars application of the doctrine of equivalents.

d. Enforceability and Inequitable Conduct

A valid patent (claiming a useful, novel and non-obvious invention) may be found unenforceable if the patentee committed fraud ,or inequitable conduct, in obtaining the patent. The most common inequitable conduct defense raised in patent litigation asserts that the patentee breached the duty of candor by failing to disclose material information to the USPTO during the prosecution of the patent application. Evaluating inequitable conduct requires answering two factual questions: whether 1) the undisclosed information was material to the patentability of the invention, and 2) the

⁷⁵ Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, 30-31, 41 USPQ2d 1865, 1871 (1997).

⁷⁶ Cybor Corp. v. FAS Tech., Inc., 138 F.3d 1448, 1460, 46 USPQ2d 1169, 1178 (Fed. Cir. 1998) (en banc); Litton Sys., Inc. v. Honeywell, Inc., 140 F.3d 1449, 1462, 46 USPQ2d 1321, 1330 (Fed. Cir. 1998).

⁷⁷ Festo Corp. v. Shoketsu Kinsoku Kogyo Kabushiki Co., 234 F.3d 558, 56 USPQ2d 1865, (Fed. Cir. 2000) (en banc).

⁷⁸ K-2 Corp v. Salomon S.A., 191 F.3d 1356, 1369, 52 USPQ2d 1001, ___ (Fed. Cir. 1999) (citations omitted).

patentee (or representatives) intended to mislead the USPTO by not disclosing the information.⁷⁹

However, inequitable conduct is an issue that is “entirely equitable in nature” and thus not required to be decided by a jury.⁸⁰

Nevertheless, the CAFC has allowed the jury to decide the underlying factual issues of materiality and intent as long as the judge decides the ultimate question of inequitable conduct.⁸¹ For example, in General Electro Music Corp. v. Samik Music Corp., only the factual questions of materiality and intent were submitted to the jury. Other equitable defenses such as laches and estoppel are also within the domain of the court because of their equitable nature.⁸²

e. Damages and Other Issues

i. Damages

A patent owner is entitled to “damages adequate for the infringement but in no event less than a reasonable royalty for the use made of the invention by the infringer.”⁸³ The patent owner decides the type of damages sought, e.g. a reasonable royalty or lost profits. The patent owner is entitled to recover lost profits if he can show that he would have received the additional profit “but for” the infringement.⁸⁴ The methodology of assessing and computing damages is subject to the court’s

⁷⁹ See, e.g., Kingsdown Medical Consultant, Ltd. v. Hollister Inc., 863 F.2d 867, 9 USPQ2d 1384 (en banc) (Fed. Cir. 1988).

⁸⁰ Id., citing Gardo Manufacturing, Inc. v. Herst Lighting Co., 820 F.2d 1209, 2 USPQ2d 2015 (Fed. Cir. 1987); see also General Electro Music Corp. v. Samik Music Corp., 19 F.3d 1405, 1408 (Fed. Cir. 1994) (“issues of fact underlying the issue of inequitable conduct are not jury questions, the issue being entirely equitable in nature”).

⁸¹ See, e.g., General Electro Music Corp. v. Samik Music Corp., 19 F.3d 1405, 1408 (Fed. Cir. 1994); Hupp v. Siroflex of Am., Inc., 122 F.3d 1456, 1465, 43 USPQ2d 1887, 1893 (Fed. Cir. 1997).

⁸² A. C. Aukerman Co. v. R. L. Chaides Construction Co., 960 F.2d 1020, 22 USPQ2d 1321 (Fed. Cir. 1992) (en banc) (“As equitable defenses, laches and equitable estoppel are matters committed to the sound discretion of the trial judge and the trial judge’s decision is reviewed by this court under the abuse of discretion standard”).

⁸³ 35 U.S.C. § 284.

⁸⁴ See, e.g., Rite-Hite Corp. v. Kelley Co., Inc., 56 F.3d 1538, 35 USPQ2d 1065 (Fed. Cir. 1995) (en banc).

discretion.⁸⁵ As explained by the court in Smithkline Diagnostic, the judge “may choose between reasonable alternative accounting methods for determining the amount of lost profits or may adopt in its discretion a reasonable way to determine the number of infringing units.”⁸⁶ On the other hand, the determination of the amount of damage is a question of fact for the jury.⁸⁷

In certain cases, the patent owner can be awarded up to three times the damages.⁸⁸ The question of whether the circumstances of the case warrant such increased damages is subject to the court’s discretion.⁸⁹ However, one important factor for awarding increased damages is whether the infringement was willful, which is a question of fact for the jury.⁹⁰

A party to a patent case may also recover attorney fees in “exceptional cases.”⁹¹ Whether a case is exceptional is a question of fact. However, whether awarding attorney fee is warranted by the exceptionality of the case is subject to the court’s discretion.⁹²

⁸⁵ Smithkline Diagnostic, Inc. v. Helena Laboratories Corp., 926 F.2d 1161, 17 USPQ2d 1922 (Fed. Cir. 1991).

⁸⁶ Id., at 1164.

⁸⁷ See, e.g., Oiness v. Walgreen Co., 88 F.3d 1025, 1029, 39 USPQ2d 1304 (Fed. Cir. 1996) (“The measurement of actual damages for patent infringement is a question of fact”); Maxwell v. J. Baker, Inc., 86 F.3d 1098, 1108, 39 USPQ2d 1001 (Fed. Cir. 1996), cert. denied, 117 S. Ct. 1244 (1997) (“We review the jury’s determination of the amount of damages, an issue of fact, for substantial evidence”).

⁸⁸ 35 U.S.C. § 284 (“When the damages are not found by a jury, the court shall assess them. In either event the court may increase the damages up to three times the amount found or assessed”).

⁸⁹ See e.g., Amsted Industries Inc. v. Buckeye Steel Casting Co., 24 F.3d 178, 183, 30 USPQ2d 1462 (Fed. Cir. 1993) (“A decision whether to enhance damages is committed to the discretion of the trial judge . . .”).

⁹⁰ See, e.g., National Presto Industries, Inc. v. West Band Co., 76 F.3d 1185, 1192, 37 USPQ2d 1685 (Fed. Cir. 1996) (“Liability for willfulness of infringement turns on consideration of intent, state of mind, and culpability. We need not belabor that these are questions of fact”); see also Laitram Corp. v. NEC Corp., 81 F.3d 1566, 38 USPQ2d 1551 (Fed. Cir. 1996) (“Clear precedent holds that a finding of willfulness authorizes, but does not require, enhanced damages”).

⁹¹ 35 U.S.C. § 285 (“The court in exceptional cases may award reasonable attorney fees to the prevailing party”).

⁹² Enzo Biochem, Inc. v. Calgene, Inc., 188 F.3d 1362, 1370, 52 USPQ2d 1129 (Fed. Cir. 1999) (“Determining whether a case is exceptional and thus whether attorney fees should be granted under 35 U.S.C. § 285 is a two-step process. . . . The district court must first determine whether the case is exceptional, a factual determination that we review for clear error; if the case is found to be exceptional, the district court must then determine whether attorney fees should be awarded, a determination that we review for abuse of discretion”).

ii. Conception

Determining conception of a claimed invention can be important as part of validity or inventorship inquiries. Conception is the mental act of conceiving the claimed invention. Conception, however, has been labeled as a question of law.⁹³

iii. Inventorship

A patent may be held invalid if an inventor was not named.⁹⁴ Inventorship has been labeled a question of law.⁹⁵

f. In Summary

The following table summarizes the fact/law classification of various patent issues discussed above.

Issues	Questions of Law	Questions of Fact
Claim Interpretation	U	
Validity	U	
Utility		U
Enablement	U	

⁹³ See, e.g., Bosies v. Benedict, 27 F.3d 539, 30 USPQ2d 1862 (Fed. Cir. 1994) (“Conception is a question of law that we review *de novo*”).

⁹⁴ Pannu v. Iolab Corp., 155 F.3d 1344, 47 USPQ2d 1657 (Fed. Cir. 1998) (“When a party asserts invalidity under 102(f) due to nonjoinder, a district court should first determine whether there exists clear and convincing proof that the alleged unnamed inventor was in fact a co-inventor. Upon such a finding of incorrect inventorship, a patentee may invoke section 256 to save the patent from invalidity”).

⁹⁵ See e.g., Ethicon, Inc. v. United States Surgical Corp., 135 F.3d 1456, 45 USPQ2d 1545 (Fed. Cir. 1998) (“Inventorship is a question of law, which this court reviews without deference. However, this court reviews the underlying findings of fact which uphold a district court’s inventorship determination for clear error.”)

Written Description		U
Best Mode		U
Novelty		U
Prior Use or Sale	U	
Obviousness	U	
Literal Infringement		U
Infringement by Equivalents		U
Reversed Doctrine of Equivalents		U
Prosecution History Estoppel	U	
Inequitable Conduct	U	
Damages (Methodology)	U	
Damages (Amount)		U
Conception	U	
Inventorship	U	

As can be seen from this table, a majority of the issues arising in patent cases have been labeled questions of law that can be excluded from the jury's consideration. In particular, the all important issue of claim interpretation is removed from the jury deliberation, as well as the ultimate question of validity. Perhaps the most important questions of fact kept for the jury consideration are the infringement issues and the amount of damages awarded.

2. Means to Limit the Jury's Role

As discussed in the previous section, the jury's role is limited to answering only some questions of fact at issue in the trial. What other means for limiting the jury's role are available? This section reviews some tactics and legal tools that permit parties to reduce, and in some instances eliminate, the jury's role in patent cases.

a. Waiving the Right to a Jury

Of course, a trial by jury is not mandatory. At least one of the parties must ask for one.⁹⁶ Any party who fails to timely request a trial by jury waives its right to a trial by jury. If both parties waive their respective right to a trial by jury, no jury is impaneled and the trial is a bench trial.

b. Settling the Case

Another obvious way to avoid a jury verdict is to settle the case. A case may be settled at any time prior, during and even after trial.⁹⁷ Parties to patent cases, especially small entities, are typically motivated to settle because of the high cost of patent litigation, which can easily run between \$2M and \$20M.

c. Seeking Only an Injunction

As noted earlier, the Seventh Amendment applies to trials "at common law." An injunction is an equity remedy not available "at common law." Therefore, when the plaintiff only seeks an injunction, either because there are no damages available or for strategic reasons, the Seventh

⁹⁶ FED. R. CIV. P. 38(b).

⁹⁷ FED. R. CIV. P. 41(a)(1).

Amendment does not apply. Accordingly, as Chief Judge Markey explained a “patentee seeking only an injunction is not entitled to trial by jury.”⁹⁸

A patentee may thus self-limit the sought remedy to an injunction in order to avoid a trial by jury. For example, a large foreign corporation may contemplate filing several law suits against various infringers. The foreign company would prefer getting one favorable judgment (at least on patent validity) in order to push the other infringers to settle under favorable terms. The foreign company would thus first file suit against the smallest infringer with fewer resources to fight. If this first defendant is a small US company, the foreign plaintiff may want to avoid a biased jury and only ask for an injunction. However, the small company could still request a jury trial based on a patent invalidity defense, which arguably requires resolving factual issues by a jury.

d. Summary Judgments

Before trial begins, each party may file a motion for summary judgments under FRCP 56 arguing that there are no genuine issues of material fact. In other words, the moving party must show that there are no questions of fact and thus that a jury is not needed in the case. When ruling on the motion, “the district court must view the evidence in a light most favorable to the nonmovant and draw all reasonable inferences in its favor.”⁹⁹ Accordingly, summary judgments permit a party to by-pass the jury.

In general, a summary judgment is difficult to obtain because the non-moving party can usually find a factual issue that is disputed. However, summary judgments are not uncommon in patent cases

⁹⁸ SRI v. Matsushita Electronic Corp., 775 F.2d 1107, 1127, 227 USPQ 577, ___ (Fed. Cir. 1985) (Footnote 4 of “additional views” by Chief Judge Markey).

⁹⁹ SRI v. Matsushita Electronic Corp., 775 F.2d 1107, 1116, 227 USPQ 577, ___ (Fed. Cir. 1985)(citations omitted).

even though the issue of infringement includes factual inquiries. For example, in K-2 Corp v. Salomon S.A.,¹⁰⁰ a majority panel of the CAFC affirmed a summary judgment of non-infringement because the panel agreed with the claim interpretation of the district court, the parties did not dispute the accused device's structure and operation, and prosecution history estoppel barred infringement by equivalents.

e. Judgments as a Matter of Law

At trial, the plaintiff presents its side of the story first. Once the plaintiff's case in chief ends, the defendant may file a motion for a judgment as a matter of law.¹⁰¹ In that motion, the defendant argues that, even assuming that all the facts alleged by the plaintiff are true, no reasonable jury could find for the plaintiff based on these facts. The court decides the fate of the motion. If the court does not grant the motion (or if the defendant does not file a motion), the trial continues and the defendant presents its side of the story. After the defendant's case in chief, the plaintiff now has the opportunity to file a motion for a judgment as a matter of law. The court determines whether a reasonable jury could find for the defendant, even assuming that all the facts alleged by the defendant are true. If any motion for judgment as a matter of law is granted, the trial ends and the jury is completely by-passed.

Even after the jury returns its verdict and a judgment is entered, a party may file a motion for judgment as matter of law as long as that party had already moved for such judgment (which was not granted) at the close of all the evidence.¹⁰² Such motions were commonly referred to as motions for judgment *non obstante veredicto* ("JNOV" or judgment notwithstanding the verdict). If granted, the

¹⁰⁰ K-2 Corp v. Salomon S.A., 191 F.3d 1356, 52 USPQ2d 1001 (Fed. Cir. 1999).

¹⁰¹ FED. R. CIV. P. 50(a)(1) ("If during a trial by jury a party has been fully heard on an issue and there is no legally sufficient evidentiary basis for a reasonable jury to find for that party on that issue, the court may determine the issue against that party and may grant a motion for judgment as a matter of law against that party with respect to a claim or defense that cannot under the controlling law be maintained or defeated without a favorable finding on that issue.")

court can withdraw the previous judgment based on the jury verdict and enter a new judgment, thereby rendering the jury's determination rather inconsequential.

More specifically, judgments as a matter of law can be granted when the court finds that there is not sufficient evidence presented to the jury for the jury to answer a factual question. For example, in Malta v. Schulmerich Carillons, Inc.,¹⁰³ the CAFC affirmed a judgment as a matter of law for the defendant, notwithstanding a pro-patentee \$950,000 verdict based on a finding of infringement under the doctrine of equivalents. In Malta, the Court found that there was insufficient testimony as to why “the overall function, way, and result of the accused device are substantially the same as those of the claimed device.”¹⁰⁴

f. Jury Instructions

Jury instructions are guidelines given to the jury that explain the law at issue in the case. Jury instructions are a powerful tool to influence jurors. Parties may request that the jury be instructed at the beginning of trial so as to help the jurors better understand the evidence presented during trial, or just before deliberation, or both.¹⁰⁵

There is no required form or content for jury instructions. Some courts closely follow sample jury instructions, while others leave the drafting of the jury instructions to the parties. In the latter case, there is plenty of room for the parties to disagree on the format, choice of words, or even the concepts to be covered by the instructions. For example, the jury should be instructed that patents are

¹⁰² FED. R. CIV. P. 50(b).

¹⁰³ 952 F.2d 1320, 21 USPQ2d 1161 (Fed. Cir. 1991).

¹⁰⁴ Id. at 1327.

¹⁰⁵ See FED. R. CIV. P. 51.

presumed to be valid by statute¹⁰⁶ and that it is the accused infringer's initial burden to show by clear and convincing evidence that the patent at issue in the case is not valid. The jury instructions can mention the presumption once in passing or can repeat it throughout the instructions. Both options would be legally accurate, however each option may influence the jury in significantly different ways. Obviously, the accused infringer would lobby for a single reference to the presumption of validity in hope that the jury overlooks it, while the patentee would push for an ad nauseam repetition.

g. Special Verdicts

An effective way to control the role of a jury is to request a special verdict. Under this procedure, which is available only at the court's discretion, the jury is asked to answer only specific fact questions without returning a general verdict for the defendant or plaintiff. Under this procedure, the court renders the judgment in accordance with the legal consequences of the facts found by the jury.¹⁰⁷ Special verdicts thus permit the court to ensure that the judgment is consistent with all findings of fact. Furthermore, special verdicts allow judges to keep close control of all the questions of law, and any question of fact not submitted to the jury as long as neither of the parties object to the omission. The CAFC supports special verdicts for patent cases because it gives the public, the parties and the court additional information regarding the jury's analysis. The CAFC also explained that “[g]iven the nuances of patent law combined with the added complication of technology, the advantage of a special fact verdict are even more pronounced. This court early made the point that

¹⁰⁶ 35 U.S.C. § 282.

¹⁰⁷ FED. R. CIV. P. 49(a).

‘[t]he utilization of Rule 49(a) appears to us as a particularly useful tool in conserving judicial resources and effectuating the Congressional policy expressed in the patent laws’.¹⁰⁸

h. General Verdict Accompanied by Answer to Interrogatories

As an alternative to the special verdict, the parties may request a general verdict and answers to interrogatories.¹⁰⁹ The interrogatories are designed to determine whether the verdict is in accordance with the law and the facts as found by the jury. Under this procedure, which is available only at the court’s discretion, the court decides whether the jury’s answers to the interrogatories are consistent with each other and harmonious with the verdict. Depending on this consistency or lack thereof, the court may enter judgment based on the verdict, or enter a judgment “notwithstanding the general verdict,” or “return the jury for further consideration of its answers and verdict or may order a new trial.”¹¹⁰

i. Appeals

The second clause of the Seventh Amendment states that “no fact tried by a jury shall be otherwise re-examined in any Court of the United States, than according to the rules of the common law.” Therefore, it would appear that a finding of fact by a jury would be final and not reviewable by a court of appeals. However, the system permits a court of appeals to review jury findings, thereby further weakening the role of juries: if a JNOV motion was filed and denied by the district court, the appellate court can review jury findings and reverse them if the appellate court finds that there was “insufficient evidence” presented to the jury for a reasonable jury to answer the factual questions.

¹⁰⁸ Richardson-Vick Inc. v. Upjohn Co., 122 F.3d 1476, 44 USPQ2d 1181 (Fed. Cir. 1997) (citation omitted).

¹⁰⁹ FED. R. CIV. P. 49(b).

¹¹⁰ FED. R. CIV. P. 49(b).

Under this standard of review (often called the “substantial evidence” standard), the appellate court affirms a jury factual finding if it is supported by “such evidence as a reasonable mind might accept as adequate to support a conclusion.”¹¹¹ The appellate court thus gives great deference to the jury verdict, more deference than when reviewing a district court’s finding of law under the *de novo* standard or when reviewing a district court’s findings of fact under the clearly erroneous standard.¹¹²

In spite of this greater deference, the CAFC does reverse some jury’s findings of fact. For example, in Celeritas Techs. v. Rockwell Int’l Corp., the CAFC reversed a jury finding of validity for a patent directed to an apparatus for increasing the rate of data transmission over analog cellular telephone networks.¹¹³ In this case, the CAFC found that no reasonable jury could have determined that a prior art article, disclosed to, and considered by, the USPTO during prosecution of the patent, did not anticipate the claims of the patent!¹¹⁴

In Hupp v. Siroflex of America, Inc., the CAFC reversed a judgment of unenforceability due to inequitable conduct.¹¹⁵ The court found that there was not substantial evidence supporting the jury’s findings that 1) a newspaper advertisement for ceramic floor tiles was material to the patentability of the patentee’s concrete mold design, and 2) the failure to disclose was intended to deceive.¹¹⁶ Parties

¹¹¹ Consolidated Edison Co. v. NLRB, 305 U.S. 197, 229, 59 S. Ct. 206, 217 (1938).

¹¹² Structural Rubber Products Co. v. Park Rubber Co., 749 F.2d 707, 719-720, 223, USPQ 1264, 1273-74 (Fed. Cir. 1984) (“Findings of fact by the jury are more difficult to set aside (being reviewed only for reasonableness under the substantial evidence test) than those of a trial judge (to which the clearly erroneous rule applies)”).

¹¹³ Celeritas Techs. V. Rockwell Int’l Corp., 150 F.3d 1354, 1361, 47 USPQ2d 1516, ___ (Fed. Cir. 1998).

¹¹⁴ Id. at 1360-61. See also Structural Rubber Products Co. v. Park Rubber Co., 749 F.2d 707, 719-720, 223, USPQ 1264, 1273-74 (Fed. Cir. 1984) (reversing a jury finding of lack of novelty).

¹¹⁵ Hupp v. Siroflex of America, Inc., 122 F.3d 1456, 43 USPQ2d 1887 (Fed. Cir. 1997).

¹¹⁶ Id. at 1465-66.

can thus further dilute the role of juries by timely filing motions for judgments as a matter of law to expose the jury findings to appellate review.¹¹⁷

j. Arguing the Complexity Exception

If a party desperately wants to avoid a trial by jury, it could argue that the Seventh Amendment right to a jury does not apply because the patent case at issue is so complex that a jury would not be able understand the evidence presented to it. As explained below, this is probably a losing argument. However, at least one court, the U.S. Court of Appeals for the Third Circuit, has held that the Seventh Amendment does not guarantee the right to a jury trial when a lawsuit is so complex that “a jury will not be able to perform its task of rational decisionmaking with a reasonable understanding of the evidence and the relevant legal standards.”¹¹⁸ The Third Circuit identified a conflict between the Fifth Amendment’s right to due process of law and the Seventh Amendment’s right to a jury,¹¹⁹ and reasoned that the interests protected by the procedural rule of due process are more important than the interests protected by the right to a jury.¹²⁰ On the other hand the U.S. Court

¹¹⁷See Biodex Corp. v. Loredan Biomedical Inc., 946 F.2d 850, ___, 20 USPQ2d 1252, 1261 (Fed. Cir. 1991) (for the proposition that for patent cases, the CAFC does not “review the sufficiency of the evidence after a jury verdict absent some post-verdict disposition, either by a deferred ruling or upon a post-verdict motion.”); see also Young Dental Manufacturing Co., Inc. v. Q3 Special Products, Inc., 112 F.3d 1137, 42 USPQ2d 1589 (Fed. Cir. 1997) (“Where a party fails to make a motion for JMOL at the close of the evidence, the sufficiency of the evidence underlying presumed jury findings cannot be challenged through a renewed motion for JMOL or on appeal”).

¹¹⁸In re Japanese Electronic Products Antitrust Litigation, 631 F.2d 1069, 1086 (3rd Cir. 1980), subsequent judgment aff’d in part & rev’d in part, 723 F.2d 238 (3d Cir. 1983) (This case included complicated and numerous antitrust issues), rev’d on other grounds sub. Nom. Matsushita Electric Industrial Co v. Zenith Radio Corp., 475 US 574 (1986).

¹¹⁹Id. at 1084 (“If a particular lawsuit is so complex that a jury cannot satisfy this requirement of due process but is nonetheless an action at law, we face a conflict between the requirements of the fifth and seventh amendments”).

¹²⁰Id. at 1087 (“Therefore, we find the most reasonable accommodation between the requirements of the fifth and seventh amendments to be a denial of jury trial”).

of Appeals for the Ninth Circuit refused to recognize a complexity exception to the Seventh Amendment.¹²¹

At least two CAFC judges have opposed a complexity exception in the context of patent cases: Judges Markey, with whom Judge Newman joined, stated:

We discern no authority and no compelling need to apply in patent infringement suits for damages a “complexity” exception denying litigants their constitutional right under the Seventh Amendment. There is no peculiar cachet which removes ‘technical’ subject matter from the competency of a jury when competent counsel have carefully marshalled and presented the evidence of that subject matter and a competent judge has supplied carefully prepared instructions.¹²²

Legal historians differ on the validity of the complexity exception because it is not clear whether there was a complexity exception in 18th century England. As mentioned above, the scope of the Seventh Amendment must be determined based on the common law of England around the time the Bill of Rights was passed, i.e. around 1791. On the one hand, some have argued that the Court of Chancery often decided complicated factual issues, for example on accounting matters, instead of sending these issues to the court of common law for a jury verdict.¹²³ On the other hand, as Professor Oldham explains, “[n]o case in late-eighteenth century England is known where the plaintiff sued at common law for damages . . . yet the common law court decided the factual issues were beyond the

¹²¹ In re US Financial Securities Litigation, 609 F.2d 411 (9th Cir. 1979), cert. denied, 446 U.S. 929 (1980) (This case involved a consolidation of several law suits against a real estate developer and included issues of security law violations, common fraud, negligence, accounting and financial issues) (“Not only do we refuse to read a complexity exception into the Seventh Amendment, but we also express grave reservations about whether a meaningful test could be developed were we to find such an exception”).

¹²² SRI v. Matsushita Electronic Corp., 775 F.2d 1107, 1130, 227 USPQ 577, ___ (Fed. Cir. 1985) (additional views)

¹²³ Oldham, The Seventh Amendment Right to Jury Trial: Late-Eighteenth-Century Practice Reconsidered, Human Rights and Legal History - Essays in Honour of Brian Simpson, Oxford University Press (October 2000), at 240 (reporting Lord Devlin’s argument in the context of In re Japanese Electronic Products Antitrust Litigation, 631 F.2d 1069 (3rd Cir. 1980), and published in Devlin, Jury Trial of Complex Cases: English Practice at the Time of the Seventh Amendment, COLUMBIA L. REV. 80:43 (1980)).

jury's capacity, causing the court to send the case to Chancery."¹²⁴ According to Professor Oldham "[b]y and large, the argument that a 'complexity exception' can be carved out of the Seventh Amendment has not succeeded."¹²⁵

B. Statistics Related to Juries in Patent Cases

1. Statistics on the Number of Patent Cases Tried by Juries

In view of all these means to avoid juries, how many patent cases are actually tried by a jury? Statistics from the Federal Judicial Center show that patent cases rarely reach trial. As shown in Fig. 1, only between 3.9% and 5.6% of all patent cases terminated between 1997 and 2000 reached trial.¹²⁶ As shown in Fig. 2, out of the patent cases that went to trial between 1997 and 2000, between 52% and 62% were jury trials.

These statistics illustrate that patent cases are rarely decided by juries because very few cases even reach trial. Only about 3% of all patent cases are actually tried by juries. The small percentage is due to the effective use of settlements and pre-trial court judgments. On the other hand, a majority (over 52%) of patent cases that go to trial are jury trials. This indicates that at least one party prefers a jury trial over a bench trial in a majority of the cases. This is a significant increase from the 3.4% of cases reaching trial being jury trials reported between 1940-1959 and the 4.2% reported for the

¹²⁴ Id. at 244.

¹²⁵ Oldham, The History of the special (struck) jury in the United States and its relation to voir dire practices, the reasonable cross-section requirement, and peremptory challenges, 6 WM. & MARY BILL OF RTS. J. 623, 655 (1998).

¹²⁶ Data compiled from the 1997-2000 Annual Reports of the Director of the Administrative Office of the U.S. Courts, Table C-4: Cases Terminated, by Nature of Suit and Action Taken, available at the Federal Judiciary Homepage at www.uscourts.gov/publications.html.

period from 1960 to 1976.¹²⁷ Over the past thirty years, juries have thus become significantly more attractive to parties of patent cases.

These statistics also illustrate that a relatively small number of jurors ever serve on a patent case. About 350,000 prospective jurors come to federal courts for jury selection every year.¹²⁸ Only about 25% of these prospective jurors are selected.¹²⁹ Obviously, a small fraction of these jurors are selected for patent cases. With no more than about 62 patent jury trials per year that reach trial, the number of prospective jurors present at voir dire for patent cases is probably not more than about 3,000 and the number of selected jurors that actually serve on patent cases is approximately 744 per year.¹³⁰

2. Statistics on Jury Decisions

Statistics show that with respect to the validity of the patents, “juries are likely to favor patentees and unlikely to second-guess the decision of the PTO.”¹³¹ As shown in Fig. 3, juries hold valid about 2/3 of the patents tried before them. Judges hold valid just over half of the patents in bench trials, but hold valid only just over a 1/4 of the patents in cases decided in pre-trial motions.¹³² These statistics are consistent with the general wisdom that motivates patentees to demand jury trials and accused infringers to vigorously attempt to terminate the case before a verdict is reached.

¹²⁷ Ropski, Constitutional and Procedural Aspects of the Use of Juries in Patent Litigation, Part I, JPTOS, Vol. 58, No. 10 (1976).

¹²⁸ 1998-2000 Annual Reports of the Director of the Administrative Office of the U.S. Courts, Table J-2: U.S. District Courts – Petit Juror Service . . ., listing 358,598 total prospective jurors for 1998, 349,246 for 1999; and 338,541 for 2000, available at the Federal Judiciary Homepage at www.uscourts.gov/publications.html.

¹²⁹ Id., listing a 27% selection rate for 1998; a 26.3% rate for 1999; and a 25.2% rate for 2000.

¹³⁰ 744 = 12 jurors x 62 trials. 744 is about 25% of 3,000.

¹³¹ Allison et al., Empirical Evidence on the Validity of Litigated Patents, 26 AIPLA Q. J. 185, 213 (1998) (Data from final written validity decisions from 1989 through 1996).

¹³² Id. at 212.

FIGURE 1

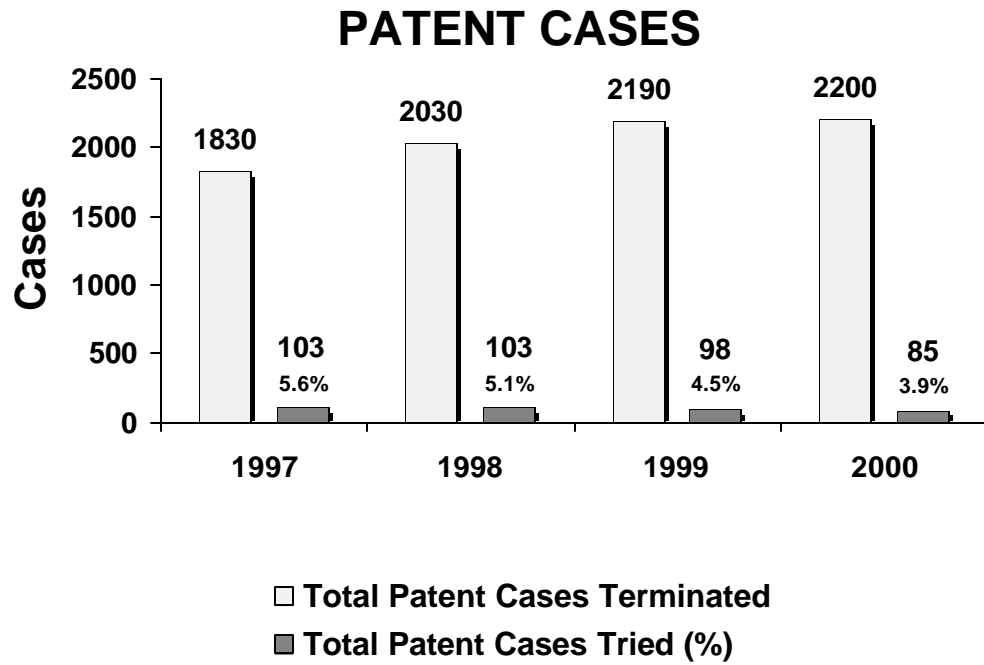


FIGURE 2

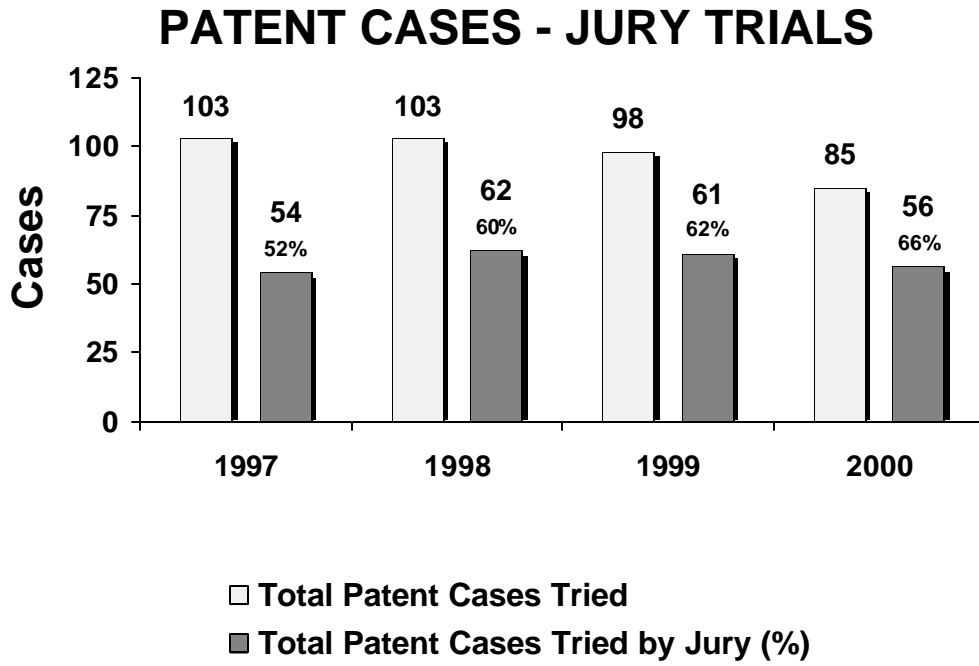
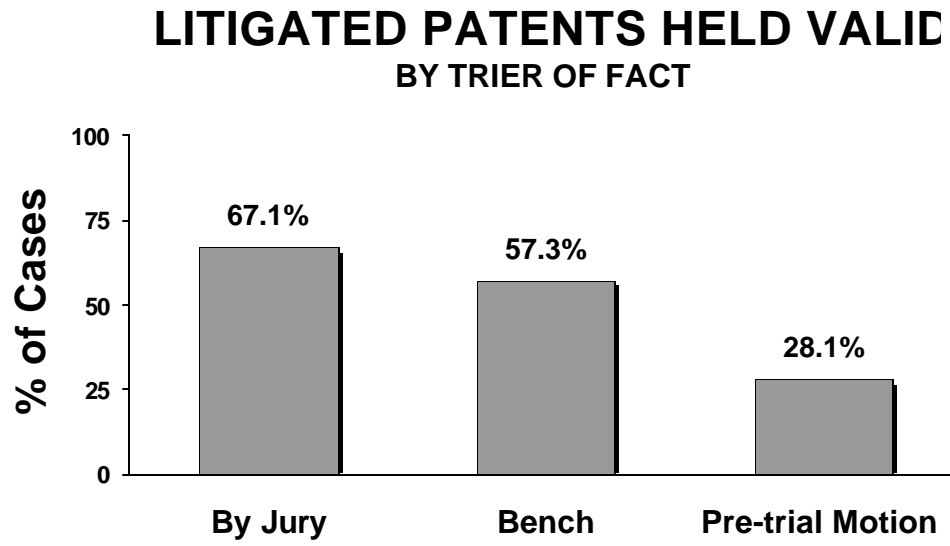


FIGURE 3



As shown in Fig. 4, juries appear to be less receptive than judges to an invalidity argument based on inadequacy of the description of the invention. This finding may reflect the greater deference that juries give patentees and the USPTO who has already ruled once on the issue of adequacy of the patentee's disclosure.¹³³ Figure 4 also shows that juries seem to be more receptive than judges to an invalidity argument based on prior art.¹³⁴ Jurors may be more impressed by prior art, such as scientific publications written by experts in the field, never considered by the USPTO during prosecution. With respect to obviousness, jurors may be victim of the same pitfall as are inexperienced USPTO examiners who tend to reject any claim as being obvious merely because each element of the claim is taught by at least one reference, irrespective of the appropriateness for combining the references. On the other hand, judges may be more careful in drawing a conclusion of obviousness keeping in mind the requirements for properly combining the references, such as finding some reasonable motivation for combining the teachings of the various references.¹³⁵

As shown in Fig. 5, jury decisions on patent validity are more likely to be appealed than bench trial or pre-trial decisions. Jury decisions, however, are the least likely to be reversed. This may not necessarily show that juries are more often "right" than judges. The court of appeals reviews the jury findings with more deference than a court finding. Furthermore, the record from a jury verdict may be so thin that the court of appeals cannot find sufficient grounds to reverse.

¹³³ However, the USPTO rarely considers best mode issues during prosecution because as this requires knowing what the applicant contemplated as his/her best mode at the time of filing the application, a fact rarely available to the USPTO.

¹³⁴ *Id.* at 213.

¹³⁵ See e.g., *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998); *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

FIGURE 4

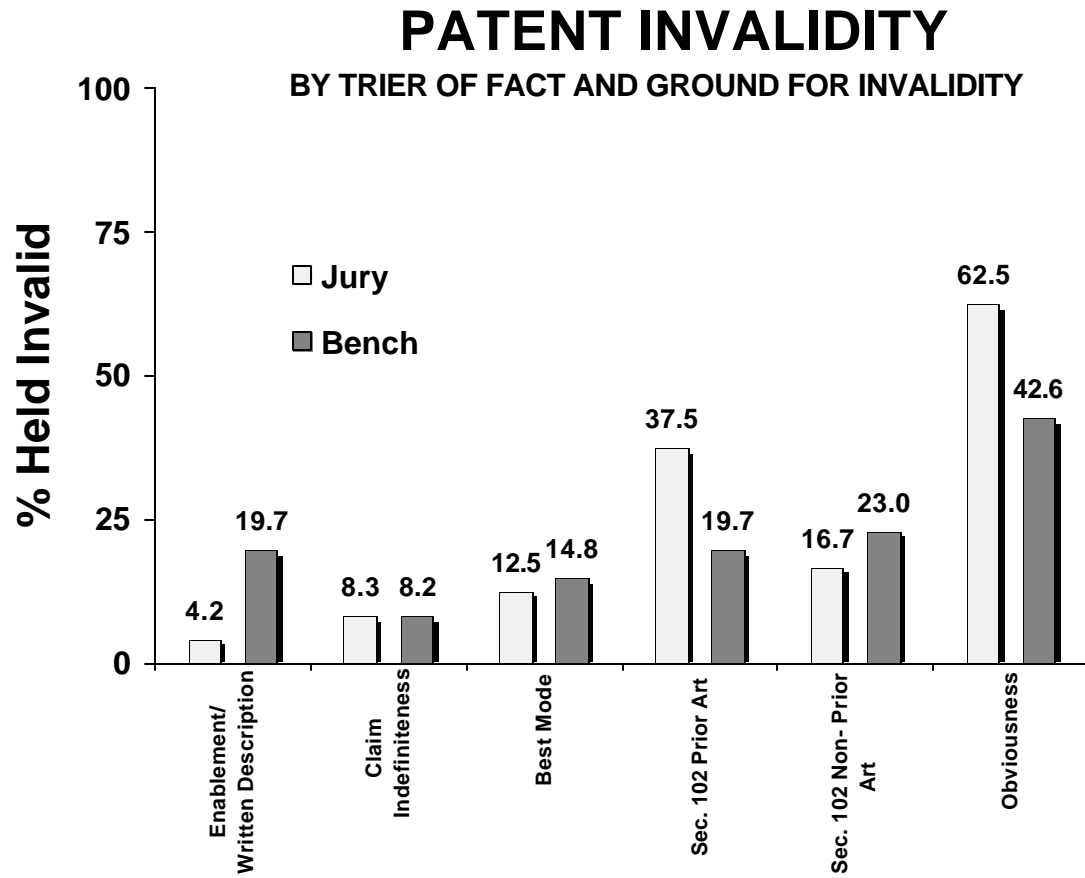
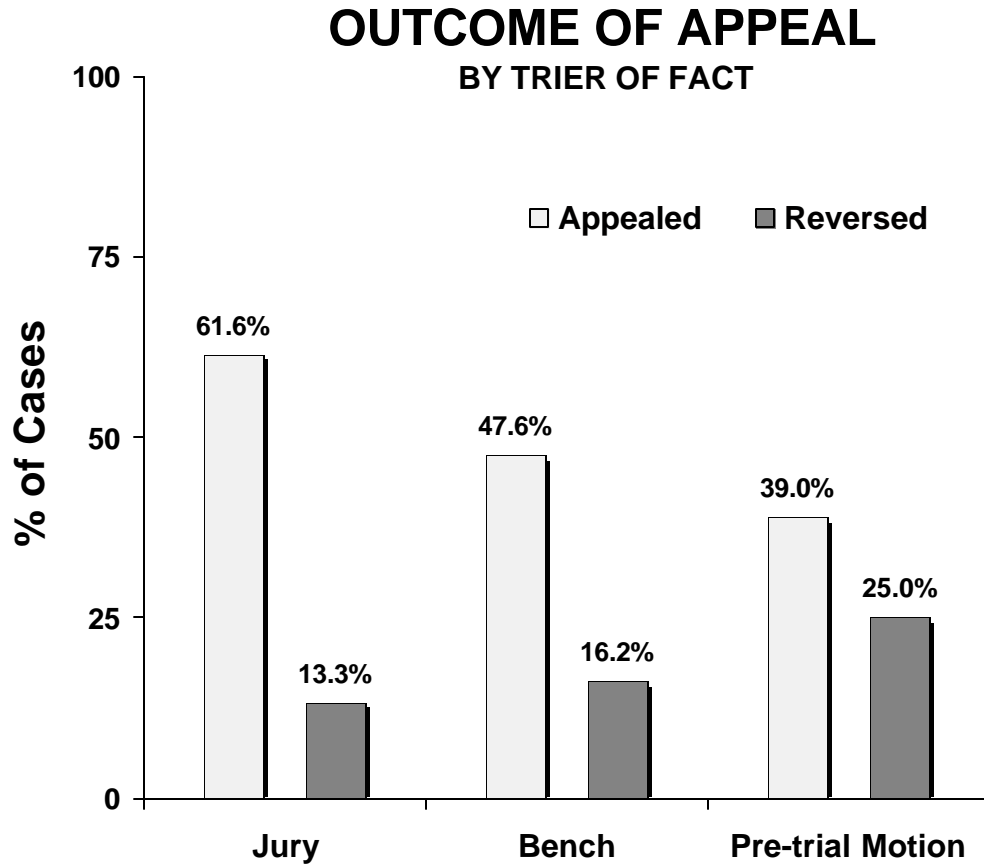


FIGURE 5



C. Why Parties Choose or Avoid Jury Trials in Patent Litigation

1. Why Parties Choose Jury Trials In Patent Litigation

As the above statistics show, jury trials are preferred by at least one party over a bench trial in a majority of patent cases. What benefits do jury trials offer parties involved in patent litigation?

Possible reasons for a party to prefer a jury trial include:

- The ribbon and the seal on the patent impresses the jury, an obvious benefit to the patentee. This reason seems to be supported by the above-noted statistics indicating that juries tend to favor patentees, at least with respect to the validity of patents.
- The party is a U.S. company, while the other is a foreign one. While foreign bias is probably a reason that is often used to decide between a jury and a bench trial, at least one set of statistics undermines this reasoning as it shows that there is no difference between the probabilities that a foreign invented or owned patent versus a domestic one will be held invalid.¹³⁶
- The party's case is weak but involves complex technical questions so that a jury might get confused enough to even out the odds.
- The party's legal case is weak but "morally" strong so that a jury's emotions might be favorable.

¹³⁶ Allison et al., Empirical Evidence on the Validity of Litigated Patents 26 AIPLA Q. J. 185, 226-7 (1998) (Data from final written validity decisions from 1989 through 1996).

2. Why Parties Avoid Jury Trials in Patent Litigation

The above statistics indicate that a majority of the time, at least one party wants a jury, but they fail to show how many times at least one party does not want a jury. We know that 40% of the cases that reach trial are bench trials, which means that in 40% of the cases that reach trial, neither party wants a jury. For the 60% of cases that are jury trials, it is impossible to know from these statistics whether both parties wanted a jury or whether only one party wanted to avoid a jury. Therefore, the percentage of tried cases where at least one party does not want a jury is between about 40% and 100% of all tried cases.

Why would parties want to avoid a trial by jury? Maybe simply because the fact that the opposing party wants a jury trial, for whatever reason, is reason enough to avoid a trial by jury. Indeed, any of the reasons given above to choose a jury trial can be turned into a reason for avoiding one.

D. The Advantages and Disadvantages of Jury Trials in Patent Litigation

The previous section considered the advantages and disadvantages of jury trials in patent cases from the perspective of the parties. What can be said for and against jury trials in patent cases from a public policy perspective?

1. The Advantages of Jury Trials in Patent Litigation

The following are arguments favoring jury trials, as compared to bench trials. These benefits apply to any jury trial, and thus also to patent jury trials.

- Juries protect against the eccentricities and unfairness of judges.
- Juries educate citizens about the legal system and foster democratic participation.

- Jurors bring a variety of backgrounds and points of view to the deliberation thereby reducing the probability for bias.
- Jurors take their job seriously and feel a sense of duty while deliberating.
- The collective recollection of the evidence and testimonies can lead to more accurate results.
- The decision is made while the evidence is still fresh in the mind of the fact finder.
- Jurors are able to focus on the issues because they are not interrupted during deliberations.
- Jurors do not feel the pressure of managing a docket.
- A verdict can be obtained relatively quickly (within days) after the end of trial compared to a judge's decision, which may come months after trial.
- Expensive Post-trial briefs are not required. However, jury trials tend to last longer.
- The judge filters out inadmissible evidence from the fact finder. In a bench trial, the fact finder is exposed to inadmissible evidence.

Furthermore, many patent litigators view the jury system as an appropriate tool for finding justice, even in patent litigation. For these practitioners, any problem associated with the complexity of patent cases (discussed next) is outweighed by the above benefits.¹³⁷

¹³⁷ See, e.g., Hosteny, [If You Are Looking for Justice, Try a Jury](#), Intellectual Property Today, September 2000, 30-31 (“We are, on the whole, better off with juries. If there is too much complexity for a jury to handle, there is probably too much complexity for a judge to handle. But too much complexity is your fault as the attorney. The first job of a trial lawyer is to simplify. If you do, and if your cause is good, trust a jury”).

2. The Disadvantages of Jury Trials in Patent Litigation

Significantly, there is no statutory educational requirement for federal jury duty. In most U.S. counties, the number of voters without a college degree is greater than the number of voters with a college degree. Accordingly, the jury system is set up so that less educated persons are more likely to be selected on a federal jury. This seems to be a drawback for a system that attempts to resolve complicated technical and legal issues, such as those typically involved in patent litigation. Accordingly, the overriding criticism of using juries in patent cases revolves around the perceived inability of jurors to comprehend the technical evidence presented to them and the legal concepts they must apply to that evidence.

a. Technical Complexity

As noted above, a typical patent issue that a jury must decide is whether an accused product or device infringes the claims of the patent at issue in the case. That is, the jurors must decide whether every element, or its equivalent, recited in the claims of the patent is found in the accused product. A crucial step toward this decision is to comprehend what these elements are. Even if the court is in charge of interpreting the claim language and the attorneys and expert witnesses are in charge of explaining what that interpretation means, the jurors must be able to comprehend these explanations.

To illustrate the challenge that this exercise presents, the table below presents two examples of claims of recently issued patents that could theoretically become subject to a patent trial by jury. The first claim describes a diode with a quantum interference unit and the second claim defines a fluorine-containing hydrocarbon composition. Would twelve individuals, selected at random among voting lists, likely understand the meaning of such claims? An individual who is technically inclined or who has studied physics or chemistry might be able to understand the attorney's or the expert's

explanations. However, without such technical or educational background, an infringement analysis of such claims becomes a formidable task.

A Diode Having a Quantum Interference Unit ¹³⁸	A Fluorine-Containing Hydrocarbon Composition ¹³⁹
<p>A diode comprising: a p-layer, an n-layer, and an i-layer sandwiched between said p-layer and said n-layer; wherein said i-layer includes a quantum-wave interference unit having a plurality of pairs of a first layer and a second layer, said second layer having a wider band gap than said first layer; wherein the thickness of said first layer (D_W) is determined by the equation: $D_W = n_W \cdot \lambda_W / 4,$ where n_W is an odd number and λ_W is a quantum-wave wavelength of carriers injected in the first layer given by the equation: $\lambda_W = h / (2 m_W (E+V))^{1/2},$ where h is Plank's constant, m_W is the effective mass of said carriers injected in said first layer, V is a difference in carrier potential energy between said second layer and said first layer, E is the kinetic energy of said carriers injected in said second layer without external voltage applied and $E \neq V/9$; the thickness of said second layer (D_B) is determined by the equation: $D_B = n_B \cdot \lambda_B / 4,$ where n_B is an odd number and λ_B is a quantum-wave wavelength of carriers injected in the second layer given by the equation: $\lambda_B = h / (2 m_B E)^{1/2},$ where m_B is the effective mass of said carriers injected in said second layer; and the carriers in said first and second layers are selected from the group consisting of electrons and holes.</p>	<p>A fluorine-containing hydrocarbon composition comprising the following (1) and (2), wherein the proportions of (1) and (2) in the composition are such that (1) is 100 parts by weight, and (2) is from 0.001 to 10 parts by weight:</p> <ol style="list-style-type: none"> (1) at least one pentafluoropropane selected from 1,1,1,3,3-pentafluoropropane and 1,1,2,2,3-pentafluoropropane, (2) the following (i) or (ii): <ol style="list-style-type: none"> (i) a combination of (a) and at least one member selected from the following (b) to (e): <ol style="list-style-type: none"> (a) a compound having --NO₂, (b) a compound having --CN, (c) a compound having --CONR¹ R² wherein each of R¹ and R² which are independent of each other, is a hydrogen atom or an alkyl group, (d) a lactone, (e) a quinone, (ii) at least one member selected from the following (f) and (g): <ol style="list-style-type: none"> (f) a reaction product of a compound having a halogen atom and an epoxy group with an active hydrogen compound, (g) a reaction product of a compound having a halogen atom and a hydroxyl group with an isocyanate compound.

¹³⁸ U.S. Patent No. 6,188,083, claim 1.

¹³⁹ U.S. Patent No. 5,895,793, claim 1.

b. Legal Complexity

The jury system is based on the assumption that jurors understand to some degree a variety of legal concepts. This assumption may not be completely valid, even for relatively basic legal concepts. For example, “in a recent jury selection process in a district in which an unusually high proportion of the panel had formal education, a large number of prospective jurors did not understand the difference between civil and criminal cases.”¹⁴⁰ The assumption is even more questionable with respect to relatively ambiguous concepts such as the meaning of the standards of “preponderance of the evidence” and “clear and convincing.”

Patent cases involve a number of relatively ambiguous legal concepts, which can be challenging even for patent practitioners. The jury system thus relies on the assumption that jurors understand concepts such as claims, prior art, conception, reduction to practice, enablement, best mode, anticipation, obviousness, and equivalents.

Even assuming that jurors sufficiently understand these concepts individually, an additional complexity is created when a multiplicity of these concepts is imposed on jurors. For example, consider the lengthy jury instructions for the single issue of obviousness reproduced in Appendix B. In this set of instructions, the jurors are introduced to the concepts of prior art, printed publications, prosecution history, the date of an invention, a person of ordinary skill in the art, the obviousness standard, improper hindsight, motivation to combine prior art teachings, long-felt need, commercial success, a patent’s presumption of validity, etc. Is it really reasonable to expect jurors to keep in mind and rely on all these instructions while deliberating? The task becomes exponentially more challenging

¹⁴⁰ Manual of Federal Practice Fifth Edition, Procedures Connected with Jury Trials, ' 7.19, 347.

when the jurors are asked to contemporaneously deliberate on other issues, such as written description, infringement by equivalents, damages, factual issues related to inequitable conduct, best mode, enablement, each with their own set of lengthy instructions. The task may become impossible when all of these concepts must be applied to complicated facts, for example to claims to a diode with a quantum interference unit, or to a fluorine-containing hydrocarbon composition.¹⁴¹

IV. Considering a Modified Jury Selection Process

The preceding sections show that few patent cases are tried by juries (about 3%) and that the jury role in those few patent cases can be greatly limited. Therefore, even assuming that juries are not capable of comprehending all the technical and legal issues before them, the impact on the overall system from this lack of comprehension appears to be relatively small. Why worry about such a small negative impact?

One possible reason to worry is perception. The system can be perceived to be flawed by the persons who use the system, i.e., patentees, innovators, companies. In order to develop a commercially viable technology, which is either protected by a patent or accused of infringing one, most of these users have spent years understanding a technical problem, earned advanced degrees, invested in machinery, hired scientists and engineers, built research and development departments, laboratories, etc. It is difficult to convince the users that the system is fair and predictable when the system relies on the evaluation of a few adults, whose only required qualifications are that they read

¹⁴¹ See e.g., Mossinghoff and Dunner, JPTOS, Vol. 83, no. 6 (June 2001) urging the CAFC to approve pattern jury instructions for patent litigation, (“Patent law is widely recognized as one of the most complex areas of the law. To that inherent complexity is added the inescapable fact that the law must be properly applied by the jury to reach a just decision in cases involving cutting edge new technology – sometimes all but incomprehensible to a layperson serving on a jury. Jury instructions generally have been criticized for decades as being less than optimally comprehensible to the average juror.”)

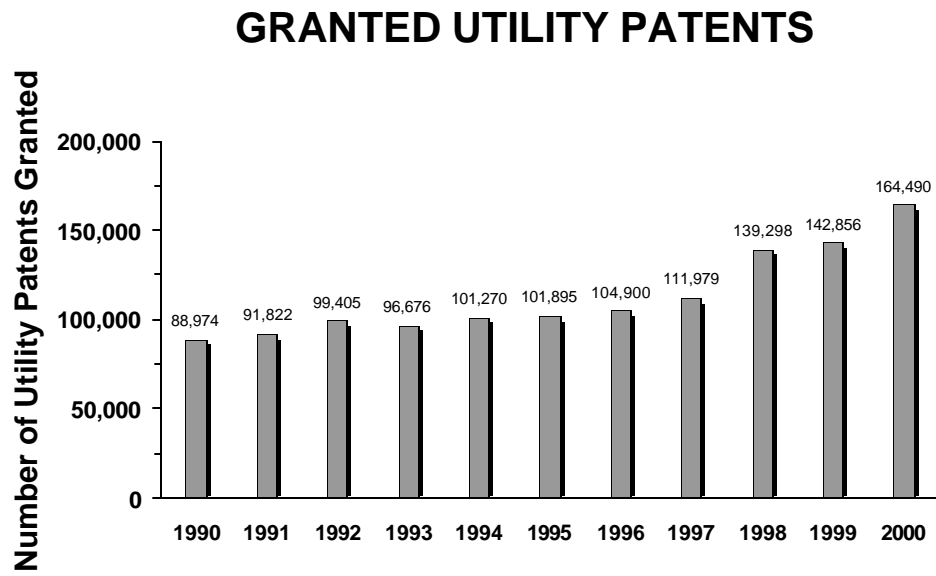
and speak English, be mentally stable and registered to vote. Once the system is perceived as unfair and unpredictable, the users lose confidence and the system can no longer “promote the progress of science and the useful arts.”¹⁴²

Another motivation to improve the system is the fact that the number of U.S. utility patents granted is increasing rapidly. In fact, as shown in Fig. 6, that number grew nearly 50% over the past 5 years, from around 100,000 in 1995 to over 160,000 in 2000. More patents means more patent litigation, which means more patent cases tried by juries.¹⁴³ Furthermore, patented technology is continuously becoming more sophisticated, with patents being granted in the fields of computers, communication networks, display devices, digital cameras/copiers/televisions, cellular telephones, lasers, optical communication, software, encryption, pharmaceuticals, gene therapy, etc. Accordingly, any problem related to the complexity of patent cases is only going to get worse in time.

¹⁴² U.S. CONST, art. I, ' 8 (“The Congress shall have power . . . to promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries”).

¹⁴³ The relationship between the number of patents granted and the number of patent litigation cases is probably not linear. For example, some companies may be enlarging their patent portfolios without increasing their patent litigation cases. It is not unreasonable, however, to assume that an increase in the overall number of granted patents represents some increase in the number of patent owners, which in tun potentially leads to an increase in patent litigation cases.

FIGURE 6



Several modifications of the jury system have been proposed in the broader context of complex litigation,¹⁴⁴ including allowing each party to select one half of the jury from the venire, impaneling special jurors, such as college graduates, or persons particularly competent to comprehend the issues in a particular case, i.e. a jury of experts.¹⁴⁵ However, most of these systems are either impractical or arguably unconstitutional. For example, selecting a jury of college graduates would leave out less-educated persons who are more technically inclined than certain liberal arts majors. A jury of experts may have a tendency to find inventions “obvious,” or elements of accused devices “equivalent” to claimed elements. As Professor Oldham points out, the jury of experts also raises the question of “whether the standards for the admissibility of expert testimony require upward adjustment because of the supposed greater capabilities of the special jurors.”¹⁴⁶ Furthermore, the systematic exclusion of less educated persons from patent juries would be arguably a violation of the fair cross-sectional requirement of the Seventh Amendment (discussed further below).

Another proposal is giving the U.S. Court of International Trade (“CIT”) parallel patent case jurisdiction with district courts.¹⁴⁷ Advantageously, the CIT would develop an expertise in patent

¹⁴⁴ Sutton, A More Rational Approach to Complex Civil Litigation in the Federal Courts: The Special Jury 1990 U. CHI. LEGAL F. 575 (1990) (Reviewing the constitutionality of several proposed special jury system for complex litigation).

¹⁴⁵ See, e.g., Oldham, “The History of the special (struck) jury in the United States and its relation to voir dire practices, the reasonable cross-section requirement, and peremptory challenges,” 6 WM. & MARY BILL OF RTS. J. 623, 655-662 (1998) (discussing the jury of experts, and in particular the Delaware statute providing for special juries in complex civil cases).

¹⁴⁶ Id. at 661 (citing Ramada Inns, Inc. v. Dow Jones & Co., No. C.A. 83C-AU-56, 1987 WL 28311 (Del. Super. Ct. Oct. 22, 1987); allowing an expert in investigating journalism to testify in front of a special jury, while acknowledging the test that “expert testimony impermissibly invades the province of the jury if it embraces matters in which the jury is just as competent as the expert to consider and weigh the evidence and draw the necessary conclusions”).

¹⁴⁷ Pegram, Should There Be a U.S. Trial Court With a Specialization in Patent Litigation?, J.P.T.O.S., Vol. 82, No. 11, 765, 774 (Nov. 2000).

cases, as did the CAFC. In addition, further specializing this already existing court would not require significant administrative costs. Under this proposal, jury trials for patent cases would still be available. Accordingly, the above motivations to modify the jury selection process for patent cases would still be present with the proposed specialized court.

Other interesting solutions to the complexity problem might include breaking up a case in separate phases,¹⁴⁸ using masters to explain technology to the jury and read the jurors findings on specific issues,¹⁴⁹ or letting the jurors take notes. These approaches have merits and should be used whenever possible. However, these proposals may not go far enough in resolving the complexity problem so that new approaches must be considered.

The following modifications of the jury selection process are believed to promote the confidence of the patent system's users, to provide some relief from problems due to complexity, while being practical and constitutional. While the modified jury selection process has merits of its own, I do not suggest that it is the best solution to the complexity problem in patent cases. Its consideration originated as an academic exercise to better understand the jury system and the role of juries in patent cases. The modified selection process may be merely an excuse to sustain the discussion of this topic, and a vehicle to illustrate some of the flexibility built in our jury system.

¹⁴⁸ See, e.g., In re Yarn Processing Patent Validity Litigation, 472 F. Supp. 170, 173, 205 USPQ 758, 761 (Fla. 1979) (Issues of patent misuse and equitable defenses were subject to a bench trial, and issues of validity and damages were subject to a jury trial).

¹⁴⁹ See, e.g., Williams and Thierstein, Use of Masters in Litigation, 12 AIPLA Quarterly Journal 227 (1984).

A. A Modified Jury Selection Process

1. The Mechanics

Once a party in a patent case requests a jury trial, upon request of the party who did not request the jury trial in the first place, a special jury is impaneled. In one version, the special jury is impaneled by randomly selecting from a pool consisting of 60% "regular" jurors and 40% "special" jurors. In a second version, the special jury is impaneled by randomly selecting 7 jurors from a pool of regular jurors and 5 jurors from a pool of prospective special jurors. In both versions, special jurors must have applied for a US patent in the past. For cause and peremptory challenges may still exclude jurors.¹⁵⁰ However, having obtained a patent, or having been rejected in applying for a patent, is not sufficient cause to excuse jurors. Patent applicants having worked in the field of the patent at issue and who have an interest in the outcome of the trial would of course be excusable. While the merits and shortcomings of this modified jury selection process are discussed further below, its feasibility is discussed next.

The prospective special jurors would be randomly selected from a special jury wheel holding the names of all registered voters from the district who have ever applied for a patent. About 312,000 patent applications were filed in 2000 in the USPTO.¹⁵¹ About 56% of them (or about 176,000) were filed by U.S. residents.¹⁵² Figure 7 shows the significant increase in patent applications filed by U.S.

¹⁵⁰ Peremptory challenges are limited to three (3) in federal civil cases. See 28 U.S.C. ' 1870.

¹⁵¹ The 2000 Commissioner of Patents and Trademark Annual Report, Table 1, Summary of Patent Examining Activities (311,807,448 total applications including 291,653 utility, 18,563 design, 786 plant and 805 reissue applications), available at <http://www.uspto.gov/web/offices/com/annual/index.html>.

¹⁵² Id. at Table 7, Patent Applications Filed by Residents of the United States (175,705 total applications including utility, design, plant, and reissue applications).

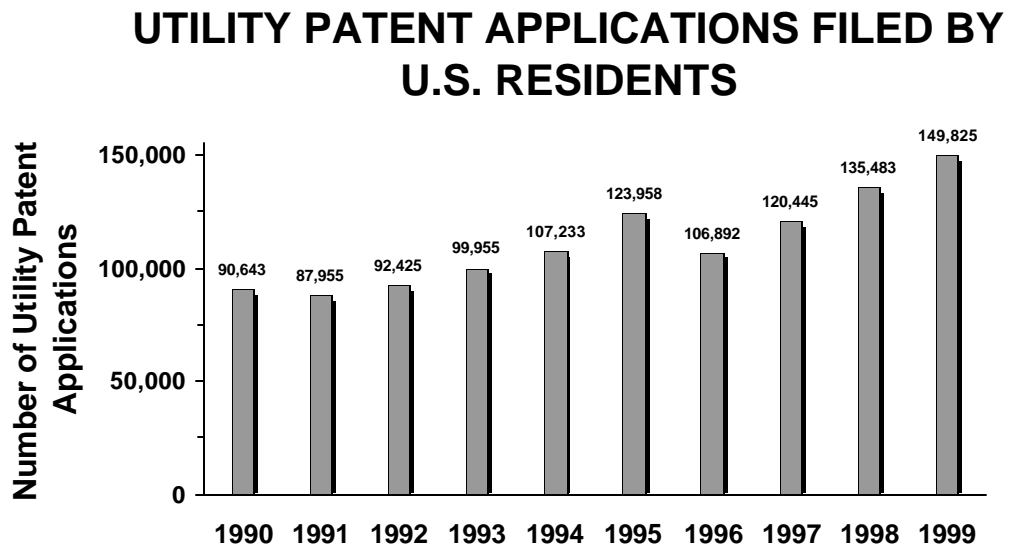
residents each year between 1990 and 1999.¹⁵³ Therefore, it is estimated that more than 150,000 U.S. citizens apply for patents each year.¹⁵⁴

As noted above, it is estimated that no more than about 3,000 Americans are requested to come to the courthouse to participate in the jury selection process for patent cases. The modified jury selection process only requires 40% of 3,000 or 1,200. Each year, more than 150,000 more prospective special jurors would be added to the pool of special jurors, and only about 1,200 would be asked to participate. Accordingly, there seems to be a sufficient number of special jurors to implement the modified jury selection process, even if some of the number 150,000 is somewhat inflated due to the fact that some inventor file multiple patent applications.

¹⁵³ Data compiled by the USPTO, Information Products Divisions / Technology Assessment and Forecast Branch, Tel. (703) 306-2600, also available at www.uspto.gov/web/offices/ac/ido/oeip/taf/us_stat.pdf.

¹⁵⁴ This number does not reflect the fact that some applications are filed by the same applicants and that some U.S. residents applying for a patent are not U.S. citizens.

FIGURE 7



At a more local level, in 2000, the states/territories with the fewest patent applicants were: U.S. Pacific Islands (3), Virgin Islands (7), Puerto Rico (31), Alaska (105), Wyoming (117), North Dakota (124), South Dakota (166), Hawaii (166) and the District of Columbia (194).¹⁵⁵ Of course, the special jury pools for these districts would include all living patent applicants so that the number of available special jurors can be estimated to be about 30 times the annual numbers. In addition, statistics from the Federal Judicial Center show that very few patent cases are filed in these districts (e.g. between about 0-2 in 1997 in each of these districts)¹⁵⁶ so that a patent case rarely reaches trial in these districts. Any district without sufficient special jurors would simply not offer this jury selection option for its patent cases.

The number of annual patent applicants is substantial in the more active jurisdictions: California (40,377), New York (12,397), Texas (11,960), New Jersey (7,729), Massachusetts (7,723), Illinois (7,307), Pennsylvania (6,543), Michigan (6,358), Ohio (6,186), and Florida (5,500).¹⁵⁷ In view of the above numbers, the random selection of prospective special jurors should be easily feasible in most jurisdictions since many more Americans apply for patents each year than participate in patent case jury selections.

The USPTO could compile a list of all U.S. applicants each year and provide the list to the district courts. The district court could cross-reference the list from the USPTO against voters and driver lists to ensure that the special jurors have the required age and residence.

¹⁵⁵ The 2000 Commissioner of Patents and Trademark Annual Report, Table 7, Patent Applications Filed by Resident of the United States, available at <http://www.uspto.gov/web/offices/com/annual/index.html>.

¹⁵⁶ Statistics based on data assembled by the Federal Judicial Center on the number of patent cases terminated in individual district courts can be generated at <http://teddy.law.cornell.edu:8090/questcv2.htm>.

¹⁵⁷ The 2000 Commissioner of Patents and Trademark Annual Report, Table 7, Patent Applications Filed by Resident of the United States, available at <http://www.uspto.gov/web/offices/com/annual/index.html>.

2. The Statutory Amendments

No amendments to the Jury Act, i.e. 28 USC §1861-1878, seems to be required to implement the modified selection process.¹⁵⁸ The Jury Act does not require that the entire jury be selected using the same qualification requirements. All the statutory requirements of the Jury Act are satisfied by the selection of the “regular” jurors and by the selection of the “special” jurors. The “cross-section of the community” requirement of 28 U.S.C. §1861 is met and is discussed further below when considering the constitutionality of the modified system. Only individual district jury plans need be changed to implement the modified jury selection process.

B. The Merits of the Modified Jury Selection Process

1. A More Informed Jury

Most patent applicants have some technical background in at least one field. Furthermore, most patent applicants have experience with patent concepts such as claims, claim limitations, prior art, enabling disclosures, and obviousness. The modified jury selection process would either increase the likelihood (version 1) or ensure (version 2) that a person with some technical background and some experience with patents sits on a patent case jury. The selected special jurors would naturally share their general knowledge with the other jurors during deliberation. Therefore, under the modified system, the average level of jury comprehension of technical and patent issues would be raised. Juries would be better equipped to handle the complexity of patent cases and to decide the cases on their merits. The tendency to turn to emotional and prejudicial considerations when the relevant issues

¹⁵⁸ See Appendix A for a discussion of the Jury Act, which sets out the statutory requirements for jury selection in federal cases.

become overwhelming would thus be reduced. As a result, overall confidence in the system would be raised.

As a caveat, inventors do not always actively participate in the prosecution of their patent applications, leaving this task to their patent agents or attorneys. Accordingly, patent applicants may not be intimately familiar with the concepts related to patents. On the other hand, all patent applicants should have read their own patent application at least once before making the required oath or declaration.¹⁵⁹ In fact, all patent applicants must state in an oath or declaration that they believe “the named inventor or inventors to be the original and first inventor or inventors of the subject matter which is claimed,” that they have reviewed and understood “the contents of the application, including the claims,” and that they acknowledge “the duty to disclose to the Office all information known to [them] to be material to patentability.”¹⁶⁰ Accordingly, patent applicants have encountered at least once the concepts of claims, specification, being the original and first inventor, and the duty to disclose information to the USPTO. Furthermore, if the applicants are interested at all in obtaining their patents, they read the first Office Action which likely rejects their claims as lacking novelty or being obvious. It is therefore not unrealistic to hope that on average most patent applicants have some basic understanding of a number of patent concepts.

As another caveat, patent applicants do not always have comprehensive or relevant technical backgrounds. Indeed, it is not clear how the inventor of a new can opener would raise the level of comprehension for a patent claiming a diode with a quantum interference unit or a fluorine-containing hydrocarbon composition. On the other hand, most patent applicants have conceived and reduced to

¹⁵⁹ See 35 U.S.C. § 115 and 37 C.F.R. 1.51 (“A complete application . . . comprises [a]n oath or declaration”).

practice (either actually or constructively) an invention that solves (they believe) a specific technical problem. In conceiving and reducing their invention to practice, they have learned and applied new scientific and/or technical concepts. Advantageously, patent applicants would bring into the jury deliberation room this ability to learn and apply new scientific and/or technical concepts. It is therefore not unreasonable to hope that, on the average, including patent applicants on juries would lead to more informed juries. Perhaps the more important effect of including patent applicants on juries would be to create the appearance that the jury is somewhat more informed, even if in reality it is not. The appearance of a more informed jury would raise users' confidence in the patent system.

2. Special Jurors as Unsworn Witnesses

A significant potential problem of a jury selection process that brings special jurors to the deliberation room, is that the special jurors could know “too much.” In other words, a special juror could share her professional expertise and draw conclusions during jury deliberations about material issues. For example, an electrical engineer who is familiar with electronic circuits could explain to the rest of the jurors why a certain type of transistor used in the accused device is an equivalent to the claimed transistor. While the electrical engineer should be free to draw her own conclusions on such issues, it seems unfair to let this juror become in effect an unsworn expert witness who may not be cross-examined.

This issue was raised in a criminal case where the victim's cause of death was at issue.¹⁶⁰ The prosecution's medical expert testified “that the cause of death was blunt force trauma to the victim's

¹⁶⁰ 37 C.F.R. ' 1.63.

¹⁶¹ New York v. Maragh, 94 N.Y.2d 569, 729 N.E.2d 701 (2000 Ct. Appeals of New York).

liver and spleen.”¹⁶² The defense’s “experts testified that autopsy results were consistent with death from an air embolism or other cardiac event.”¹⁶³ In particular, the defense expert testified that the victim’s “reported blood volume loss was inadequate to cause loss of consciousness or shock, let alone death.”¹⁶⁴ The jury found the accused guilty of criminally negligent homicide. However, the court granted defendant’s motion to set aside the verdict (and the court of appeals agreed) after learning that two of the jurors were nurses who told the jury that in their medical experience and estimation “the reported volume of the victim’s blood loss could have caused ventricular fibrillation which would result in death.”¹⁶⁵

The Court reasoned that:

[a] grave potential for prejudice is . . . present here when a juror who is a professional in everyday life shares expertise to evaluate and draw an expert conclusion about a material issue in the case Other jurors are likely to defer to the gratuitous injection of expertise and evaluations by fellow professional jurors, over and above their own everyday experiences, judgment and the adduced proofs at trial. Overall, a reversible error can materialize from (1) jurors conducting personal specialized assessments not within the common ken of juror experience and knowledge (2) concerning a material issue in the case, and (3) communicating that expert opinion to the rest of the jury panel with the force of private, untested truth as though it were evidence.

The justification for this careful but fair rule originates from the awareness that jurors otherwise become “unsworn witnesses, incapable of being confronted by defendant,” and their expertise injects nonrecord evidence into the calculus of judgement which a defendant cannot test or refute by cross-examination.¹⁶⁶

¹⁶² *Id.* at 571, 729 N.E.2d 702.

¹⁶³ *Id.* at 571-2, 729 N.E.2d 702-3

¹⁶⁴ *Id.* at 572, 729 N.E.2d 703.

¹⁶⁵ *Id.* at 572, 729 N.E.2d 703.

¹⁶⁶ *Id.* at 574-5, 729 N.E.2d 704-5.

The Court recognized that this rule should not contradict the New York jury selection reform that eliminated exemptions and facilitated the selection of professionals to jury pools. The court further acknowledged that:

The knowledge and experience of jurors, who happen to be professionals of every type in everyday life, are brought in some part with them into the jury service and deliberations. It would be unrealistic to expect jurors to shed their life experiences in performing this important civic duty just because they are professionals. They may not, however, take the additional, forbidden step beyond the evidence of the cases before them. That would violate the rights of litigants to have their cases decided only on the evidence adduced, and would substitute these jurors' own professional opinions in place of expert proofs adduced at trial.¹⁶⁷

As a possible solution to this conflict, the Court proposed “for trial courts to modify their standard instructions differentiating between ordinary and professional opinions of jurors, and directing that jurors may not use their professional expertise to insert facts and evidence outside the record with respect to material issues into the deliberation room.”¹⁶⁸

Similarly, in patent cases with patent applicants on juries, the court could instruct the jury that while the special jurors may provide background information within their personal knowledge and experience, they may not take a more active participation based on that knowledge and experience and may not characterize their opinions on material issues as expert opinions. Unfortunately, the court would find it difficult to determine whether any special juror crossed that line.

As another solution, the court could excuse for cause jurors who have a technical background “too close” to the technical field at issue, and who would be likely to form expert-like opinions on material issues. Excusing these “expert” jurors would not defeat the purpose of the modified jury

¹⁶⁷ *Id.* at 575, 729 N.E.2d 705.

selection process, which is not to fill the jury with experts, but to include individuals who are technically inclined, and have some basic understanding of technical terms and patent issues. In other words, for a patent case involving a transistor, the modified jury selection process aims to replace a juror having no technical background with a chemist who has applied for a patent for a new drug, not with an electrical engineer.

3. A Balanced Jury

Under the modified jury selection process, the jury would be selected from a pool comprising 60% of “regular” prospective jurors (version 1) or would include 7 regular jurors out of 12 (version 2). The majority of jurors on the jury would thus be regular jurors bringing a wide variety of opinions and backgrounds to the deliberation room. This majority would not easily be intimidated or unduly influenced by the few special jurors. On the other hand, more than one special juror should be present in the deliberation room so that the jury would not be influenced by a single person. For that reason, under version 1, the jury would be selected from a pool comprising 40% of special prospective jurors. Under version 2, five (5) special juror would always be present.

A potential drawback of the special jury is that a juror, having been identified as “special,” may assume a dominant role during the deliberations. In some cases, the other jurors may simply defer to his proclaimed experience and knowledge, rather than fully engaging in the deliberation process. This potential shortcoming could be mitigated by an appropriate judicial instruction emphasizing the need for all jurors to participate regardless of their background. The instruction would stress that the special jurors’ ability to bring background information for technical and patent

¹⁶⁸ *Id.* at 576, 729 N.E.2d 705.

issues should not be taken as a license to assume a dominant role on the part of the special jurors, nor to assume a deferential role on the part of the regular jurors.

4. Users Are Involved

The modified jury selection process would bring to the jury deliberation room individuals who care about the system because they are users of the system. An applicant for a patent might one day obtain a patent and rely on that patent to protect his/her rights. Similarly, patent applicants often work in competitive fields wherein competitors obtain patents and file suit against the applicants and/or their companies. The selected special jurors would want to be reassured that the system is fair. The special jurors would thus be compelled to make the verdict as fair and intelligent as possible. Furthermore, it seems fair that the parties, who are users of the patent system, be judged by a group of people that includes users.

On the other hand, a patent applicant is likely to have been granted a patent. Patentee jurors could be biased toward the patentee. For example, a patentee juror might resist finding that the USPTO sometimes issues invalid patents. Whether the motivation to be fair would outweigh the self-interest of the patentee jurors is unclear. Anecdotally, the author has questioned colleagues practicing outside the US about their opinions on the composition of U.S. patent juries. The majority indicated that they would choose a jury including U.S. patentees instead of a regular jury, even when their non-American client is the accused infringer. Again, the perception that the modified selection system is improved may be its biggest asset.

5. Juries Are Still Available

The modified jury selection process would improve on the complexity problem present in patent cases, or at least weaken the appearance of the problem, while keeping juries available. All the

benefits of using juries would thus be available. Furthermore, as opposed to eliminating juries for complex cases, or impaneling a jury of experts, the modified system would maintain a jury that satisfies the Seventh Amendment requirements, as discussed next.¹⁶⁹

C. The Constitutionality of the Modified Jury Selection Process

As already noted earlier, under the “historical test,” the scope of the Seventh Amendment requires knowledge of 18th century English common law.¹⁷⁰ Although a more modern test was introduced around 1960, the Supreme Court recently reiterated, while addressing the role of juries in patent cases, that:

Since Justice Story’s day . . . we have understood that “[t]he right to trial by jury thus preserved is the right which existed under the English common law when the Amendment was adopted.” In keeping with our longstanding adherence to this “historical test,” . . . we ask first, whether we are dealing with a cause of action that either was tried at law at the time of the founding or is at least analagous to one that that was If the action in question belongs in the law category, we then ask whether the particular trial decision must fall to the jury in order to preserve the substance of the common-law right as it existed in 1791.¹⁷¹

It is somewhat ironic that the U.S., the world’s only superpower, when deciding how to run its patent system in the 21st century, turns to another country’s procedures of running its patent system from the 18th century. In any event, the historical test is presently the law of the land and must therefore be used when considering the constitutionality of the modified jury selection process.

¹⁶⁹ See, e.g., In re US Financial Securities Litigation, 609 F.2d 411 (9th Cir. 1979), cert. denied, 446 U.S. 929 (1980) (refusing to find a complexity exception to the Seventh Amendment, “in view of the mandate of the Seventh Amendment, time might be better spent in searching for ways to improve rather than erode the jury system”).

¹⁷⁰ U.S. v. Wonson, 28 F. Cas 745, at 750 (CCD Mass. 1812) (“Beyond all question, the common law here alluded to [in the Seventh Amendment] is not the common law of any individual state, (for it probably differs in all), but it is the common law of England, the grand reservoir of all jurisprudence”).

¹⁷¹ Markam v. Westview instruments, Inc., 517 U.S. 370, 376 (1996) (citations omitted).

1. The Modified Jury Selection Process Would be Consistent with 18th Century English Practices

The modified jury selection process would impanel a special jury. The first question to answer is thus whether special juries were used in 18th century English common law. As discussed in the following sub-sections, many kinds of special juries were available as a matter of right in England around 1791. In that respect, the modified selection process would be consistent with 18th century English practices, as required under the historical test.

a. Mixed Juries: The Jury *De Medietate Linguae*

The modified jury selection process would impanel a mixed jury, i.e. a jury composed of two different types of jurors: regular jurors and special jurors. Mixed juries were available in England around 1791. An example of such mixed juries is the jury *de medietate linguae* (Latin meaning "of the half tongue").

Under the system of the jury *de medietate linguae*, which existed in England since at least the sixteenth century,¹⁷² a foreign defendant could request a jury with half of the jurors speaking English and the other half (the "alien half") speaking the defendant's language. The original justifications for establishing the jury *de medietate linguae* are debatable. They probably include notions of fair dealings. Indeed, it seems fair that a defendant be judged by peers who understand the defendant's language, culture, and laws.¹⁷³ Similarly, under the modified jury selection process for patent cases, it

¹⁷² Constable, *The Law of the Other*, Chapter 6: "The Jury *de Medietate Linguae*", The University of Chicago Press (1994).

¹⁷³ *Id.* at 119 ("the general notion that one should be tried by those who share in a knowledge of the practices of one's community underlay the use of mixed juries in early merchant and non-merchant cases. Justice required, in regard to both types of mixed jury, that members of a community following their own laws or customs while in

would be fair that the parties be judged by peers who understand the parties' terms of art and laws, and their scientific and technological cultures.

Another possible motivation is the policy of impaneling a well-informed jury having a special knowledge and understanding of the defendant's language, culture, and laws. Similarly, under the modified system for patent cases, the jury would be better informed because of its special knowledge and understanding of patents and technical terms.

Eventually, the alien half of the jury *de medietate linguae* included "any aliens", i.e. non English-born citizens. The alien jurors thus did not necessarily speak or understand the defendant's language. It became therefore difficult to justify the existence of this diluted version of the jury *de medietate linguae* on a language basis. Based on this lack of strong justification, coupled with the difficulty of finding qualified alien jurors and the newly created privilege for aliens to serve on common juries, the Naturalization Act of 1870 abolished the jury *de medietate linguae* in England.

Interestingly, the American colonies experienced the jury *de medietate linguae* with the additional twist that the alien half was composed of native Americans while the continental European settlers composed the "non-alien" half!¹⁷⁴ The jury *de medietate linguae* survived the U.S. Revolution in several states. Professor Ramirez reports that Thomas Jefferson wrote in his *Notes on the State of Virginia*, compiled in 1782, that commonwealth foreigners accused of capital offenses had "a right to be tried by a jury, the one half foreigners, the other natives."¹⁷⁵ Nevertheless, the articles of the Constitution and the Bill of Rights are silent on the right to a jury *de medietate linguae*.

England be judged, at least in part, by those of their own community and law. Language was integrally intertwined with community and custom").

¹⁷⁴ Ramirez, The Mixed Jury and the Ancient Custom of Trial by Jury *De Medietate Linguae*: a History and a Proposal for Change, Boston University law Review, Vol. 74:777, 1994.

In 1936, the Supreme Court appeared to shut the door on this form of mixed jury when it stated, although in dictum and without analysis: “Although aliens are within the protection of the Sixth Amendment, the ancient rule under which an alien might have a trial by jury ‘*de medietate linguae*,’ ‘one half denizens and the other aliens,’ - in order to insure impartiality - no longer obtains.”¹⁷⁶

b. Impaneling Jurors Meeting Special Qualification Requirements

The modified jury selection process would impanel “special” jurors in the sense that the jurors satisfy a special qualification requirement, i.e., having applied for a patent. Special qualifications were routinely required in order to serve on juries in England around 1791.

In fact, most jurors had to meet statutory property qualifications. As early as 1285, a juror was required to be worth twenty shillings per year to serve “on a petit assizes in his own shire; double this amount was required of a juror drawn into a foreign shire.”¹⁷⁷ Subsequent property qualifications statutes followed (in 1692, the property requirement became 10 pounds) so that by the 18th century “probably 75 percent of the population was rigorously excluded from common juries.”^{178, 179}

An interesting type of jury impaneled with jurors meeting special qualifications requirements is the jury of matrons. Juries of matrons were often impaneled in pre-nineteenth century England “to determine whether a female party to litigation was pregnant - or, to use the quaint language of the jury

¹⁷⁵ *Id.* at page 791.

¹⁷⁶ *United States v. Wood*, 299 U.S. 123, 145 (1936) (holding that government employees could serve as jurors in criminal cases in the District of Columbia).

¹⁷⁷ Oldham, *The Origins of the Special Jury*, UNIVERSITY OF CHICAGO LAW REVIEW, 50 (1983) at 211, citing the Statute of Westminster II, 13 Edw., ch 38 (1285).

¹⁷⁸ Hay, *The Class Composition of the Palladium of Liberty: Trial Jurors in the Eighteenth Century*, *Eighteenth-Century Staffordshire* 305, 354 (publication date unknown).

¹⁷⁹ Property-holding requirements for jurors also existed in the United States. For example, the State of New York imposed a \$250 property-holding requirement until 1967. However, because land was cheaper and more available in the United State, the portion of the population excluded from jury duty based on these requirements was probably significantly smaller than in England.

charge, whether she was ‘quick with child of a quick child.’¹⁸⁰ A finding of pregnancy was relevant to issues of inheritance of a late husband’s estate in civil cases, and relevant to a stay of execution in criminal cases.¹⁸¹ As Professor Oldham further explains “the women chosen to serve on the jury were to be matrons, who were regarded as experts on the subject of pregnancy and childbirth.”¹⁸²

Another example of a jury impaneled with special jurors is the merchant jury for commercial cases. As Professor Oldham explains “[b]y 1791, most business cases tried in the common law courts in England were tried by special juries, not common juries, and typically the special jurors were merchants who were encouraged to use their own familiarity with relevant mercantile customs and practices in deciding upon verdicts.”¹⁸³ Merchant juries were also commonly used in South Carolina, Louisiana, and New York at various times during the 18th and 19th century.¹⁸⁴ Clearly, requiring special qualifications from jurors was not only acceptable, but also desired and common according to 18th century English common law. Accordingly, the modified jury selection process for patent cases would be consistent with 18th Century English practices.

¹⁸⁰ Oldham, On Pleading the Belly: A History of The Jury of Matrons, Criminal Justice History, Vol. VI (1985) (citations omitted).

¹⁸¹ Id. at page 1.

¹⁸² Id. at page 1.

¹⁸³ Oldham, The Seventh Amendment Right to Jury Trial: Late-Eighteenth-Century Practice Reconsidered, Human Rights and Legal History - Essays in Honour of Brian Simpson, Oxford University Press (October 2000) at 246.

¹⁸⁴ See Oldham, The History of the special (struck) jury in the United States and its relation to voir dire practices, the reasonable cross-section requirement, and peremptory challenges, 6 WM. & MARY BILL OF RTS. J. 623, 656 (1998) (citing Morton Horwitz, The Transformation of American Law, 1780-1860, (1977)).

2. The Modified Jury Selection Process Would Satisfy the Jury of Peers Requirement

The Sixth Amendment has been interpreted to require a “jury of peers” for criminal defendants.¹⁸⁵ On the other hand, the Seventh Amendment has not been interpreted as requiring a jury of peers for civil cases. Therefore, the modified jury selection process for patent cases cannot be unconstitutional in that respect. Nevertheless, the jury of peers requirement, being such a fundamental feature of the institution of trial by jury, is now briefly considered.

A justification for the jury of peers requirement for criminal cases is to give criminal defendants "an inestimable safeguard against the corrupt or overzealous prosecutor and against the compliant, biased, or eccentric judge."¹⁸⁶ In other words, the jury of peers requirement is to ensure a certain level of fairness for the defendant. This requirement would thus support a special jury, made out of jurors with special qualifications selected so that at least a number of jurors share the defendant’s cultural, linguistic, ethnic, or possibly socio-economic circumstance.

As explained above, the modified jury selection process for patent cases would tend to increase the level of fairness for both parties because 1) it increases the level of comprehension of the jury thereby reducing the probability that the jury relies on prejudices and emotions, and 2) it brings users of the patent system into the deliberation room who care about the fairness of the system. In fact, the special jurors would be more “peer-like” to the parties of the patent case than the regular jurors. Consequently, the modified system appears to satisfy any possible jury of peers requirement for civil cases.

¹⁸⁵ See, e.g., Duncan v. Louisiana, 391 U.S. 145 (1968).

3. The Modified Jury Selection Process Would Satisfy the Reasonable Cross Section of the Community Requirement

The Seventh Amendment arguably requires that the pool of potential jurors must be a reasonable cross section of the community.¹⁸⁷ A justification for this requirement is to ensure that “distinctive groups” of the community are not systematically excluded from juries.¹⁸⁸ Examples of “distinctive” or “cognizable” groups that may not be systematically excluded from jury duty are African-Americans,¹⁸⁹ Mexican-Americans,¹⁹⁰ and women.¹⁹¹ On the other hand, young adults¹⁹², professionals,¹⁹³ and union members¹⁹⁴ do not form distinctive groups. While the Supreme Court has not defined “distinctive groups,” federal courts have explained that “distinctive” or “cognizable” groups must “have cohesion,” that there must be “a common thread which runs through the group, a basic similarity in attitudes or ideas or experience which is present in members of the group and which cannot be adequately represented if the group is excluded from the jury selection process,” and that “the group must have a community of interest which cannot be adequately protected by the rest of the

¹⁸⁶ *Id.* at 156.

¹⁸⁷ *See, e.g., Colgrove v. Battin*, 412 U.S. 149, 159 (holding a jury of six satisfies the Seventh Amendment’s guarantee of trial by jury in civil cases and noting that (in footnote 16) “[w]hat is required for a ‘jury’ is a number large enough to facilitate group deliberation combined with a likelihood of obtaining a representative cross section of the community”) (emphasis added).

¹⁸⁸ *Duren v. Missouri*, 439 U.S. 357, 99 S. Ct. 664 (1979) (discussing the reasonable cross-section requirement in the context of the Sixth Amendment).

¹⁸⁹ *Strauder v. West Virginia*, 100 U.S. 303, 25 L. Ed. 664 (1880).

¹⁹⁰ *Castaneda v. Partida*, 430 U.S. 482 (1977).

¹⁹¹ *Duren v. Missouri*, 439 U.S. 357, 99 S. Ct. 664 (1979).

¹⁹² *Hamling v. United States*, 418 U.S. 87 (1974).

¹⁹³ *U.S. v. Marrapese*, D.C.R.I. 1985, 610 F. Supp. 991.

¹⁹⁴ *See, e.g., U.S. v. Gibson*, D.C. Ohio 1979, 480 F.Supp. 339, 343 (in dicta, “we reiterate our conclusion that union-affiliation does not denote membership in a cognizable group.”).

populace.”¹⁹⁵ The reasonable cross section requirement is thus to protect potential jurors from being systematically discriminated against based on a common personal trait.

Individuals who do not apply for patents (hereafter referred to as “non-applicants”) do not form a cognizable, or coherent, group because they do not share a basic similarity in attitudes or ideas or experience. Non-applicants do not have a community of interest so that they cannot be systematically discriminated against based on a common personal trait. Furthermore, non-applicants can easily become non-members of this “group.” Indeed, anybody can apply for a patent. There are no race, religion, ethnicity, national origin, nationality, age, mental or physical requirements to file a patent application. In fact, more individuals are excluded from voting and regular jury duty (minors and aliens) than from applying for a U.S. patent. It is not even required to have invented anything.¹⁹⁶ All that is required is to file a paper, called a specification, that describes what is believed to be the invention, a claim that defines the invention, any figures necessary to understand the claimed invention, an oath or declaration stating that the applicant believes to be the first inventor of the claimed invention, and a fee.¹⁹⁷ The fee is \$355.00 for an individual inventor, but can be waived (theoretically) “in an extraordinary situation.”¹⁹⁸ Therefore, requiring that a portion of the jury selection pool be patent applicants does not exclude any recognizable class from jury service.

¹⁹⁵ United States v. Guzman, 337 F. Supp 140, 143-44 (SDNY 1972), aff’d, 468 F.2d 1245 (2nd Cir. 1972) (considering the reasonable cross-section requirement in the context of the Sixth Amendment).

¹⁹⁶ As an aside, “not having invented anything” is not synonymous to “not being technically inclined,” or “having no technical background.” In other words, a patent applicant may not have invented anything, but may be an asset to a patent case jury deliberation.

¹⁹⁷ 37 C.F.R. ' 1.51(b).

¹⁹⁸ 37 C.F.R. ' 10.170(a) (“In an extraordinary situation, when justice requires, any requirement of the regulation of this part which is not a requirement of the statutes may be suspended or waived by the Commissioner or the Commissioner’s designee, sua sponte, or on petition of any party, including the Director or the Director’s representative, subject to such other requirements as may be imposed.”)

Even if non-applicants formed a cognizable group, under the modified jury selection process, non-applicants would not be excluded from service on any jury, not even on patent juries. In fact, non-applicants would make up 60% of the pool of potential jurors in patent cases. Therefore, the modified jury selection process would ensure that members of all cognizable segments of the community have the opportunity to serve as jurors in compliance with the reasonable cross section requirement of the Seventh Amendment.

V. Conclusion

The U.S. patent system continues to be a successful enterprise. The latest developments in genetics, pharmaceuticals, optical communications, digital devices, computer applications, which are protected by patents, are a testimony to that success as inventors continue to find confidence in a system that is meant to protect and promote their ideas. As noted in this paper, the jury system for patent trials is accompanied with means to control and limit the role of juries in patent cases. Accordingly, any fear or criticism that the system is flawed because of the availability of juries seems to be unfounded, or at least exaggerated.

However, as patented technologies become increasingly sophisticated and the financial consequences of patent litigation become determinative to the life of companies, the system must continue to inspire confidence. We must therefore continue to consider new ways to improve the system in general, and in particular consider solutions to the complexity problem that arises in patent cases. The modified jury selection process discussed herein is a vehicle intended to sustain this consideration. Hopefully, this article illustrates some of the possibilities and difficulties associated with modifying our jury selection process in an effective, practical and constitutional manner. While

including patent applicants in patent juries is not a perfect solution, such a modification would include in patent juries a number of technically oriented individuals with some experience in dealing with patents. Arguably, such a modified system could lead to more accurate verdicts, an increase in users' confidence in those verdicts, and could thus contribute to the ongoing patent system's success. After all "[I]t is not radical to hope to fill juries with capable people."¹⁹⁹

¹⁹⁹ Oldham, The History of the special (struck) jury in the United States and its relation to voir dire practices, the reasonable cross-section requirement, and peremptory challenges, 6 WM. & MARY BILL OF RTS. J. 623, 652 (1998).

VI. APPENDIXES

A. The Jury Selection Process For Federal Cases

The Jury Selection and Service Act of 1968 (the “Jury Act”) outlines the general requirements for selecting juries for federal cases.²⁰⁰ All federal courts must follow the requirements of this statute when impaneling juries for patent cases.

1. The Jury Selection and Service Act

The Jury Act requires that the federal jurors be “selected at random from a fair cross section of the community in the district or division wherein the court convenes.”²⁰¹ The term “random” does not necessarily have the meaning as understood by statisticians, but merely requires a selection “by chance” from a pool of prospective jurors.²⁰² The requirement is intended to protect the right of jurors to serve on juries and to ensure that members of all “cognizable” segments of the community have the opportunity to serve as jurors. Consequently, the “fair cross section of the community” requirement at least requires that “no citizen shall be excluded from service . . . on account of race, color, religion, sex, national origin, or economic status.”²⁰³ However, there is no requirement that the jury itself, when impaneled, reflect a perfect cross section, or a statistical mirror of the community.²⁰⁴

A first pool of prospective jurors, called the master jury wheel,²⁰⁵ is formed by randomly selecting individuals from the district or division wherein the court convenes.²⁰⁶ The master wheels are

²⁰⁰ The Jury Act is set out at 28 U.S.C. § 1861-1878.

²⁰¹ 28 U.S.C. § 1861.

²⁰² 28 U.S.C.A. § 1861, note of decisions 13.

²⁰³ 28 U.S.C. § 1862.

²⁰⁴ 28 U.S.C. § 1863, notes of decisions 44 and 47.

²⁰⁵ A “jury wheel” is a device that holds the names of prospective jurors. Today, jury wheels are most often electronic lists of names, which are generated, saved and managed with a computer program. See 28 U.S.C. § 1869(g) (a jury wheel can be “any device or system similar in purpose and function, such as a properly programmed electronic data processing system or device”)

assembled periodically, for example every two years. The prospective jurors' names in the master jury wheel are obtained from voter lists (registered or actual), or a combination of voter lists and other lists, such as licensed driver lists.²⁰⁷ Each district subdivision (e.g., counties and parishes) must be proportionally represented in the master jury wheel.²⁰⁸

From time to time, depending on the docket of the district court, individuals are randomly selected from the master jury wheel and required to complete a juror qualification form.²⁰⁹ The qualification forms elicit "the name, address, age, race, occupation, education, length of residence within the judicial district, distance from residence to place of holding court, prior jury service, and citizenship of a potential juror, and whether he should be excused or exempted from jury service, has any physical or mental infirmity impairing his capacity to serve as juror, is able to read, write, speak, and understand the English language."²¹⁰ The qualification forms also inquire whether the potential juror has a criminal record or criminal charges pending against him. Any individual who fails to fill out such a juror qualification form "may be fined not more than \$100 or imprisoned not more than three days, or both."²¹¹ Based on the answers on the juror qualification form, prospective jurors may be exempted or disqualified. Those individuals who are not exempted or disqualified form a second pool of prospective jurors, called the "qualified jury wheel."²¹²

The Jury Act exempts from the qualified jury wheel, and thus from federal and patent cases jury duty:

²⁰⁶ 28 U.S.C. § 1863(b)(3).

²⁰⁷ 28 U.S.C. § 1863(b)(2).

²⁰⁸ 28 U.S.C. § 1863(b)(3).

²⁰⁹ 28 U.S.C. § 1864(a).

²¹⁰ 28 U.S.C. § 1869(h).

²¹¹ 28 U.S.C. § 1864(b).

- members of the armed forces on active duty,
- members of professional fire and police departments, and
- public officers of the federal, state or local governments “who are actively engaged in the performance of official duties.”²¹³

The Jury Act disqualifies from federal jury duty any individual who:

- “is not a citizen of the United States eighteen years old who has resided for a period of one year within the judicial district;
- is unable to read, write, and understand the English language with a degree of proficiency sufficient to fill out satisfactorily the juror qualification form;
- is unable to speak the English language;
- is incapable, by reason of mental or physical infirmity, to render satisfactory jury service; or
- has a charge pending against him for the commission of, or has been convicted in a State or Federal court of record of, a crime punishable by imprisonment for more than one year and his civil rights have not been restored.”²¹⁴

Returning to the selection process, when the district court needs to impanel a jury, the court randomly selects from the qualified jury wheel a number of names of persons as may be required for assignment to the jury panels. These persons are then summoned to the courthouse. “Any person who fails to show good cause for noncompliance with a summons may be fined not more than \$100 or imprisoned not more than three days, or both.”²¹⁵ This group of summoned qualified prospective

²¹² 28 U.S.C. § 1866.

²¹³ 28 U.S.C. § 1863.

²¹⁴ 28 U.S.C. § 1865.

²¹⁵ 28 U.S.C. § 1866(g).

jurors is called the “venire.” An examination of the venire, called “voir dire”, is then conducted at the courthouse. Any person on the venire may be:

- “excused . . . upon a showing of undue hardship or extreme inconvenience,”
 - “excluded . . . on the ground that such person may be unable to render impartial jury service or that his service as a juror would be likely to disrupt the proceedings,”
 - “excluded upon peremptory challenge,”
 - “excluded . . . upon a challenge by any party for good cause shown,”
 - “excluded upon determination by the court that his service as a juror would be likely to threaten the secrecy of the proceedings, or otherwise adversely affect the integrity of jury deliberations,”²¹⁶
- or
- excused for serving within a two-year period on (1) more than one jury for more than thirty days, (2) more than one grand jury, or (3) a grand jury and a petit jury.²¹⁷

Reviewing briefly some of the above exclusions, “undue hardship or extreme inconvenience” means great distance, either in miles or travel time, from the place of holding court, grave illness in the family or any other factor which the court determines to constitute an undue hardship or to create an extreme inconvenience to the juror; and in addition, in situations where it is anticipated that a trial . . . may require more than thirty days of service, the court may consider, as a further basis for temporary excuse, severe economic hardship to an employer which would result from the absence of a key employee during the period of such service.”²¹⁸

²¹⁶ 28 U.S.C. § 1866(c).

²¹⁷ 28 U.S.C. § 1866(e).

²¹⁸ 28 U.S.C. § 1869(j).

Peremptory challenges are the means used by the parties' attorneys for removing prospective jurors from the jury without having to state the basis for the exclusion. Peremptory challenges cannot be based on race²¹⁹ or sex.²²⁰ Originally, peremptory challenges were introduced to protect the criminal defendant's fair trial rights by permitting removal of jurors who seemed partial against the accused. Peremptory challenges were thus only available to the criminal defendant and not the prosecution.²²¹ In 1865, prosecutor peremptory challenges were introduced to overcome jury sympathy for the defendant, and/or for the more cynical reason of keeping African-Americans off juries.²²² Eventually, the concept was extended to civil trials. Today, peremptory challenges are subject to much criticism as they appear to conflict with the fundamental rights of prospective jurors.²²³ In any event, "[i]n civil cases, each party [is] entitled to three peremptory challenges."²²⁴

The parties have an unlimited number of challenges "for cause," the appropriateness of which is determined by the court.²²⁵ A "for cause" exclusion may be justified when actual juror bias is shown, for example by a showing that a juror has already formed an opinion as to the issue to be tried.²²⁶ Furthermore, a juror may be excluded on the ground of impartiality because he/she owns

²¹⁹ See Batson v. Kentucky, 476 U.S. 79, 106 S. Ct. 1712 (1986); Powers v. Ohio, 499 U.S. 400, 111 S. Ct. 1364 (1991); Edmonson v. Leesville Concrete Co., 500 U.S. 614, 111 S. Ct. 2077 (1991) (extending the Batson rule to civil cases).

²²⁰ See J.E.B. v. Alabama, 511 U.S. 127, 114 S. Ct. 1419 (1994).

²²¹ Colbert, Challenging the Challenge: Thirteenth Amendment as a Prohibition Against the Racial Use of Peremptory Challenges, 76 CORNELL L. REV. 1, 9-11 (1990).

²²² Id. at 11-12.

²²³ See, e.g., Bader, Batson Meets the First Amendment: Prohibiting Peremptory Challenges That Violate a Prospective Juror's Speech and Association Rights, 24 HOFSTRA L. REV. 567 (1996).

²²⁴ 28 U.S.C. ' 1870 (However, when there are more than one plaintiff or more than one defendant, the court may permit more peremptory challenges).

²²⁵ 28 U.S.C. ' 1870.

²²⁶ 28 U.S.C.A. ' 1870, note of decisions 14.

stock in a company related to one of the parties, was employed by one of the parties, or was acquainted with any of the attorneys.²²⁷ However, mere knowledge of a party may not be sufficient.²²⁸

Parties in patent cases can use the above exclusions in their favor. For example, the patentee may want to eliminate a prospective jurors who owns stock in the accused company; or the accused infringer may want to eliminate a prospective juror who is a patentee himself. More zealous attorneys may want to eliminate jurors with college degrees or advanced degrees because the opposing party's position is based on highly technical arguments (e.g., the claims are invalid for being obvious over a teachings from a combination of references), while their own position are more accessible to lay-persons (e.g. the claims are valid because the prior art fails to disclose one specific element of the claims, or the infringer acted willfully). Although illegal, certain attorneys may even target prospective jurors based on their national origin, which coincides with the nationality of the opposing party.

At the conclusion of voir dire, all excused prospective jurors have been removed from the venire and a jury is impaneled by randomly selecting the number of jurors required (“not fewer than six and not more than twelve members.”²²⁹) plus several alternate jurors from the venire. Once on the jury, a juror has the privilege to serve on a federal jury and thus exercise a constitutional right. The juror also receives \$40.00 per day for actual attendance at the place of trial,²³⁰ and can receive an allowance for traveling, meals and lodging.²³¹

In addition to the above general provisions, the Jury Act calls for each U.S. district court to “devise and place into operation a written plan for random selection of” juries that achieve the

²²⁷ 28 U.S.C.A. ' 1866 notes of decisions 33.

²²⁸ Id.

²²⁹ FED. R. CIV. P. 48.

²³⁰ 28 U.S.C. ' 1871(b).

objectives and comply with the provisions of the Jury Act.²³² The next section discusses these district court jury plans along with other local rules affecting jury selection.

2. District Court Jury Plans and Local Rules

a. District Court Jury Plans

The purpose of district court jury plans “is to provide approved judicial machinery for selection, without discrimination of federal grand and petit juries and to assure all litigants that potential jurors will be selected at random from a representative cross section of the community and that all qualified citizens will have an opportunity to be considered for jury service.”²³³ Among other things, the plans must specify the list from which the names of prospective jurors are obtained, the procedure for randomly selecting names to be placed in the master jury wheel, the time for this selection, and the questions to be asked in the juror qualification form.

Perhaps most importantly, the jury plan sets out additional qualifications upon which the district court may excuse prospective jurors from the venire. For example, the Southern District of California’s jury plan provides that the following persons may be excused for “undue hardship and extreme inconvenience”:

- “Persons over 70 years of age.”

²³¹ 28 U.S.C. ' 1871(c)-(d).

²³² 28 U.S.C. ' 1863.

²³³ 28 U.S.C.A. ' 1863, note of decisions 1.

- “Any person having active care and custody of a child or children under 10 years of age whose health and/or safety would be jeopardized by absence of such person for jury service; or a person who is essential to the care of aged or infirm persons.”²³⁴

Although not typical, the jury plan for the District of Minnesota excuses the following persons.²³⁵

- “A person whose services are so essential to the operations of a business, commercial, or agricultural enterprise that it must close or cease to function if he is required to perform jury duty.”
- “An actively practicing or engaged full-time attorney.”
- “An actively practicing or engaged full-time physician.”
- “An actively practicing or engaged full-time dentist.”
- “An actively practicing or engaged full-time registered nurse.”
- “An actively practicing or engaged full-time member of the clergy or of a religious order.”²³⁶

Excuses for “undue hardship and extreme inconvenience” tend to eliminate more educated jurors from the venire because more educated persons often have essential professional positions. Accordingly, juries tend to consist predominately of less educated persons who are less likely to be excused. This can be a significant drawback for adjudicating complex patent cases.

²³⁴ Southern District of California’s Rule 83.10 “Jury Selection Plan”, Section f “Qualified Jury Wheel”, paragraph 2 “Excuses on Individual Request”.

²³⁵ The jury plan for the District of Minnesota is not necessarily representative of most jurisdictions but it illustrates the point that jury plans can vary greatly from district to district.

²³⁶ Plan of the United States District Court for the District of Minnesota for the Random Selection of Grand and Petit Jurors (Jan. 1990).

b. Local Rules

In addition to the jury plan, District courts follow local rules that further regulate the jury selection process. For example, local rules may regulate the pre-trial release to counsel of the responses from the jury qualification forms, so as to allow counsel to prepare their challenges during voir dire.²³⁷ The local rules can also specify the system to accommodate the use of the parties' challenges. There are two basic systems in use, namely, the "struck jury" system and the "jury box" system. Under the struck jury system, the parties consider the venire as a whole and exercise their "for cause" challenges first followed by their peremptory challenges. The jury is impaneled after all challenges have been exhausted by randomly selecting jurors from the remaining prospective jurors. Under the jury box system, a temporary jury is first impaneled by randomly selecting prospective jurors from the venire. The parties then exercise their for cause and peremptory challenges one juror at a time. Each excused juror is replaced by another prospective juror from the venire until none of the jurors in the box can be excused. The jurors left in the box at that time form the jury. Other systems, often hybrids of these two basic ones, can also be used.

In addition to a district's official local rules, individual district judges greatly influence the selection of a federal civil jury. For example, judges can decide the number of jurors to sit on juries, the number of prospective jurors to be summoned for a case, the content of the preliminary remarks to prospective jurors.

An important responsibility for the district judge is the format and substance of the voir dire examination of the prospective jurors. This examination is required to provide the information on

which the parties base their respective challenges. The judge can decide to obtain this information using written questionnaires, questions from counsel and the judge, or questions by the judge only. Federal judges typically conduct most or all of the voir dire examination, and optionally allow counsel to pose additional questions directly to the prospective jurors after the court's questioning.²³⁸

c. Challenging the Selection Process

A jury plan or a jury selection procedure can be challenged by the parties on the ground of “substantial failure” to comply with the Jury Act by filing a motion to stay the proceedings either “before the voir dire examination begins, or within seven days after the party discovered or could have discovered, by exercise of diligence,” the basis for the challenge.²³⁹ “If the court determines that there has been a substantial failure to comply with the provisions of [the Jury Act] in selecting the petit jury, the court shall stay the proceedings pending the selection of a petit jury in conformity with” the Jury Act.²⁴⁰

²³⁷ See, e.g., L.R.D.S.C. ' 47.02; L.R.N.D. Oh. Civ. ' 47.2; L.R.W.D. Mich. ' 34 (reported in O'Malley et al., Federal Jury Practice and Instructions, West Group, St. Paul, Mn (2000) at 111-112, note 2.)

²³⁸ O'Malley et al., Federal Jury Practice and Instructions, West Group, St. Paul, Mn (2000) at 128 (footnotes omitted).

²³⁹ 28 U.S.C. ' 1867(c).

²⁴⁰ 28 U.S.C. ' 1867(d).

B. Sample Jury Instructions on Obviousness²⁴¹

The Defendant in this case does not dispute the novelty or utility of the Finney patent.

Therefore, novelty and utility are not at issue.

The Defendant does, however, contend that the invention of the Finney patent would have been obvious to one skilled in the art at the time the invention was made. This, of course, will be the issue for your determination. The requirement that an invention not be obvious is contained in Section 103 of Title 35, U.S. Code, and provides, in part, as follows:

“A patent may not be obtained though the invention is not identically disclosed or described in the prior art if the difference 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 said subject matter pertains.”

Whether the claimed inventions in the Finney patent would have been obvious requires you to make four preliminary factual inquiries:

First: The scope and content of the prior art.

Second: The differences between the claims in the Finney patent and the prior art.

Third: The level of ordinary skill in the prior art.

Fourth: Secondary considerations, if any, of the lack of obviousness.

²⁴¹ These instructions are adapted from jury instructions used in a 1988 litigation between MEC and Mentor Inc. involving a patent to Dr. Finney (the "Finney patent") claiming a ureteral catheter stent. See Medical Engineering Corp. v. Mentor Corp., 10 USPQ2d 1875 (Fed. Cir. 1989) (unpublished opinion).

Secondary considerations are objective evidence of non-obviousness and include such factors as: whether the Finney patent satisfied a long-felt but unresolved need in the medical profession; failure of others to provide a feasible solution to a long-standing problem or need; copying of the Finney patent by others; and the commercial success of the Finney patent.

Inquiry into these secondary considerations is relevant to the issue of obviousness, but not determinative thereof apart from the first three basic factual inquiries which I just mentioned.

Against this factual background, you must decide whether the differences between the prior art, as a whole, and the inventions claimed in the Finney patent are such that the claimed subject matter would have been obvious or not obvious to a person of ordinary skill in the relevant art at the time the invention was made.

Determining obviousness may be accomplished by picturing a hypothetical person of ordinary skill in the pertinent art in a room with all of the relevant prior art. If the structure defined in the claims of the patent in suit would have naturally occurred to this person, then the claimed invention would have been obvious, and the patent is therefore invalid.

In determining obviousness, you must bear in mind three important points:

First: You must determine obviousness at the time the patented invention was made. You cannot use hindsight or after-the-fact considerations to determine what was obvious or non-obvious to one of ordinary skill in the art at the time Doctor Finney made his invention.

Instead, you must go back to the time the invention was made and consider the state of the prior art as it existed at that time.

Second: The fact that a claimed invention appears simple in hindsight does not mean that it would have been obvious. The patent system is not limited to complex inventions. Often the simplicity of new inventions is the very thing that is not obvious before they are made.

Third: The fact that some or all of the elements of a claimed invention already exist in several prior art sources does not make that invention obvious unless there was some teaching or suggestion of the prior art as a whole to suggest the desirability, and thus the obviousness of selecting that combination. The suggestion or teaching in the prior art does not need to be expressed, but may be implied, because the test is what the combined teachings would have suggested to one of ordinary skill in the art.

You have heard testimony concerning the term “prior art.” As used in these instructions, “prior” means prior to July 1977, the date Doctor Finney made his invention. References dated earlier than July 1977 can be prior art. References after July cannot count as prior art. The second part of the phrase “prior art” is, of course, the word “art,” meaning technical art, or industrial art, rather than painting or music or literature. It is not necessary for Mentor to show that Doctor Finney had actual knowledge of any item of prior art. It counts as prior art no matter whether Finney knew of it at the time or not.

As I have just instructed you, in arriving at your decision as to whether the claimed inventions in the Finney patent would have been obvious, you must first determine the scope and the content of the prior art. The scope of the prior art is all the prior art in the field of ureteral stents. It also includes all prior art in other fields reasonably pertinent to the particular problem with which Doctor Finney was involved, as stated by him in his patent application and in the prosecution history of the patent. You

may therefore consider not only all the references cited to the Patent Office, but all prior references which you find pertinent to the problem addressed by Doctor Finney.

In this case, the parties agree that prior art includes all the materials considered by the patent examiner. With respect to two other items, you will have to determine whether they are prior art. Those are the work and talks of Doctor Mardis and Rutner. These references are only prior art if you determine that they were either publicly known or were a printed publication under the patent laws, or if you determine that they were accessible to members of the interested public before July 1977, the date Doctor Finney made his invention.

A drawing or written description of an invention is part of the prior art if it constitutes a printed publication. To be a printed publication for the purposes of patent law requires more than a document just exist. It must have been disseminated or otherwise have been sufficiently accessible, at least to the public interested in the art.

Mentor has the burden of proving by sufficient evidence any such document's dissemination so as to have been available and accessible to persons concerned with the art to which the document related, and thus most likely to avail themselves of its contents.

As I have said, in arriving at your determination of obviousness, you must consider the level of ordinary skill in the pertinent art. A person of ordinary skill in the art is presumed to be one who thinks along the line of conventional wisdom in the art, and is not one who undertakes to innovate. The parties here have agreed that the level of ordinary skill in the art to be applied in this case is that of a medical doctor trained in urology.

In determining obviousness, you must also consider the differences, if any, between the prior art and the claimed invention. It is important to note, however, that although the existence of

differences is one factor to consider in your determination of obviousness or non-obviousness, you must consider the invention as a whole in determining whether it would have been obvious when made.

You must also consider, as I said, the secondary considerations, such as commercial success, or the lack of it, of the Finney patent, long-felt but unresolved needs, failure of others to make the invention, and copying of the invention by others if you find that these factors are applicable. When present, these factors may be cogent evidence on the issues of obviousness. Commercial success is relevant to the issues of obviousness only if you find there is a direct relationship between the merits of the product and the commercial success. Thus, to be relevant, commercial success must arise in a marketplace where consumers are free to choose on the basis of objective principles. It must not be the result of heavy promotion, advertising or other business practices unrelated to the merits of the invention.

The fact that other urologists may have developed stents substantially similar to the stent invented by Doctor Finney at or around the time Doctor Finney did, may also be considered by you in determining the obviousness or non-obviousness of the claimed inventions in the Finney patent. Just as the failure of others to make the invention may be evidence of non-obviousness, the making of an invention by others at or around the same time as Doctor Finney is relevant to the level of skill in the art, and thus can be evidence that the invention would have been obvious.

However, the fact that several inventors working independently came up with the same invention at or around the same time does not by itself preclude a patent from being awarded. The patent laws recognize the possibility of nearly simultaneous invention by two or more equally talented inventors working independently, and provide that the fact of near simultaneous invention does not in and of itself preclude, or rule out, patentability. Contemporaneous development by others may or may

not be an indication of obviousness when considered in light of all the circumstances. It is one possible indicator of obviousness for your consideration.