A Summary Report of Discussions at Town Meetings on Patent Reform

Prepared from Transcripts by Staff of the Federal Trade Commission May 23, 2005

In February and March 2005, the National Academies' Board on Science, Technology, and Economic Policy (STEP), the American Intellectual Property Law Association (AIPLA), and the Federal Trade Commission (FTC) co-sponsored a series of town meetings on patent reform. The first three meetings took place in San Jose, California, on February 18, 2005; Chicago, Illinois, on March 4, 2005; and Boston, Massachusetts, on March 18, 2005.¹ The series will conclude with a conference in Washington, D.C., on June 9, 2005, at which representatives of industry, small business, government, the judiciary, and academia will offer their perspectives on patent reform.²

At each of the first three Town Meetings, the debate and discussion was transcribed. Staff of the FTC reviewed the transcripts of those Town Meetings and prepared this Summary based on those transcripts.³ Accordingly, this Summary presents the views and observations of the participants at the Town Meetings, as expressed in those venues. This Summary does not represent the views of the Commission, any Commissioner, or staff of the Federal Trade

³ The transcripts are available at:

<u>http://www.aipla.org/Template.cfm?template=/ContentManagement/ContentDisplay.cfm&Content</u>

San Jose:

Chicago:

Boston:

¹ Agendas for the February and March 2005 town meetings are available at http://www.ftc.gov/ogc/workshops/patenttownmeetings/index.htm and at www.aipla.org/Content/NavigationMenu/Meetings_and_Events/Seminars/Seminars_and_Road_ Shows.htm

² Information about and an agenda for the June 9 conference can be found at <u>http://www7.nationalacademies.org/step</u>.

http://www.aipla.org/Content/ContentGroups/Meetings_and_Events1/Roadshows/20058/Town Meeting_SanJose_Transcript.pdf;

http://www.aipla.org/Content/ContentGroups/Meetings_and_Events1/Roadshows/20058/Town Meeting_Chicago_Transcript.pdf

http://www.aipla.org/Content/ContentGroups/Meetings_and_Events1/Roadshows/20058/Town Meeting_Boston_Transcript.pdf

Commission.

Background

The town meetings arose from a series of developments over the past two years that have significantly advanced the debate on various patent reform proposals. In October 2003, the FTC released its report entitled, To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy (the FTC report).⁴ In April 2004, the National Academies' STEP Board released its report entitled, A Patent System for the 21st Century (the NAS report).⁵ The AIPLA issued detailed responses to both reports⁶ and prepared legislative proposals. The FTC and NAS reports are comprehensive studies of the United States patent system that recommend major changes to the patent law in order to maintain its proper balance with competition and to revitalize its capacity to provide incentives for innovation. At the town meetings, Bill Rooklidge, president of AIPLA,⁷ urged that the AIPLA, NAS, and FTC recommendations receive careful study as a way forward to make much needed improvements that address the cost, complexity and unpredictability in how patent law operates. He explained that "addressing these common concerns requires a simpler law, more objective legal standards, less need for intensive discovery in the courts to assess the validity of patent rights, and more opportunities for the patenting process to quickly reach the right result, and then promptly address mistakes made in issuing patents."8

The goal of the town meetings was to initiate a discussion among all stakeholders in the patent system on the reform proposals made by the three co-sponsors in the hope of eventually achieving a consensus on the content of needed reforms.⁹ Representatives from the FTC, the National Academies' STEP Board, and the AIPLA conducted the town meetings and moderated the audience-participation sessions. Sessions began with two discussants who briefly introduced each topic to the audience, followed by an extended opportunity for audience members to

⁸ Rooklidge, 2/18 at 1-2.

⁴ Available at http://www.ftc.gov/opa/2003/10/ipreport.htm.

⁵ Available at http://www.nap.edu/html/patentsystem.

⁶ AIPLA Response to the October 2003 Federal Trade Commission Report, *available at* http://www.aipla.org/Content/ContentGroups/Issues_and_Advocacy/Comments2/Patent_and_Tr ademark_Office/2004/ResponseToFTC.pdf. AIPLA Response to the National Academies Report entitled 'A Patent System for the 21st Century,' *available at* http://www.aipla.org/Content/ContentGroups/Issues_and_Advocacy/Comments2/Patent_and_Tr ademark Office/2004/NAS092304.pdf.

⁷ William Rooklidge is a partner with Howrey Simon Arnold & White in the firm's Irvine, California office.

⁹ Rooklidge, 2/18 at 2; Kirk, 2/18 at 24-26; Merrill, 3/4 at 3; Rooklidge, 3/18 at 37-39.

comment on the proposals. The sessions included substantive discussion, which is summarized below, of key reform proposals addressing:

Best Practices: First Inventor to File, Publication, and Related Reforms; Post-Grant Review; Litigation Reform: Willfulness, Inequitable Conduct, and Best Mode; and Shields to Infringement Liability: Prior User Rights and Experimental Use Exception.

In addition to the substantive sessions, audience members heard from keynote and luncheon speakers.¹⁰ Keynote speakers were Will Poole, Senior Vice President, Microsoft, in San Jose; Kenneth Dam, former Deputy Secretary of the Department of the Treasury and now a professor at the University of Chicago, in Chicago; and David Boloker, Chief Technology Officer for Emerging Technology at the IBM Software Group and Cavan Redmond, Executive Vice President and General Manager of the BioPharma Business Unit at Wyeth Pharmaceuticals, in Boston. The Honorable Jon Dudas, Undersecretary and Director, United States Patent and Trademark Office, was the luncheon speaker in Chicago. Other luncheon speakers were Joseph Rolla, Jr., Deputy Commissioner for Patent Examination Policy at the PTO, in San Jose and Adam Jaffe, Professor of Economics and Dean of Arts and Sciences at Brandeis University. Professor Jaffe is coauthor of the book, *Innovation and its Discontents: How our Broken Patent System is Endangering Innovation and Progress, and What to do About it.*

I. Essential Foundation for Reform

Before beginning the four town meeting sessions addressing areas of patent reform, representatives of the co-sponsors explained the need for, and the difficulty in obtaining, an essential foundation for that reform–stable and adequate funding for the Patent and Trademark Office (PTO). Michael Kirk, executive director of AIPLA, stated there is no disagreement on this point. The FTC report recommended that the PTO receive funds sufficient to enable it to ensure quality patent review.¹¹ The NAS report cited the "double bind" faced by the PTO. "The quality of its output is often questioned and its decisions are widely considered to take too much time."¹² According to the report, more resources are clearly required. Expanding the examiner corps to respond to these concerns will present a substantial additional cost. So too will implementing a post-grant opposition procedure, as recommended by the three co-sponsors.¹³

¹⁰ This summary does not include a report on the remarks of these speakers, but transcripts of the town meetings, including those remarks, can be found at

http://www.aipla.org/Template.cfm?template=/ContentManagement/ContentDisplay.cfm&ContentID=7974.

¹¹ FTC IP report, Executive Summary at 12-13.

¹² NAS report at 103-104.

¹³ NAS report at 107; Kirk, 2/18 at 26-27; DeSanti, 3/4 at 22-23; Rooklidge, 3/18 at 39-41.

The PTO is funded through the collection of fees, but for many years it has not received appropriations equal to the amount of fees it collects. For instance, in fiscal year 2004, the PTO raised \$1.3 billion in fee revenues but was appropriated only \$1.2 billion, with \$100 million going into the general treasury. The situation improved in fiscal year 2005, however. The President recommended that the PTO increase its fees and that all of the fee revenue be retained by the Office. The PTO was appropriated \$1.55 billion, which is the amount the PTO expected to receive in fees. It now expects to receive approximately \$8 million more than that in fees, which will go to the general treasury. For fiscal year 2006, the President has again requested that all of the fee revenue collected go to the PTO, about \$1.7 billion, although it remains to be seen whether Congress will follow that recommendation. The recent increase in PTO fees made through the appropriations bill applies only for fiscal years 2005 and 2006. The uncertain fee level and the possibility of future fee diversion makes PTO's future funding status uncertain.¹⁴

The presenters raised another difficulty which the PTO would face in implementing the recommended patent reforms. The appropriations bill was very specific about hiring at the PTO. The bill required that the agency hire *at least* a specified number of new employees for the examination and searching of patent applications. It went further, however, in *limiting* the number of new employees that could be hired into other areas of the agency, which include administrative patent judges. This could present a particular problem for implementing the recommendations discussed below that would necessitate expanding the board of administrative patent judges.¹⁵

Participants commented throughout the town meetings on the need for stable and adequate funding for the PTO in order to improve patent quality and implement proposed patent reforms. Gerald Mossinghoff¹⁶ asserted that conversion of the Patent Office to a government corporation would allow for more stable and adequate funding of the agency and increase its ability to engage in long-range planning.¹⁷

¹⁴ Kirk, 2/18 at 27-28; DeSanti, 3/4 at 24; Rooklidge, 3/18 at 41.

¹⁵ Kirk, 2/18 at 28-30; DeSanti, 3/4 at 25; Rooklidge, 3/18 at 41-42.

¹⁶ Gerald Mossinghoff is a partner with Oblon, Spivak, McClelland, Maier & Neustadt in Alexandria, Virginia. He is a former Commissioner of the Patent and Trademark Office.

¹⁷ Mossinghoff, 3/18 at 66-67.

II. Best Practices: First Inventor to File, Publication, and Related Reforms

In the first substantive session of the San Jose town meeting, Robert Armitage¹⁸ and Yar

¹⁸ Robert Armitage is Senior Vice President and General Counsel for Eli Lilly and Company. He is also co-chair of AIPLA's Committee on Patent Legislative Strategies.

Chaikovsky¹⁹ presented proposals related to a first inventor to file patent system, publication of all patent applications 18 months after filing, and other "best practices." Robert Armitage and Gerald Mossinghoff presented those topics in Chicago and Boston.

A. First-to-File and Related Reforms

As an important step toward harmonizing the U.S., European, and Japanese patent systems, and achieving efficiencies from that harmonization, the NAS report urges that the U.S. award patents to the first inventor to file a patent application claiming an invention, rather than to the inventor who can establish that he was the first to invent.²⁰ Under the current U.S. "first-to-invent system," when two inventors file applications on the same invention, the PTO institutes an elaborate, costly, and slow administrative process called an interference to determine which inventor conceived of and practiced the invention first. The NAS report states that because no other country uses the first-to-invent system, foreign countries view U.S. acquiescence to a first-to-file system as a cornerstone of international harmonization. AIPLA strongly supports U.S. conversion to a first-to-file system. AIPLA and the NAS report agree that the time and expense required for interference proceedings are wasteful and rarely change the outcome of which party owns the patent because the first party to file a patent application typically wins the interference. A first-inventor-to-file system is also supported by the ABA Intellectual Property Law Section, the National Association of Manufacturers, the Intellectual Property Owners Association (IPO), the Biotechnology Industry Organization (BIO), and the Business Software Alliance.²¹

At the town meetings, Robert Armitage presented AIPLA's proposal of the "best practices" for implementing a first-inventor-to-file system. He explained that best practices strive to create a patent system that is predictable, economical, prompt, fair for all stakeholders, and balanced, unlike the current system, which contains significant uncertainty and litigation expense. In a best-practices system, a person of ordinary skill in the art could review a patent, its prosecution history, and readily accessible prior art, and make a certain determination of what is patentable. Armitage admitted that today's patent system has not reached that ideal, in part, because patent law includes many inquiries into the inventor's mental contemplations, which are not accessible to the public. The proposed best practices, including conversion to a first-inventor-to-file system, would eliminate those inquires and focus on public knowledge.²²

Armitage next discussed operation of the proposed first-inventor-to-file system and related reforms to the status of prior art. The AIPLA proposal requires that any prior art or knowledge used to invalidate a patent be publicly accessible, as that standard is currently applied

¹⁹ Yar Chaikovsky is a partner with Weil, Gotshal & Manges in the firm's Silicon Valley office.

²⁰ NAS report at 124-27.

²¹ Armitage, 3/18 at 52.

²² Armitage, 2/18 at 33-38; 3/4 at 38-40; 3/18 at 52-56.

in the law. As such, the proposal would modify 35 U.S.C. § 102 to eliminate categories of "secret" prior art not known to the public, such as the inventor's or another's nonpublic use of the invention, and non-public information that the inventor learned from others. This latter change would overrule the Federal Circuit's decision in *Oddzon Prod., Inc. v. Just Toys, Inc.*²³ The proposal also eliminates the on-sale bar of section 102. The AIPLA proposal preserves the one year grace period in U.S. law, so that an inventor's own public disclosure about his invention could not invalidate a patent application filed within a year of that disclosure. Finally, the proposal would amend the Patent Act to make clear that only an inventor could apply for and be awarded a patent, to guard against theft of an invention.²⁴ There could still be disputes concerning which party was the true inventor, and which simply derived the invention from the other. The Board of Patent Appeals and Inferences would continue to adjudicate those disputes, as it does now.²⁵

At the town meetings, Mossinghoff began by presenting data that demonstrated the impact of the current first inventor system on small entities (defined as independent inventors, nonprofit institutions, and businesses with 500 or fewer employees) between 1983 and 2004. In that period, the Patent Office issued 2.5 million patents, and about 3,000 interference decisions. From those decisions, 286 small entities won interference proceedings even though they had been the second to file their patent applications. In Mossingoff's terms, these small entities were "advantaged" by the first-to-invent system. During the same period, 289 small entities lost interference proceedings even though they were the first to file their patent applications. They were "disadvantaged" by the first-to-invent system. Mossingoff described the data as "very, very close to parity." He then broke down the data further. For nonprofit institutions, 50 were advantaged and 30 were disadvantaged by the current first-to-invent system. For small businesses, 97 were advantaged and 92 were disadvantaged by the current system. For independent inventors, 139 were advantaged and 167 were disadvantaged by the current system.²⁶

Mossinghoff asserted that the U.S.'s current first-to-invent system works to the disadvantage of small entities. Interference proceedings are more often used by large entities to challenge the priority of small entities, rather than the reverse, a point also made by Chaikovsky.²⁷ Presumably, this is because large, sophisticated entities are more likely to understand the arcane interference process and use it to their advantage. In addition, interference

²³ 122 F.3d 1396, 1403-04 (Fed. Cir. 1997) (nonpublic information learned by the inventor that qualifies as prior art under 35 U.S.C. § 102(f) may be considered in an obviousness determination under 35 U.S.C. § 103).

²⁴ Armitage, 2/18 at 47-51; 3/4 at 42-44; 3/18 at 57-61.

²⁵ Mossinghoff, 3/18 at 63; Armitage, 3/18 at 63-64.

²⁶ Mossinghoff, 3/18 at 43-46. He presented similar data for the period 1983-2000 at 3/4, 30-31.

²⁷ Chaikovsky, 2/18 at 47.

proceedings are expensive and can divert the attention of inventors from their innovative work. (Robert Armitage posited that an interference could cost the parties up to $500,000 \text{ each.}^{28}$ In spite of this, only one case in four is won by the second party to file its patent application. In the other cases, the interference proceeding awards the patent to the first inventor to file a patent application, but in the meantime, the public must wait years to know who will own the patent and who might be excluded under it, Mossinghoff argued.²⁹

Finally, Mossinghoff maintained that the U.S. should convert to a first-inventor-to-file system to promote harmonization with the patent law of other countries. He observed that the United States is the only member of the World Intellectual Property Organization that adheres to a first-to-invent, rather than a first-inventor-to-file system, and U.S. conversion would be a necessary first step. Harmonization is necessary to allow the U.S., European, and Japanese Patent Offices to share the work of examining patent applications in order to handle the flood of applications and lower the pendency of unexamined applications.³⁰

Audience Comments on First-Inventor-to-File

Much of the audience discussion concerning the first-inventor-to-file proposal focused on whether that system would disadvantage small entities relative to large firms. An informal poll in San Jose showed that approximately half of the participants represented small entities, and that approximately half of that group favored conversion to a first-inventor-to-file system. In Chicago, approximately two-thirds of the audience indicated they represented small entities, and slightly less than half of that group favored the first-inventor-to-file system.³¹

Many representatives of small entities who felt that a first-inventor-to-file system would disadvantage them complained that, because they did not have the resources to devote to preparing a patent application that a larger firm would have, they were likely to lose the race to develop the invention and file first.³² One participant expressed support for a first-inventor-to-file system, but agreed that companies with more resources might be able to prepare an application more quickly, and that that concern should be addressed.³³ Another commented that it was valuable to have time to consider the commercial usefulness of an invention before

²⁸ Armitage, 3/4 at 41.

²⁹ Mossinghoff, 3/4 at 32-34; 3/18 at 46-48; Armitage, 2/18 at 44-46.

³⁰ Mossinghoff, 3/4 at 28, 90; 3/18 at 46, 48-49, 97; Kirk, 3/4 at 69-70; Armitage, 3/4 at 70-71.

³¹ Chaikovsky, 2/18 at 102-03; Kirk, 3/4 at 68.

³² French, 2/18 at 59; Figueroa, 2/18 at 66; Megley, 3/4 at 75; de Angeli, 3/18 at 64; Rines, 3/18 at 79-80.

³³ Apple, 2/18 at 83.

deciding whether to take on the expense of a patent application.³⁴ A representative of a university expressed the opinion that a first-inventor-to-file system disadvantaged non-profits because their process from research idea to patent application was more attenuated than that of corporations, and naturally slower.³⁵

Not everyone agreed, however. Patent counsel for a small company, who had experience with large and small corporations, stated he had found no correlation between the size of the company and the speed and frequency at which it could file patent applications. Large companies may be quite slow for bureaucratic reasons, or selective with their budgets, whereas small companies sometimes file quickly. He did, however, acknowledge a "threshold" level of resources that an independent inventor must reach before being able to participate effectively in the patent system.³⁶

Bob Armitage responded to the debate by stating that the large expense of an interference proceeding also disadvantaged small companies. That, along with the infrequency with which a second application filer succeeds in an interference proceeding, already provide a huge incentive to patent applicants to be the first to file. Converting the U.S. would not actually change the behavior and operations of patent applicants, he maintained.³⁷ A representative of a pharmaceutical company wondered if conversion to a first-inventor-to-file system would, in fact, lessen the number of disputes and the money spent on them. He posited that instead of arguing about who was the first inventor, parties might instead litigate whether the first filer's earlier publication was sufficient to enable the invention and, therefore, served as invalidating prior art to the later filer's application.³⁸

Participants raised other objections to a first-inventor-to-file system. One expressed concern that it might lead to more hastily drafted applications that would be of lower quality.³⁹ Mossinghoff responded that provisional applications might solve that problem.⁴⁰ An audience member suggested that, in a first-inventor-to-file system, patent fees could be structured to include a minimal filing fee, and have search and examination fees levied later. This would give applicants time to consider whether to pursue an application before incurring substantial fees,

³⁴ Figueora, 2/18 at 66.

³⁵ Simpson, 2/18 at 83-84.

³⁶ Stone, 2/18 at 84-85; Toth, 2/18 at 98-99.

³⁷ Armitage, 2/18 at 60-61; 2/18 100-102; 3/4 at 55-56.

³⁸ Millman, 3/18 at 95-96.

³⁹ Thomason, 3/4 at 54.

⁴⁰ Mossinghoff, 3/4 at 54.

even though they may feel pressure to file quickly.⁴¹

Audience members who were involved in patent prosecution in the biotech field expressed some concern about conversion to a first-inventor-to-file system. They explained that patent law's written description requirement (35 U.S.C. § 112) required that patents having broad biotech claims contain substantial data and description to support the claims, and that the time required for a company to produce that information might cause it to lose its ability to file the first application on that subject matter.⁴²

Participants at different locations questioned whether a first-inventor-to-file system would be constitutional in light of the Constitution's requirement that Congress reward "inventors."⁴³ Armitage responded that the Constitution requires Congress to enact a patent law that only rewards inventors, the intellectual creators of the patented subject matter, and that a first-inventor-to-file system would do that.⁴⁴ On another technical point, an exchange between participants highlighted the need for careful drafting of the provisions that would cover the transition from a first-to-invent to a first-inventor-to-file system.⁴⁵

Audience Comments on Related Reforms

Participants questioned whether the other changes to patent law's novelty provisions (35 U.S.C. § 102) presented as part of the AIPLA proposal were necessary for conversion to a first-inventor-to-file system.⁴⁶ Armitage explained that some of the changes were aimed at simplifying patent law to make it more predictable and less expensive to litigate, as part of "best practices," although they were not all necessary to a first-inventor-to-file system.⁴⁷

Audience members also questioned the AIPLA proposal to modify 35 U.S.C. § 102 by eliminating the on-sale bar, and in particular, the manner in which that amendment would change the current state of the law by allowing the patenting of a process that was kept secret but which

⁴¹ Bone, 2/18 at 96-97; Toth, 2/18 at 99.

⁴² Church, 2/18 at 58-59; French, 2/18 at 59.

⁴³ Vogele, 2/18 at 53; Detkin, 2/18 at 82; Mayer, 3/4 at 46.

⁴⁴ Armitage, 3/4 at 47-48.

⁴⁵ 3/4 at 60-63.

⁴⁶ Duston, 3/4 at 49-50.

⁴⁷ Armitage, 3/4 at 50-52.

had been used to make products for sale for more than one year.⁴⁸ Bob Armitage responded that the focus of the issue would change from whether the invention was on-sale to whether it was publicly accessible. For instance, if a sold product could be reversed engineered with reasonable efforts to reveal encrypted software, that software invention would be considered prior art.⁴⁹ He noted that a first-inventor-to-file system provided a strong incentive to inventors to file applications as quickly as possible, and so there was no need for an on-sale bar provision.⁵⁰ Bill Rooklidge explained that the proposal presents a policy choice of sacrificing the current bar against secret commercialization in order to further the policy of being able to more clearly and definitively identify prior art.⁵¹ Chaikovsky commented that the proposal could lead to significant litigation over what was secret versus publicly accessible.⁵²

B. Publication of Patent Applications

With enactment of the American Inventors Protection Act in 1999, the U.S. began publishing most patent applications 18 months after their filing. However, the act allowed applicants to "opt-out" of publication if they did not seek corresponding foreign patents. The FTC IP report and the NAS report recommend that the United States publish all patent applications 18 months after filing, rather than allowing an exception for those applications not filed abroad.⁵³ PTO statistics indicate that approximately 10% of applicants opt-out of publication.⁵⁴ Publication appears to have increased business certainty and promoted rational planning, as well as reduced the problem of "submarine patents" used to hold-up competitors for unanticipated royalties by providing early disclosure of potential patents. Publishing all applications would strengthen that benefit. At the town meetings, Armitage stated that AIPLA agrees with this recommendation.⁵⁵

Armitage also explained that the "opt-out" provision was included based on a fear among some independent inventors that publication of applications, before a patent issues, might lead to theft of their inventions. In his view, recent experience with publication has shown that it does

⁴⁸ Minihane, 2/18 at 67-68; Abramowitz, 3/4 at 71-73.

⁴⁹ Armitage, 2/18 at 69-70.

⁵⁰ Armitage, 3/4 at 50-52.

⁵¹ Rooklidge, 3/4 at 74.

⁵² Chaikovsky, 2/18 at 71.

⁵³ FTC IP report, Executive Summary at 15-16; NAS report at 128.

⁵⁴ Mossingoff, 3/18 at 76.

⁵⁵ AIPLA Response to FTC IP report at 35; AIPLA Response to NAS report at 46-47.

not increase that problem. He emphasized that in a first-inventor-to-file system, theft is less of a concern, because once an application is filed, no one can claim rights to the subject matter based on a later-filed application.⁵⁶

Audience Comments on the Publication of Patent Applications

Audience discussion of 18-month publication focused on its effect on independent inventors. An independent inventor suggested that he would be more comfortable with publication of all applications if the pendency of applications was reduced to 18 months. That would eliminate the fear that a large corporation would read the application and use or design-around the invention long before a patent could issue.⁵⁷ Another agreed that the ability to opt-out of publication continued to be important to independent inventors, who need protection from disclosure while an application is pending.⁵⁸ A representative of individual inventors commented that his clients are not concerned about 18-month publication because they often file foreign applications,⁵⁹ although another took issue with that.⁶⁰

One audience member commented that an inventor loses trade secret rights in the application at publication, and thought that publication could harm small inventors who would be forced to decide between trade secret and patent protection before they have sufficient information.

III. Post-Grant Review

At the town meetings in San Jose and Boston, Bronwyn Hall⁶¹ and Don Martens⁶² presented proposals for a post-grant opposition proceeding. Don Martens and David Kappos⁶³ undertook that task in Chicago.

⁵⁸ Rines, 3/18 at 79.

⁵⁹ de Angeli, 3/18 at 64.

⁶⁰ Rines, 3/18 at 79.

⁶¹ Bronwyn Hall is Professor Economics at the University of California at Berkeley. She is also a member of the STEP committee that published the NAS report on the patent system.

⁶² Don Martens is a founding partner with the law firm of Knobbe, Martens and Olson & Bear and he is currently Co-Chair of the AIPLA Legislative Strategies Committee.

⁶³ David Kappos is the Assistant General Counsel Intellectual Property at IBM.

⁵⁶ Armitage, 2/18 at 41-42, 90-91; 3/4 at 41; 3/18 at 56, 86, 90-91.

⁵⁷ Fegueroa, 2/18 at 94.

There is broad support in the business and patent communities for creation of an administrative post-grant opposition procedure, which the FTC report⁶⁴ and the NAS report⁶⁵ both recommended. The PTO,⁶⁶ AIPLA, the ABA's Intellectual Property Law Section, the Business Software Alliance, BIO and IPO have all announced their support, although some groups disagree on the details for implementing the procedure.⁶⁷ The proposed post-grant opposition procedure would allow third parties to challenge the validity of an issued patent through an administrative proceeding in the PTO before an administrative law judge. The requester could argue that the patent is not novel, is obvious, lacks utility, or is not properly disclosed. The FTC report and the NAS report suggest allowing limited discovery and cross-examination, although the PTO would have discretion to design the procedures.

Bronwyn Hall, in San Jose and Boston, and Don Martens, in Chicago, described the problems that the proposed post-grant opposition procedure was intended to address. Hall explained that the volume of patent applications and the rate of patent grants in the United States has been rising in past years and is significantly higher than that in Europe. Some have suggested that the standard of patentability within the U.S. has declined, and there is near consensus in the academic literature that it is too low for a number of reasons, including insufficient resources at the Patent Office, she continued. As Martens explained, the Patent Office often does not have access to, or the ability to find, the most pertinent prior art, especially in newly developing and patentable technologies, such as business methods. "[I]n this environment, inevitably, questionable patents are going to issue."⁶⁸

Hall and Martens explained that the rationale behind an opposition system is to improve the quality of issued patents by allowing those with the best knowledge of the technology, the patentee's competitors, to submit prior art to the Patent Office and to explain its relevance. An opposition system would also provide early feedback to the Patent Office as to what art it was missing and which initial validity determinations were in error, which would assist it in improving its operations. This would be particularly helpful when the office faces applications in a new area, such as software.⁶⁹

⁶⁴ FTC IP report, Executive Summary at 7-8; Chapter 5 at 17-24.

⁶⁵ NAS report at 95-103.

⁶⁶ United States Patent and Trademark Office 21st Century Strategic Plan, *Post-Grant Review of Patent Claims* (April 2, 2003), *available at* http://www.uspto.gov/web/offices/com/strat21/action/sr2.htm.

⁶⁷ Martens, 3/4 at 116, 3/18 at 125.

⁶⁸ Martens, 3/4 at 117.

⁶⁹ Martens, 3/4 at 118.

As Martens stated, the need for an opposition procedure arises because the existing procedure allowing third parties to challenge patent validity in the PTO, inter partes re-examination, has seldom been used. The reasons include its limitations on the patentability issues that can be raised, an overly-broad estoppel provision, and the fact that the re-examination is conducted by an examiner rather than an administrative patent judge trained in the law. The opposition proposal addresses those perceived short-comings, as discussed below.⁷⁰

The goal of the proposed post-grant opposition system is to test the validity of questionable patents early, and at a reasonable cost.⁷¹ Patents that are revoked in opposition cannot be litigated, which provides a substantial savings to the parties and society. According to Hall, empirical research comparing U.S patent litigation and opposition proceedings in Europe on corresponding patents demonstrates that an opposition system can function as a substitute for litigation. She acknowledged that there is some concern about the time and cost of an opposition proceeding, but they are expected to be lower than litigation. Her own research suggests that a post-grant opposition procedure can potentially save significant resources by avoiding the high costs of litigation.⁷²

Don Martens, in San Jose and Boston, and David Kappos, in Chicago, presented the details of AIPLA's proposal on how to structure a post-grant opposition procedure. They began by explaining that the proposal represented a difficult and delicate balance between the competing interests of patent owners, who wished to avoid harassment, and their competitors, who required adequate incentives to use the process.⁷³ The AIPLA proposal allows an opposition proceeding to be filed only within the first nine months after a patent issues. The patent is enforceable throughout the nine month window and any opposition proceeding.⁷⁴ Martens acknowledged that some in the patent community believe the proceeding should be available for a longer or additional period, such as when the patentee asserts the patent, but that AIPLA rejected that idea on the grounds that the system should serve as "quality assistance" at the initial stage of the patent grant, and not as a substitute for litigation. The limited window encourages competitors to bring prior art to the Patent Office promptly and to provide "quiet title" to the patent early, he argued. In addition, AIPLA views the nine month window as limiting the likelihood that a patentee could be harassed by a larger entity through oppositions.⁷⁵

⁷⁰ Martens, 3/4 at 118.

⁷¹ Martens, 3/4 at 118.

⁷² Hall, 2/18 at 123-24; 3/18 at 123-24.

⁷³ Martens, 2/18 at 125; 3/18 at 126-27; Kappos, 3/4 at 120-21.

⁷⁴ Martens, 2/18 at 132-33; 3/18 at 167.

⁷⁵ Martens, 3/4 at 149.

some experience with the new procedure.⁷⁶

The grounds for opposition would be substantially broadened compared to the current reexamination procedure to include issues such as utility, enablement and the written description requirement (35 U.S.C. § 112), in addition to validity issues based on prior art.⁷⁷ The opposer would bear the burden of showing invalidity by a preponderance of the evidence. Martens described this standard, which applies during prosecution in the PTO, as appropriate because he viewed the opposition period as a continuation of prosecution, rather than as a substitute for litigation, which applies a clear and convincing standard.⁷⁸ A panel of three administrative patent judges would decide the matter. Either party could appeal the decision to the Federal Circuit, based on the record before the Patent Office.⁷⁹ Estoppel would be limited to issues actually decided, rather than issues that were or could have been raised, as applies in reexamination proceedings.⁸⁰

The proposed process requires the "front-loading" of evidence on both sides in order to avoid a "fishing-expedition." All of the opposer's evidence must be filed with its request, and all of the patentee's evidence must be filed with its response. Declarations from fact and expert witnesses are permitted and discovery is limited to deposition of declarants. The patent owner could amend its claims once, but not broaden them. Amendments are limited to preserve the efficiency of the procedure, which must be completed within one year.⁸¹

Finally, Martens described how the post-grant opposition proposal is related to other patent reform proposals discussed at the town meetings. Publication of all patent applications 18 months after filing would provide more notice to competitors, who must decide whether to oppose a patent within nine months of the time it issues. Reform of the willful infringement doctrine is also necessary so that it does not provide a disincentive to companies to read patents, which would result in companies not using the opposition proceeding. (Participants echoed this point.⁸²) Robert Armitage stressed that a cost-effective opposition system requires that the U.S. convert to a first-inventor-to-file system and simplify the status of prior art, as discussed at an

⁷⁶ Martens, 2/18 at 126-27; 3/18 at 127, 132-33; Kappos, 3/14 at 122.

⁷⁷ Kappos, 3/4 at 124.

⁷⁸ Martens, 2/18 at 156; Kappos, 3/4 at 125-26.

⁷⁹ Hall, 3/18 137-39; Martens 3/18 at 139.

⁸⁰ Martens, 2/18 at 128-30; 3/18 at 129-30; Kappos, 3/4 at 126.

⁸¹ Martens, 2/18 at 127; 3/18 at 128-31; Kappos, 3/4 at 122, 124-25.

⁸² Martens, 2/18 at 131; 3/18 at 132-33; Sobon 2/18 at 136-37; Haughey, 2/18 at 152; Manspeizer, 3/4 at 136.

earlier session, so that the opposition proceeding would be able to address any patentability issues that could be raised in litigation.⁸³ Of course, institution of a post-grant opposition procedure would require adequate and stable funding of the PTO, along with the Office's committeent to quality in the procedure.⁸⁴

Audience Comments on Post-Grant Review

The views of audience members varied significantly on the question of when the opposition period should be available. Many felt that it was essential to allow accused infringers the opportunity to pursue an opposition proceeding in the PTO after the initial nine month window proposed by AIPLA.⁸⁵ Some argued for a second window that would open if the patentee asserted its patent, and the alleged infringer wished to challenge the patent's validity in a post-grant opposition procedure. Supporters of a second window made the point that in some industries, such as software, it is impossible to monitor every newly issued patent. Moreover, it is difficult to decipher what claims cover because of a lack of standardized terminology in the field. Accordingly, some argued, in some industries competitors cannot know how a patentee will assert a patent until it actually does.⁸⁶ One participant suggested that requiring an opposer to demonstrate validity by clear and convincing (rather than preponderance of the) evidence would provide a fair balance in allowing the second opposition window based on threat of suit.⁸⁷

Others opposed a second window based on the patentee's asserting its patent because it would leave a "cloud" of uncertainty hanging over the patent, beyond the initial opposition period, anytime the patentee exploited its property right.⁸⁸ There was also some concern among proponents of the AIPLA proposal that allowing the second window would result in so many oppositions being filed that it could overwhelm the Patent Office before it had the experience needed to efficiently administer the proceeding and, therefore, it would be better to begin with one,more limited window.⁸⁹

An informal poll showed audience members in San Jose to be evenly split on the question of whether there should be only one window for bringing an opposition proceeding following the

⁸⁶ Dinius, 2/18 at 140-41; Purvey, 2/18 at 152.

⁸⁷ Byerly, 2/18 at 149.

⁸⁸ Jaggi, 2/18 at 134-36.

⁸⁹ Kappos, 3/4 at 152.

⁸³ Armitage, 2/18 at 137-39.

⁸⁴ Martens, 3/4 at 127-28.

⁸⁵ Dinius, 2/18 at 140-41.

patent's issuance, or whether a second window should be allowed when the patentee asserts the patent. 90

Some audience members expressed concern about the length and cost of an opposition proceeding. They worried that during a lengthy proceeding a company would be unable to license its patent or generate capital based on it for practical reasons.⁹¹ They also worried about the cost, especially where multiple parties may oppose the patent, and where multiple issues are involved.⁹² Don Martens responded that the limits on expert testimony and discovery in the AIPLA proposal would hopefully allow the issues to be addressed without adding significant costs.⁹³

Representatives of small companies and independent inventors who spoke, for the most part, opposed creation of a post-grant opposition proceeding. They argued that bigger companies with more resources could oppose the patent and create expenses that would significantly burden the patentee.⁹⁴ They saw this as an especially unfair burden on the patentee at a time shortly after the patent had issued, before it had generated any licensing revenue, and even before a patentee may have reached a decision about whether to assert the patent and against whom.⁹⁵

Some opponents of a post-grant opposition proceeding argued that concerns about the high cost of litigation were better attacked directly,⁹⁶ perhaps by encouraging use of mediation.⁹⁷ Another questioned whether an opposition proceeding would be adequately funded and suggested that reexamination procedures be modified to make them more attractive instead.⁹⁸ Others suggested that if a post-grant opposition system is intended as a response to the issuance of questionable patents, a better response would be to adequately fund the Patent Office to "get it

⁹⁰ Martens, 2/18 at 141.

⁹¹ Millman, 3/18 at 145.

⁹² Millman, 3/18 at 145-46; Vickrey, 3/4 at 132.

⁹³ Martens, 3/18 at 147.

⁹⁴ Vickrey, 3/4 at 132.

⁹⁵ de Angeli, 3/18 at 147-49; Holub, 3/18 at 153-58; Vickrey, 3/4 at 143.

⁹⁶ de Angeli, 3/18 at 150-52.

⁹⁷ Rines, 3/18 at 168.

⁹⁸ Minihane, 2/18 at 148.

right the first time."⁹⁹ Professor Wes Cohen responded to this latter point by explaining that an opposition proceeding was an efficient way of identifying those patents that were potentially economically significant and devoting more resources to examination of those, rather than spending an inordinate amount of resources by increasing the examination quality for every patent when the great majority would never attain economic significance.¹⁰⁰

Supporters of the post-grant opposition proceedings responded to some of these concerns. Proponents of the AIPLA proposal argued that it included safeguards against the overburdening of small entities. For instance, front-loading the evidence and limiting the time for the proceeding would hopefully limit costs. Also, if the PTO determines that the opposer did not meet a certain threshold, it can dismiss the matter without requiring a response from the patentee.¹⁰¹ Representatives of larger firms stated that it was unlikely their companies would spend resources to challenge a patent without good cause.¹⁰² Proponents of the proposal also responded that it would ultimately be less expensive for small entities to defend patent validity in an opposition proceeding than in litigation, and therefore an advantage to them. The patent would emerge from the opposition proceeding stronger.¹⁰³ Some representatives of small firms agreed.¹⁰⁴

Many participants who supported institution of a post-grant opposition proceeding had questions about how it would work. Some audience members questioned how frequently an opposition procedure would be used. There was consensus among panelists and audience members that a U.S. opposition system would be used significantly less frequently than the European system, but there was no consensus on what that rate would be. In Europe, eight percent of issued patents are challenged in opposition, but that high rate is likely due to the fact that opposition provides the sole means to challenge a patent without litigating in individual European countries.¹⁰⁵

Another group of comments focused on technical aspects and details of the proposal. A patent attorney with experience in the biotech sector felt that the limitations in the AIPLA proposal requiring that the opposer and patentee provide all evidence in their first submissions

⁹⁹ Vickrey, 3/4 at 131-32; Gardner, 3/4 at 146.

¹⁰⁰ Cohen, 3/4 at 135; DeSanti, 3/4 at 157-60.

¹⁰¹ Armitage, 3/4 at 144.

¹⁰² Tuytschaevers, 3/18 at 162-63.

¹⁰³ Martens, 3/4 at 133-34; 3/18 at 135-36; 3/18 at 148-49; Rai, 3/18 at 134-36.

¹⁰⁴ Scott, 3/18 at 165.

¹⁰⁵ Williams, 3/18 at 142-43; Hall, 3/18 at 143-44; Martens, 3/18 at 144.

was too aggressive and unfair. The limits may not provide a patentee sufficient time to generate additional experimental evidence, and allowing further claim amendments might lead the parties to an agreed-upon view of the claims and dismissal of the opposition.¹⁰⁶ Another suggested looking to the European opposition system for ways to add more flexibility to the claim amendment process.¹⁰⁷

A patent attorney questioned whether opposition proceedings could be effective if the patentee were allowed to pursue a simultaneous reissue proceeding where it could seek broader claims and address the prior art raised by the opposer. Martens replied that the PTO would have discretion to address the problem of parallel proceedings, but that the point required further consideration.¹⁰⁸ An audience member commented that review under the preponderance of the evidence standard would provide an incentive for opposers to use the system and to submit all of the prior art of which they were aware, rather than hold it in the event of litigation.¹⁰⁹ One participant emphasized the need for skilled judges who would engender confidence in the system.¹¹⁰

Finally, an audience member suggested setting the opposer's fee for filing the suit high enough to discourage frivolous oppositions, but not so high as to impose a barrier to meritorious ones, suggesting \$25,000.¹¹¹ A representative of independent inventors doubted that this tactic could work to prevent their harassment by large companies, who could afford the fee.¹¹²

IV. Litigation Reform: Willfulness, Inequitable Conduct, and Best Mode

The third session of the town meetings addressed patent litigation reform, and in particular, proposals to eliminate or limit three subjective elements of patent litigation, the doctrines of willful infringement, inequitable conduct, and the best mode requirement. Jim Pooley¹¹³ introduced the proposals in each of the three locations. A federal district court judge served as a discussant in each location: Judge Lee Yeakel of the Western District of Texas in

¹⁰⁶ Svensson, 2/18 at 149-50.

¹⁰⁷ Simpson, 2/18 at 153.

¹⁰⁸ Asher, 3/18 at 139-40; Martens, 3/18 at 141/

¹⁰⁹ Haughey, 2/18 at 153.

¹¹⁰ Rice, 2/18 at 146.

¹¹¹ Manspeizer, 3/4 at 136.

¹¹² Vickrey, 3/4 at 143.

¹¹³ Jim Pooley is a partner in the law firm of Milbank Tweed Hadley & McCloy.

San Jose; Judge James Rosenbaum of the District of Minnesota in Chicago; and Judge Patti Saris of the District of Massachusetts in Boston.

A. The Cost and Unpredictability of Patent Litigation

Much of the impetus for the proposals to eliminate or limit the subjective elements of litigation, and much of the discussion at the town meetings, centered on the desire to make patent litigation less costly and more predictable. At the town meetings, Pooley stated that patent litigation is typically very expensive and perceived to be quite unpredictable. On average, it costs several million dollars to litigate a patent case through trial, with discovery accounting for most of the cost.¹¹⁴ Subjective elements of patent doctrine (willful infringement, inequitable conduct, and the best mode requirement) contribute significantly to both the expense and the unpredictability, Pooley explained. They add to the cost by expanding the scope of discovery beyond objective criteria, and they increase unpredictability by their very nature as subjective issues.¹¹⁵

Pooley emphasized that the impact of the cost and unpredictability of patent litigation reaches far beyond the relatively few cases that complete a jury trial, because the course of potential litigation informs "thousands and thousands of transactions." Firms facing an asserted patent must decide whether to take a license, and at what fee, under the shadow of the uncertainty and cost that would be involved in challenging the patent. Litigated patent cases are simply the "tip of the iceberg" consisting of patent licensing transactions. He suggested that reform of the subjective elements of patent litigation would make the transactional costs associated with patents more "rational."¹¹⁶

Pooley's remarks were consistent with the findings of the NAS and FTC reports. The NAS report found that the high and rising cost of patent litigation and the inordinately long time required to resolve patent cases in the courts distort the system's operation.¹¹⁷ The FTC report also recognized that the time and expense of patent litigation can adversely affect competition. If a competitor chooses to negotiate a license and to pay royalties on a questionable patent to avoid costly and unpredictable patent litigation, the costs of follow-on innovation and commercial development increase due to the potentially unjustified royalties.¹¹⁸

The judge discussants and audience members also decried the cost and unpredictability of

¹¹⁴ Pooley, 3/4 at 164; 3/18 at 170-71.

¹¹⁵ Pooley, 2/18 at 158-59.

¹¹⁶ Pooley, 2/18 at 159; 3/4 at 164-65; 3/18 at 171-72.

¹¹⁷ NAS report at 2, 37-38.

¹¹⁸ FTC IP report, Executive Summary at 5-7.

patent litigation. Judge Saris called the cost of patent litigation "prohibitively expensive" and orders of magnitude higher than many other types of federal litigation.¹¹⁹ Judge Yeakle emphasized the need for rules and procedures that promote efficiency in litigation, because "it is often the time and expense of such litigation that is most harmful to creative innovation."¹²⁰ He agreed that limiting the subjective elements in a case generally makes litigation outcomes more predictable, which, in turn, promotes dispute resolution without litigation.¹²¹ According to a member of the audience, a patent attorney for an electronics company, a typical prediction of success in a patent case is "50/50," in large part because the subjective criteria make the outcome unpredictable.¹²²

B. Willful Infringement

The FTC report and the NAS report describe the problems associated with willful infringement law in much the same terms. Patent law allows a court to treble infringement damages if a defendant's infringement is found to be "willful." A finding of willful infringement may be predicated on acts of deliberate copying, but knowledge of a patent along with failure to exercise "due care" to avoid infringement may also result in liability. The potential defendant may exercise due care by obtaining an exculpatory opinion from an attorney, an often expensive process. As a result, some argue the willfulness doctrine creates a strong disincentive to read patents, seriously undermining the disclosure function of patents.¹²³

To address these issues, the FTC report recommended either of two requirements as a predicate for willful infringement: 1) actual written notice of infringement from the patentee sufficient to support declaratory judgment jurisdiction; or 2) deliberate copying of the patentee's

¹²¹ Yeakle, 2/18 at 165. Judge Saris also acknowledged the unpredictable nature of patent litigation and discussed what she believes is one factor contributing to that unpredictability–the high rate at which the Court of Appeals for the Federal Circuit reverses a district court's claim construction. She suggested a reform that required the Federal Circuit to apply a more deferential standard in reviewing issues of claim construction (it currently reviews those issues *de novo*) would increase the predictability of patent litigation and contribute to settlements. Saris, 3/18 at 182-84 (citing the reversal rate on claim construction issues as 30-50%, compared to a reversal rate in non-patent cases of 10%).

 122 Lee, 3/18 at 209-10. He also felt that having technically trained decision makers, rather than juries or generalist judges, in patent cases would contribute to predictability. Lee, 3/18 at 210-11.

¹²³ FTC IP report, Executive Summary at 16-17; NAS report at 118-19.

¹¹⁹ Saris, 3/18 at 182.

¹²⁰ Yeakle, 2/18 at 165.

invention.¹²⁴ The FTC concluded that this recommendation would permit firms to read patents for their disclosure value, yet deter potential infringers from knowingly and deliberately using another's patented invention. AIPLA supports this proposed modification to willfulness doctrine.¹²⁵ Its proposal allows an infringer's good-faith belief that the patent was not infringed or was invalid or unenforceable as a defense to allegations of willfulness. The proposal also specifies that the accused infringer's failure to obtain an opinion of counsel on its defensive position would not give rise to a negative inference of willfulness.¹²⁶

The NAS committee found only evidence of the willfulness doctrine's "perverse antidisclosure consequences" and none of its alleged beneficial deterrent effect. Accordingly, the NAS report recommended elimination of the provision for enhanced damages based on willful infringement. In doing so, it recognized that alternative approaches that modified willfulness doctrine, such as that of the FTC report, could curb the doctrine's adverse effects and, therefore, merit consideration.¹²⁷

In presenting the topic for discussion, Pooley acknowledged willfulness doctrine's role in deterring deliberate copying by making it more expensive, but he argued, the doctrine has expanded to over-deter even beneficial conduct.¹²⁸ Case law has defined willfulness so broadly as to include any knowledge about the patent whatsoever, from any source, including engineers that review patents to learn the state of the art, he explained. Of great concern was the instruction given in some industries to technical personnel that they should avoid reading patents to avoid exposure to a willfulness claim.¹²⁹

Willfulness claims are asserted in almost every patent case. The defendants' exposure of treble damages and possibly attorney's fees is substantial, and it can influence a decision on whether to take a license or challenge the patent.¹³⁰ Willfulness doctrine raises costs in two ways: through the need to obtain an exculpatory legal opinion that can cost "upwards of \$100,000 each," and by making discovery and litigation more complex. Finally, Pooley called the Federal Circuit's recent opinion in *Knorr-Bremse Systeme Fuer Nutzfahrzeuge GMBH v*.

¹²⁴ FTC IP report, Executive Summary at 16-17; Chapter 5 at 28-31.

¹²⁵ AIPLA Response to FTC IP report at 38-42; AIPLA Response to NAS report at 28-30.

¹²⁶ Pooley, 3/4 at 167-68; 3/18 at 174-75.

¹²⁷ NAS report at 119-20.

¹²⁸ Pooley, 3/4 at 165; 3/18 at 172.

¹²⁹ Pooley, 2/18 at 160; 3/4 at 166; 3/18 at 173.

¹³⁰ Pooley, 2/18 at 159-60; 3/4 at 165; 3/18 at 172-73.

*Dana Corp.*¹³¹ "a narrow decision" that did not address many of the concerns with willfulness because it left intact the duty of care that arises with knowledge of a patent.¹³² Judge Yeakel interjected that a standard incorporating some objective criteria, rather than solely subjective criteria, would make it more likely that a court could dismiss some allegations of willful infringement on summary judgment, which would avoid some complexity at trial.¹³³

Audience Comments on Willful Infringement

The majority of audience members who spoke on the issue of willful infringement favored modifying, but not eliminating the doctrine. They acknowledged the benefits of the doctrine, but spoke to its problems. Some supported an alternative formulation to the proposal presented.

Regarding the problems associated with the willfulness doctrine, one attorney called the doctrine "a tax on small companies," because the requirement to satisfy the duty of due care, generally by obtaining exculpatory opinions, consumed a disproportionate amount of their budget.¹³⁴ Another raised the invasion of the attorney-client privilege that accompanies the presentation of exculpatory opinions in patent litigation as a significant problem.¹³⁵ The AIPLA proposal addressed some of that concern.¹³⁶

An in-house attorney from an electronics firm stated that even when willfulness doctrine did not discourage reviewing patents, it did discourage the discussion of them.¹³⁷ One participant disputed the claim that willfulness doctrine discouraged firms from reviewing patents as "urban myth," in particular because the lack of review could lead to poor decisions in how to direct R&D efforts.¹³⁸ Jim Pooley responded that the response to willfulness doctrine varied

¹³¹ The Federal Circuit, sitting *en banc*, recently overturned its precedent and held that failure to obtain an exculpatory opinion will no longer raise an adverse inference that the content of such an opinion would have indicated infringement. *Knorr-Bremse v. Dana*, 344 F.3d 1336 (Fed. Cir. 2003) (*en banc*).

¹³² Pooley, 2/18 at 161; 3/4 at 167; 3/18 at 174.

¹³³ Yeakel, 2/18 at 178.

¹³⁴ Toth, 2/18 at 187-88.

¹³⁵ Manspeizer, 3/18 at 179-80.

¹³⁶ Pooley, 3/18 at 181.

¹³⁷ Satow, 3/18 at 205.

¹³⁸ Bleeker, 3/18 at 194-95.

depending on the industry and the way that patents function in it. He explained that the complaints that engineers received instruction to not read patents arose mainly in the semiconductor industry, where the volume of patents issued each year made a complete evaluation impossible.¹³⁹

In spite of these problems, some audience members stressed that the doctrine of willful infringement served as an important deterrent for addressing egregious cases of copying, and should be preserved in a modified form. They were concerned about larger firms with more resources that would disregard the patent rights of smaller firms and independent inventors, forcing them to litigate, if the only penalty for doing so was reasonable royalty damages.¹⁴⁰ The goal of willful infringement doctrine is to make deliberate infringement uneconomical.¹⁴¹

Two audience members opposed the proposal to limit willfulness because it did not cover an infringer who did not copy an invention, but later became aware of the patent and continued to use it. They were particularly concerned were the infringer's use would be difficult for the patentee to discover and provide notice of, for instance, when the invention was a process conducted in the infringer's factory.¹⁴² Only one participant opined that the doctrine should be completely eliminated, on the grounds that it could never work as intended. He explained that a deliberate copyist could generally obtain an exculpatory opinion,¹⁴³ although another participant responded that an opinion does not provide assured protection because judges and juries were able to discern whether the opinion is a "rubber-stamp" rather than thoughtful legal advice.¹⁴⁴ Judge Rosenbaum agreed that juries could be quite accurate in recognizing when willfulness was, and was not, present.¹⁴⁵

Several audience members, primarily from the electronics industry, supported modifying the willfulness doctrine by eliminating the duty of due care and limiting findings of willfulness to cases of egregious conduct by the infringer.¹⁴⁶ Judge Timothy Dyk in his concurring opinion in *Knorr-Bremse* suggested such a test because, he maintained, the failure to exercise due care is

¹³⁹ Pooley, 3/18 at 195-96.

¹⁴⁰ Taylor, 2/18 at 169-70.

¹⁴¹ Pooley, 2/18 at 181-82.

¹⁴² Lucci, 3/18 at 191-92; Duston, 3/4 at 182-84.

¹⁴³ Armitage, 2/18 at 184-85.

¹⁴⁴ Taylor, 2/18 at 192-193.

¹⁴⁵ Rosenbaum, 3/4 at 174-75.

¹⁴⁶ Taylor, 2/18 at 170; Culbert, 2/18 at 173-74; Jaggi, 2/18 at 176; Westergard, 2/18 at 180.

not sufficiently egregious or reprehensible to warrant imposition of punitive, treble damages under Supreme Court case law. At the town meetings, supporters of this standard generally felt that it would address the type of conduct that the willfulness doctrine was intended to reach, but that it would allow a court to filter out inappropriate accusations.¹⁴⁷ Judge Saris also agreed with the proposal to modify willfulness doctrine to require egregious conduct, as determined by a court. She explained that this standard was familiar to courts from other areas of law. She also supports bifurcating willfulness issues in a case to minimize costs until after a finding of infringement liability.¹⁴⁸

C. Inequitable Conduct

The doctrine of inequitable conduct considers whether an inventor or his attorney intentionally misled the PTO by withholding or misrepresenting material information while prosecuting the patent. If so, the patent may be deemed unenforceable. The court may also find a case "exceptional" based on the patentee's inequitable conduct and award the defendant its attorney's fees. The NAS report recommended eliminating the inequitable conduct doctrine or changing its implementation to discourage its use as a defense in litigation, possibly by awarding attorney's fees to a prevailing patentee or by referring allegations of inequitable conduct to the PTO for disciplinary action.¹⁴⁹ AIPLA concurs with the NAS recommendation¹⁵⁰ and it has put forward a proposal limiting the role of the inequitable conduct defense in patent litigation and creating a new administrative enforcement mechanism in the PTO, as discussed below.

At the town meetings, Jim Pooley explained that, although it is important to have measures in patent law that support and enforce the duty of candor to the Patent Office, in actual practice, because of its focus on the subjective element of the inventor's and his attorney's intent, this aspect of patent litigation makes the process inefficient, more expensive, and less predictable. Judges Yeakel and Rosenbaum observed that claims of inequitable conduct have become commonplace in litigation, but are rarely successful.¹⁵¹ Defending a charge of inequitable conduct creates problems by forcing patentees to consider waiving the attorney-client privilege surrounding prosecution of the patent.¹⁵² The NAS report asserted that the inequitable conduct doctrine has a limited additional deterrent effect compared to other actions that can result from misrepresentation before the PTO, including disciplinary action, reputational

¹⁴⁹ NAS report at 117-18, 121-23.

¹⁴⁷ Culbert, 2/18 at 174.

¹⁴⁸ Saris, 3/18 at 188.

¹⁵⁰ AIPLA Response to NAS report at 37-41.

¹⁵¹ Yeakle, 2/18 at 167; Rosenbaum, 3/4 at 171.

¹⁵² Pooley, 2/18 at 161-62; 3/4 at 168-69; 3/14 at 175-76.

concerns, antitrust, unfair competition, common law fraud, and tortious interference remedies. The proposed post-grant review process could also help protect the integrity of the patent system in the absence of inequitable conduct doctrine by giving a patentee's competitors a mechanism for challenging a patent's validity based on withheld prior art, according to the report.¹⁵³

Judge Rosenbaum lamented the "pernicious" and "incongenial" nature of inequitable conduct allegations, which require lawyers to claim "that one of their brothers or sisters is a liar, a cheat and frauder." Judge Rosenbaum limits the impact of inequitable conduct allegations by allowing discovery on fraud charges, including inequitable conduct, and submitting those charges to a jury, only when the proponent of the charge is able to provide supporting evidence. He suspects that true instances of inequitable conduct are rare, because a patent attorney would be acting against his client's interest to "plant a time bomb" in a patent application that would eventually render it unenforceable.¹⁵⁴

Pooley acknowledged that few people think the doctrine should be eliminated from patent law, but he suggested three possible reforms to lessen its impact: 1) allow a claim of fraud on the Patent Office only after the patent has been held invalid because of the fact that was misrepresented or withheld; 2) to remove the issue from litigation, establish a procedure for the PTO to handle charges of inequitable conduct not amounting to fraud; and 3) award fees to a successful patentee to discourage weak charges of inequitable conduct.¹⁵⁵

The first two reforms are embodied in draft legislation proposed by the AIPLA. Robert Armitage, a proponent of the AIPLA proposal, explained that it allows defendants to plead only fraud--that the patent would not have issued but for the applicant's misconduct--and not the lesser offense of inequitable conduct. To allege fraud, infringement defendants must first clear the "procedural hurdle" of demonstrating that the patent issued with invalid claims.¹⁵⁶ Armitage argued that this would lower the cost of discovery in the validity case. The accused infringer may wish to pursue the fraud claim following a decision on validity because fraud renders all claims of the patent unenforceable, even if only some of the claims were found invalid.¹⁵⁷ Judge

¹⁵³ NAS report at 122-23.

¹⁵⁴ Rosenbaum, 3/4 at 171-73.

¹⁵⁵ Pooley, 2/18 at 161-62; 3/4 at 168-69; 3/14 at 175-76.

¹⁵⁶ Armitage, 2/18 at 185-87.

¹⁵⁷ Armitage, 3/4 at 199-205; 3/18 at 201.

Yeakel disfavors such a procedure because it would lead to further bifurcation of trials,¹⁵⁸ but Judge Saris does not.¹⁵⁹

Jim Pooley further explained that by codifying the disclosure duty and allowing the PTO to enforce it, the AIPLA proposal empowers the PTO to implement the duty in a manner that provides it with detailed, useful information without penalizing applicants in a way that creates perverse incentives to give examiners too many references without any explanation of relevance.¹⁶⁰

Audience Comments on Inequitable Conduct

Audience members also raised the "unintended consequence" of inequitable conduct doctrine to which Pooley referred. They maintained that it leads some patent attorneys to submit much more information to the examiner than he actually needs, and to refrain from indicating the relevance of that information, in order to protect themselves from charges of omitting or misrepresenting information.¹⁶¹

In response to this proposal, one audience member expressed concern about the PTO's ability to handle allegations of inequitable conduct, in part because they have no mechanism to find or investigate such conduct.¹⁶² Another pointed out that an administrative proceeding within the PTO would still require expensive discovery and delay.¹⁶³ The FTC report made no recommendation relevant to inequitable conduct, but it noted that testimony at the underlying hearings highlighted the difficulty of PTO enforcement in this area.¹⁶⁴ Robert Armitage agreed that the PTO is not currently equipped to handle this issue, but he believes it could become so.¹⁶⁵

Charles Thomason, an audience member who had been active on an AIPLA committee on inequitable conduct, suggested that codifying the elements of the charge, such as materiality, would provide more predictability and uniformity to the manner in which district courts analyze

¹⁶¹ Armitage, 3/4 at 197-98; 3/18 at 200-01; Carroll, 3/14 at 198-99.

¹⁶⁴ FTC IP report, Chapter 5 at 11, 21.

¹⁵⁸ Yeakle, 2/18 at 168.

¹⁵⁹ Saris, 3/18 at 190.

¹⁶⁰ Pooley, 3/14 at 203.

¹⁶² DeFranco, 3/14 at 205.

¹⁶³ Thomason, 3/4 at 192-93.

¹⁶⁵ Armitage, 3/14 at 204.

the issue. Others also supported codification, although Judge Rosenbaum questioned whether that would provide additional clarity over the case law.¹⁶⁶

Audience members stressed the importance of preserving a patent applicant's duty of candor before the Patent Office, and the importance of inequitable conduct as essential in protecting that duty, as necessary to a system striving for high quality patents. The economic significance of patents creates powerful incentives for applicants to obtain them, and inequitable conduct doctrine is an essential counterweight to that incentive.¹⁶⁷ Finally, one audience member asserted that the sanction for inequitable conduct must remain loss of the patent right to provide the greatest incentive to comply with the duty of candor.¹⁶⁸

Judge Saris also disagreed with the notion of eliminating the doctrine of inequitable conduct. Based on her observation of the "very aggressive" pursuit of broad claims before the Patent Office, she believes the duty of candor must be rigorously enforced. She would favor an additional duty be imposed on patent applicants, akin to Rule 11 of the Rules of Civil Procedure, that required they conduct a reasonable investigation as to the facts and law relevant to the application.¹⁶⁹ She also questioned why patent examiners could not seek more assistance from applicants in understanding the relevance of the prior art.¹⁷⁰

D. Best-Mode

Section 112 of the Patent Act requires that an application "set forth the best mode contemplated by the inventor of carrying out his invention."¹⁷¹ Best mode requires that if an inventor knows of particular materials or processes for implementing a claimed invention that the inventor believes are most effective, he must reveal them in the patent. Failure to do so may result in a finding that the claim is invalid.

The NAS report recommended enacting legislation to eliminate the best mode requirement in order to promote harmonization between U.S. and foreign patent systems, which

¹⁷¹ 35 U.S.C. § 112.

¹⁶⁶ Thomason, 3/4 at 188-91; Brezina, 3/4 at 194-96; Rosenbaum, 3/14 at194-95.

¹⁶⁷ Taylor, 2/18 at 171.

¹⁶⁸ Thomason, 3/4 at 192-93.

¹⁶⁹ Saris, 3/14 at 189-90. The duty of candor before the PTO requires that patent applicants submit to the examiner information of which they are aware that raises a prima facie case of unpatentability or contradicts other arguments made. It does not require applicants to search for or investigate relevant prior art. 37 C.F.R. § 1.56.

¹⁷⁰ Saris, 3/14 at 199-200.

do not include a best mode requirement, and to make litigation more efficient by eliminating a subjective defense. Inasmuch as the defense depends on historical facts and the inventor's state of mind, discovery and litigation of this issue can be extensive and time-consuming. The report asserts that, on the other hand, the best mode requirement does not necessarily provide valuable information to the public because patent law already requires that the patent "enable" the invention.¹⁷² AIPLA endorses the NAS report's recommendation to eliminate the best mode requirement.¹⁷³

At the town meetings, Jim Pooley explained that the requirement often presents a difficult dilemma for patentees who must draw a line between what should be disclosed as the best mode of the invention, and that which might properly be retained as a trade secret, separate from the invention itself. Although the requirement does increase the cost of discovery because it focuses on the subjective issue of the inventor's state-of-mind, it is generally perceived as less of a problem than inequitable conduct or willfulness because it is raised in fewer cases.¹⁷⁴

Audience Comments on Best Mode

The audience provided no comments on the issue at the town meetings.

V. Shields to Infringement Liability: Prior User Rights and Experimental Use Exception

The fourth session of the town meetings addressed proposals creating shields to infringement liability: a prior user right and an experimental use exception. Gary Griswold¹⁷⁵ presented the proposal to expand prior user rights in each city. Janice Mueller¹⁷⁶ in San Jose, Wes Cohen¹⁷⁷ in Chicago, and Arti Rai¹⁷⁸ in Boston presented the proposals to create an experimental use exception to infringement.

¹⁷⁴ Pooley, 2/18 at 162; 3/4 at 169-70; 3/14 at 177; Yeakle, 2/18 at 167; Saris, 3/14 at 190.

¹⁷⁵ Gary Griswold is President and Chief Intellectual Property Counsel at 3M Innovative Properties Company. He chaired the AIPLA committees that responded to the FTC and NAS reports.

¹⁷⁷ Wesley Cohen is a professor at the Fuqua School of Business at Duke University.

¹⁷⁸ Arti Rai is Professor of Law at Duke University Law School.

¹⁷² NAS report at 120-21, 127.

¹⁷³ AIPLA Response to NAS report at 33, 42-44.

¹⁷⁶ Janice Mueller is Professor of Law at the University of Pittsburgh School of Law.

A. Prior User Rights

Gary Griswold began by describing the FTC's recommendation for creation of a prior user right and AIPLA's objection to specific features of the recommendation. Recommendation 8 of the FTC report stated, "enact legislation to create intervening or prior user rights to protect parties from infringement allegations that rely on certain patent claims first introduced in a continuing or other similar applications." The report recommends shielding those who infringe patent claims that were added to a continuation application if those claims are broader than those published in the parent application.¹⁷⁹

Griswold explained that, although AIPLA supports an expanded form of prior user rights, it opposes the particular structure of the FTC recommendation because of its focus on continuation applications. AIPLA believes that there are many legitimate reasons for filing continuation applications with broadened claims that should not be penalized, such as "late-found wisdom" on the scope of the invention, and the difficulty of drafting claims to capture the invention. He also worried that the proposal would unduly complicate patent litigation by adding significant issues, such as whether the added claims were broader than the earlier ones, and whether the accused infringer might have infringed any earlier cancelled claims.¹⁸⁰

Griswold then described the AIPLA prior user rights proposal. That proposal would provide protection from infringement to someone who commercially used, or made substantial preparations to use, a technology before the effective filing date of the asserted patent. It is broader than the existing prior user right, added to 35 U.S.C. § 273 in 1999, in that it would not be limited to a "method of doing or conducting business," and it would not require that the use by the accused infringer be reduced to practice at least one year before the effective filing date of the patent.¹⁸¹ Griswold explained the proposed, broader prior user right can protect domestic business from assertion of foreign-owned patents having the benefit of the earlier, foreign-filing date. It also removes one incentive for off-shoring manufacturing to a country having prior user rights, which many economically important countries do. Finally, Griswold emphasized that a prior user right is particularly important in a first-inventor-to-file system because it shields companies, who would no longer have the defense of having been the first inventor, if they choose to use an invention but not to patent it, or file their application later.¹⁸²

¹⁷⁹ FTC IP report, Executive Summary at 16.

¹⁸⁰ Griswold, 2/18 at 200-01; 3/4 at 208-11; 3/18 at 214-17.

¹⁸¹ Griswold, 2/18 at 199, 201-02; 3/4 at 212-14; 3/18 at 217-20.

¹⁸² Griswold, 2/18 at 199-200; 3/4 at 212-13; 3/18 at 218-19, 238-39.

Audience Comments on Prior User Rights

The audience did not comment on the topic of prior user rights at the San Jose and Chicago town meetings. In Boston, a representative for the interests of independent inventors objected to the AIPLA proposal as unnecessary and unwise. He argued that the prospect of a prior user emerging, which could not be predicted, would undermine the value of an independent inventor's patent and his ability to attract venture capital funding. He also asserted that the proposal rewards secrecy and is, therefore, contrary to patent law's policy of encouraging disclosure of new inventions.¹⁸³

B. Experimental Use

The three discussants, Mueller, Cohen and Rai, raised common themes in describing the rationale supporting legislative proposals to create an experimental use exception, as recommended by the NAS report and the AIPLA. They explained that a central feature of the patent system is to promote disclosure to the public so that the public may study, improve upon, and design around inventions. Although the common law arguably contains a research exception that allows some infringing activity of this type, its limits have always been uncertain. Until the Federal Circuit's 2002 opinion in *Madey v. Duke University*,¹⁸⁴ which held that scientific research done at Duke University was not within the exception, academic researchers had widely assumed that the exception protected them from infringement lawsuits.¹⁸⁵

Following the *Madey* decision, there has been a growing sense of the need to codify an experimental use exception in order to clarify and expand it. The discussants described the concern, expressed in the NAS report, that a rapidly growing number of patents on "upstream" innovations may begin to impede upstream research, particularly academic, biomedical research, given the current state of the law.¹⁸⁶ In addition, the U.S. is the only major patent system that lacks an explicit experimental use exemption, and that difference could provide an incentive for out-sourcing.¹⁸⁷ The discussants recognized that the difficulty in creating a research exception is in balancing researchers' needs to access inventions disclosed in patents with the incentives that motivate firms to invest in and patent new technologies.¹⁸⁸ They also acknowledged the importance and difficulty of excluding research tools from the exception.¹⁸⁹

- ¹⁸⁴ 307 F.3d 1351 (Fed. Cir. 2002).
- ¹⁸⁵ Mueller, 2/18 at 202-204; Rai, 3/18 at 221-25.
- ¹⁸⁶ Mueller, 2/18 at 204-05; Cohen, 3/4 at 215-17; Rai, 3/18 at 223-24.
- ¹⁸⁷ Mueller, 2/18 at 205-06; Cohen, 3/4 at 218; Rai, 3/18 at 226.
- ¹⁸⁸ Mueller, 2/18 at 202-03; Mueller, 3/4 at 215-16.
- ¹⁸⁹ Mueller, 2/18 at 206, 210; Cohen, 3/4 at 218-19; Rai, 3/18 at 227-28.

¹⁸³ Rines, 3/18 at 234-235.

Each discussant concluded by describing the NAS and AIPLA proposals. The NAS report urges Congress to consider legislation ensuring that noncommercial uses of a patented invention and scientific research be exempt from patent infringement liability. The report discusses the advantages and disadvantages of several proposals without adopting any one, but the proposals generally allow use of an invention for the purposes of checking the patent holder's claims or improving upon the invention.¹⁹⁰

AIPLA endorses the NAS recommendation that Congress enact a statutory research exception to infringement. It believes such an exemption "must be part and parcel of an effectively functioning patent system." AIPLA has developed a proposal that would exempt research that is directed to any of the following activities: (1) evaluating the validity and scope of the patent; (2) understanding features and properties of the patented subject matter; (3) finding other methods of making or using the patented subject matter; and (4) finding alternatives and improvements to the patented subject matter. The AIPLA proposal makes no distinction between universities and corporations for purposes of applying the exception.¹⁹¹ The proposal does not intend to shield the use of research tools from infringement. (Mueller cited a patented laser used as a tool to conduct fundamental research in a university laboratory as a research tool example that would not be exempt.)¹⁹²

Audience Comments on Experimental Use Exception

Some audience members questioned whether legislation was really needed, given that academic researchers are generally not sued for infringement, even when they use a patented invention, and that any research-based infringement would be *de minimus* in any event. They asked whether any data supported the need for this change in the law.¹⁹³ Another audience member expressed doubt that the U.S.'s lack of a codified research exemption encouraged any company to move its research outside of the United States because those decisions were driven by other factors.¹⁹⁴ The discussants responded that the Federal Circuit's broad language in the *Madey* case and a growing body of anecdotal evidence suggests that there are heightened concerns about the issue in the university community.¹⁹⁵ There was general acknowledgment that university researchers are sometimes infringing patents, either with or without knowledge of

¹⁹³ 2/18 at 217-18; Hammond, 2/18 at 222, 3/4 at 241.

¹⁹⁴ Goswami, 2/18 at 221.

¹⁹⁰ NAS report at 108-17; Mueller, 2/18 at 204-06; Cohen 218-19; Rai, 3/18 at 225-28.

¹⁹¹ Griswold, 3/18 at 252-53.

¹⁹² AIPLA Response to NAS report at 23-27; Mueller, 2/18 at 208-11, 213-14; Cohen, 3/4 at 219; Rai, 3/18 at 229-30; Armitage, 2/18 at 216; Griswold, 3/18 at 241-42.

¹⁹⁵ Mueller, 2/18 at 218-19; Kadir, 2/18 at 224; Hammersla, 3/18 at 248-49.

the patent.¹⁹⁶ A participant commented that the impact of infringement threats on university research is currently being studied.¹⁹⁷ Griswold replied that many companies have a policy against committing even *de minimus* infringement; such policies prevent some activity that would be protected under the proposal.¹⁹⁸

Some audience members questioned whether academic research should be exempt from infringement as purely "experimental" or non-commercial if it results in a patent that is eventually licensed for royalties.¹⁹⁹ Others replied that infringing researchers can, and should, take licenses.²⁰⁰ A representative from MIT stated that research universities as a group, including MIT, have not yet taken a position on whether they would support a broader research exception, such as that proposed by AIPLA. She explained that there were organizations and individuals on both sides of the issue.²⁰¹

The effect of the proposals on patent rights in research tools dominated the discussions. Representatives of firms that produce research tools used in the life sciences²⁰² explained that their products are patented and licensed, including to academic researchers. They cautioned that removing patent protection for these tools would remove the incentive to create, develop and disseminate them, which would ultimately slow drug development.²⁰³ All participants agreed that a research tool, used for its intended purpose by its target audience, should not fall under a research exception.²⁰⁴

Some participants did not necessarily oppose creation of a research exception, as long as it did not cover research tools, but they wondered whether definitions could be clear enough to

¹⁹⁶ Cohen, 3/4 at 217; Rai, 3/18 at 224; Beringer, 3/18 at 242.

¹⁹⁷ Hammersla, 3/18 at 248-49.

¹⁹⁸ Griswold, 2/18 at 220.

¹⁹⁹ White, 2/18 at 212-13; Beringer, 3/18 at 239-40.

²⁰⁰ 2/18 at 226.

²⁰¹ Hammersla, 3/18 at 246-47.

²⁰² Several representatives of Invitrogen Corporation, a company specializing in life science research tools, spoke at the town meetings. Russell, 2/18 at 215; Goswami, 2/18 at 221-22; Hammond, 2/18 at 222, 3/4 at 241; Pollock, 3/4 at 224, 239; Piazza, 3/18 at 231. Representatives of other research tool companies spoke also.

²⁰³ Russell, 2/18 at 215; Pollock, 3/4 at 224-226; Beringer, 3/18 at 240.

²⁰⁴ Mueller, 2/18 at 213-14; Summerfield, 3/4 at 223; Cohen, 3/4 at 223.

provide certainty and protect innovation in their industry.²⁰⁵ They cautioned that the distinctions the proposals attempted to make between work done *with* an invention as a tool, (which would not be shielded from infringement), and work done *on* an invention, (which would be shielded), were extremely difficult to make and would result in the devaluing of patents in the biotech industry.²⁰⁶ Others opposed the proposals because they worried that, even if the proposals did not intend to disturb patent protection for research tools, if the scope of protection became uncertain due to expansion of the research exemption, the industry would have difficulty attracting venture capital funding and making the investments needed for commercialization of new products.²⁰⁷

A participant who represented life science research tool companies discussed the specific provisions of the AIPLA proposal. He agreed that the first two bases for the exception did not present a concern for his industry, namely (1) evaluating the validity and scope of the patent and, (2) understanding features and properties of the patented subject matter. He was more concerned that the third and fourth bases could undermine the value of research tool patents, namely (3) finding other methods of making or using the patented subject matter, and (4) finding alternatives and improvements to the patented subject matter.²⁰⁸ Other audience members agreed, and explained that once the invention was used pursuant to these bases to create a new product, its value would be gone.²⁰⁹ A participant suggested that it might be possible to avoid infringement of a research tool patent under this proposal by trying to improve it while using it.²¹⁰

²⁰⁵ Goswami, 2/18 at 221; 3/4 at 237-38.

²⁰⁶ Carter, 3/4 at 226-27.

²⁰⁷ Piazza, 3/18 at 231-33.

²⁰⁸ 3/4 at 229-38.

²⁰⁹ Pollock, 3/4 at 229-30; Piazza, 3/18 at 232.

²¹⁰ Couch, 3/4 at 248.