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**DETERMINING PATENT INVENTORSHIP: A PRACTICAL
APPROACH**

*Sherry L. Murphy**

This Article provides a basic understanding of the law of inventorship and a practical approach to handling inventorship review when patenting. Considerations of inventorship under the present case law and under the Leahy-Smith America Invents Act, signed into law on September 16, 2011, are also presented.

I. INTRODUCTION

Behind today's impressive innovation, with its promise to solve modern day problems, are the creative and hard-working thinkers and tinkerers that make it possible.¹ In the realm of patents, these are the inventors.²

Not too long ago inventions were commonly made by only one or a few people, often working within one company. Modern day inventions, however, often involve many people and organizations, some of which may even be physically located in different countries.³ Given this environment, once a decision is made to file

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¹ The great inventor Thomas Alva Edison said that “[g]enius is one percent inspiration, ninety-nine percent perspiration.” Wikiquote, *Thomas Edison*, QUOTES (Feb. 28, 2012), http://en.wikiquote.org/wiki/Thomas_Edison.

² U.S. CONST. art. I, § 8, cl. 8 (providing that the U.S. Congress possesses the power “[t]o 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”).

³ See Dennis Crouch & Jason Rantanen, *Cross-Border Inventors*, PATENTLY-O (Nov. 21, 2010), <http://www.patentlyo.com/patent/2010/11/cross-border-inventors.html?cid=6a00d8341c588553ef0133f64e84d7970b> (noting that “[of] patents issued during the past six months[,] . . . sixty-eight percent listed multiple inventors with thirteen percent listing five or more inventors”). “Prior to 1990, most patents listed only one inventor.” *Id.* Eight percent of patents with a U.S. inventor also had a cross-border inventor. *See id.*

a patent application on an invention, determining just who should be included in the list of inventors can be far from clear.

Those with at least some exposure to patent law have no doubt heard that inventorship of a patent is important, with potential dire consequences if it is wrong. Beyond this basic tenet, though, there is little practical guidance. Moreover, little has been written on this topic in view of the recent developments in patent law.

The purpose of this Article is to provide a basic understanding of many important inventorship considerations and a practical approach to handling them under modern day realities and the changing law. Part II begins by exploring why inventorship is important and what the consequences can be of getting it wrong. Then a simple framework is presented as a practical approach to inventorship determinations during the normal patenting process. Part III delves into current case law on inventorship and presents a general overview of the standards applied and the types of evidence considered by the courts. Finally, Part IV discusses the case law surrounding inventorship correction under 35 U.S.C. § 256, and how this has changed under the Leahy-Smith America Invents Act (“AIA”), which was signed into law on September 16, 2011.⁴

II. THE IMPORTANCE OF INVENTORSHIP AND A PRACTICAL APPROACH

Common advice heard by patentees includes the admonition to have inventorship right. Often, the first noted consequence of incorrect inventorship is that it can invalidate your patent.⁵

⁴ Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (to be codified at 15 U.S.C. § 1071; 28 U.S.C. §§ 1295, 1338, 1454; 35 U.S.C. §§ 2, 3, 6, 32, 41–42, 100–103, 115–116, 118, 122–123, 134–135, 141, 143, 145–146, 154, 156, 184–185, 202, 209, 251, 253, 256–257, 273, 282, 287–288, 291, 293, 298–299, 301, 311–319, 321–329, 371; 42 U.S.C. § 2182; 51 U.S.C. § 20135).

⁵ See, e.g., Campbell Chiang, *A Putative Inventor's Remedies to Correct Inventorship on a Patent*, 2003 DUKE L. & TECH. REV. 20 (Sept. 11, 2003); Adam K. Sacharoff, *Patent Precautions: Avoiding Errors in Inventorship*, NAT'L L. REV. (Aug. 26, 2010), <http://www.natlawreview.com/article/patent-precautions-avoiding-errors-inventorship>; Howard M. Eisenberg, *Patent Law*

However, given the avenues available to correct inventorship, invalidation may not be the most likely dire consequence of an incorrect naming of inventors. In this section, we go beyond invalidation and delve into some other practical consequences of an incorrect inventorship as illustrated by current case law.

After demonstrating the current importance of inventorship, the latter part of this section presents a practical framework with which to address the issue of inventorship during the normal course of patent procurement.

A. *Why Inventorship Matters*

1. *It Is the Inventors Who May Apply for a Patent in the U.S.*

Ownership of patent rights originates in the inventors,⁶ and under 35 U.S.C. §§ 101, 111, and 116, as they exist before implantation of the relevant changes under the AIA,⁷ a patent application must be filed on behalf of the true inventors.⁸ If an inventor cannot be located or does not wish to participate in the

You Can UseTM: Inventorship, YALE U. OFF. COOPERATIVE RES. (2000), www.yale.edu/ocr/pfg/guidelines/patent/inventorship.html.

⁶ 37 C.F.R. § 3.73(a) (2005) (“The inventor is presumed to be the owner of a patent application, and any patent that may issue therefrom, unless there is an assignment.”).

⁷ See § 4, 125 Stat. at 293. This change to the law will apply to patent applications filed on or after September 16, 2012. *Id.* (“The amendments made by this section shall take effect upon the expiration of the [one]-year period beginning on the date of the enactment of this Act and shall apply to any patent application that is filed on or after that effective date.”).

⁸ 35 U.S.C. § 101 (2006) (“Inventions patentable. *Whoever* invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.” (emphasis added)); 35 U.S.C. § 111 (“An application for patent *shall* be made, or authorized to be made, *by the inventor*, except as otherwise provided in this title, in writing to the Director.” (emphasis added)); 35 U.S.C. § 116 (“Inventors. When an invention is made by two or more *persons* jointly, *they shall* apply for patent jointly and each make the required oath, except as otherwise provided in this title. *Inventors* may apply for a patent jointly even though (1) they did not physically work together or at the same time, (2) each did not make the same type or amount of contribution, or (3) each did not make a contribution to the subject matter of every claim of the patent.” (emphasis added)).

filing of a patent application, § 118 presents a heavy burden on the other applicants to proceed without him or her.⁹

Though still the case under the AIA that the right to apply for a patent originates in the inventors,¹⁰ the wording of § 118 has been changed.¹¹ New § 118 allows an entity to which the inventors have assigned or are under an obligation to assign the patent rights to more easily apply for and be granted a patent without the active participation of the inventors.¹² Patent applications are often filed

⁹ 35 U.S.C. § 118 (“Filing by other than inventor. Whenever an inventor *refuses* to execute an application for patent, *or cannot be found or reached after diligent effort*, a person to whom the inventor has assigned or agreed in writing to assign the invention or who otherwise shows sufficient proprietary interest in the matter justifying such action, may make application for patent on behalf of and as agent for the inventor on proof of the pertinent facts and a showing that such action is *necessary* to preserve the rights of the parties or to prevent irreparable damage; and the Director may grant a patent to such inventor upon such notice to him as the Director deems sufficient, and on compliance with such regulations as he prescribes.” (emphasis added)).

¹⁰ See § 3, 125 Stat. at 287 (entitled “First *Inventor* to File” (emphasis added)).

¹¹ *Id.* at § 4 (“§ 118. Filing by other than inventor. A *person to whom the inventor has assigned or is under an obligation to assign* the invention may make an application for patent. A person who otherwise shows sufficient proprietary interest in the matter may make an application for patent on behalf of and as agent for the inventor on proof of the pertinent facts and a showing that such action is appropriate to preserve the rights of the parties. If the Director grants a patent on an application filed under this section by a person other than the inventor, the *patent shall be granted to the real party in interest* and upon such notice to the inventor as the Director considers to be sufficient.” (emphasis added)). This change to the law will apply to patent applications filed on or after September 16, 2012. *Id.* (“The amendments made by this section shall take effect upon the expiration of the one-year period beginning on the date of the enactment of this Act and shall apply to any patent application that is filed on or after that effective date.”). *Id.* Also note, however, that § 115 still requires an oath or declaration by each of the inventors except in the circumstances set forth in § 115(d)(2) (inventor “deceased, under legal incapacity, or cannot be found or reached after diligent effort,” or refuses to sign) or any additional circumstances set forth by the Director. See Changes to Implement the Inventor’s Oath or Declaration Provisions of the Leahy-Smith America Invents Act, 77 Fed. Reg. 982, 982 (proposed Jan. 6, 2012) (to be codified at 37 C.F.R. pts. 1, 3).

¹² New § 115 may still require the execution of an oath or declaration by each of the inventors except in the circumstances set forth in § 115(d)(2) (inventor deceased, under legal incapacity, cannot be found or reached after diligent

by companies or other organizations on behalf of employee inventors, who are normally under an obligation to assign the invention made in the context of their employment to the company.¹³ An inventor may not be available to participate in the prosecution of a patent application years after an invention was made, having perhaps left the company.

New § 115 may ease the requirements of the early submission of an inventor's oath or declaration, a document that presents the true inventorship of the patent application as stated by the inventors by allowing an assignee considerably more time to probe and identify the actual inventors of a patent application before having to make this formal submission.¹⁴ This change should allow more flexibility to companies or other organizational assignees that need to protect innovation in a timely fashion, without the need to exhaustively unravel inventorship at the outset of application filing. This help is useful as patentees adjust to the new first-inventor-to-file paradigm under the AIA, which commentators predict will manifest itself in practice as a race to the Patent Office to ensure that a competitor developing similar technology does not have an earlier patent filing date.¹⁵

effort, or refuses to sign) or any additional circumstances set forth by the Director. See § 4, 125 Stat. at 294; see also *Changes to Implement the Inventor's Oath or Declaration Provisions of the Leahy-Smith America Invents Act*, 77 Fed. Reg. 982 (proposed Jan. 6, 2012) (to be codified at 37 C.F.R. pts. 1, 3).

¹³ See Sherry L. Murphy & Kenneth D. Sibley, *How to Identify Owners in the United States*, in AUTM TECHNOLOGY TRANSFER MANUAL 6 (3d ed. 2008).

¹⁴ New § 115(f) states that an oath or declaration should be filed before a notice of allowance is issued. See § 4, 125 Stat. at 294. Currently, if an oath or declaration does not accompany the application as filed, the applicant is given a relatively short period of time to furnish it (typically two months). See 37 C.F.R. § 1.53(f)(2) (2012). If it is not furnished in time, the application is deemed to be abandoned. See 35 U.S.C. § 111(a)(4) (2006). However, in its proposed rulemaking, the Patent Office indicated a preference to keep rules in place that incentivize filing the oath or declaration soon after filing. *Changes to Implement the Inventor's Oath or Declaration Provisions of the Leahy-Smith America Invents Act*, 77 Fed. Reg. 982 (proposed Jan. 6, 2012) (to be codified at 37 C.F.R. pts. 1, 3).

¹⁵ See, e.g., Dennis Crouch & Jason Rantanen, *The Effects of the America Invents Act on Technological Disclosure*, PATENTLY-O (Sept. 8, 2011),

But, it should be noted that inventors must at least be identified, and are still emphasized under the AIA, particularly in the notion that the AIA's changes embody the concept of "first inventor to file" rather than the "first to file" system commonly employed in other jurisdictions.¹⁶

The AIA's easing of assignees' burden to probe inventorship early in the patenting process creates a potential pitfall for the unwise. This is because memories do not remain fresh for long, and documents relevant to inventorship may become displaced or even lost during the months and years after an application is filed and awaiting examination on the docket at the U.S. Patent Office.

Furthermore, the change in U.S. law from the "first to invent" to the "first inventor to file" may mislead assignees to think that records surrounding the actual date of invention are no longer important under the AIA. This is most certainly not true. Though records documenting invention dates will no longer be used to "swear behind a reference" or prove an earlier invention in an interference,¹⁷ they will continue to be important for inventorship determinations. For example, records of invention dates may include documentation of communications between persons during the development of the invention. Such records will continue to be

<http://www.patentlyo.com/patent/2011/09/the-effects-of-the-america-invents-act-on-technological-disclosure.html>.

¹⁶ § 3, 125 Stat. at 285 (emphasis added). See also MPEP § 2137.01 (8th ed. Rev. 6, Sept. 2007) ("The requirement that the applicant for a patent be the inventor is a characteristic of U.S. patent law not generally shared by other countries."); DONALD S. CHISUM, AMERICA INVENTS ACT OF 2011: ANALYSIS AND CROSS-REFERENCES § 3.2 (2011), available at <http://www.chisum.com/tag/American-invents-act> ("Patent systems in virtually every country other than the United States, including all nations belonging to the European Patent Convention, have a first-to-file priority principle and an absolute novelty provision."). The "first inventor to file" concept has even been noted as the prominent, or "salient" feature of the AIA legislation as a whole. See *id.* § 3.

¹⁷ "An interference is an *inter partes* proceeding directed at determining the first to invent among the parties to the proceeding, involving two or more pending applications, or one or more pending applications and one or more unexpired patents naming different inventors." MPEP § 2138.01 (8th ed. Rev. 6, Sept. 2007). Under the first-to-invent system that has been in place in the U.S. for many decades, the first to invent is awarded the patent, while the other party's or parties' claims are rejected under § 102(g) or § 102(f). See *id.*

useful in untangling inventorship involving multiple parties, and also may have a heightened importance as derivation evidence, including the derivation-based “exceptions” under new § 102¹⁸ and the new derivation procedures.¹⁹

Therefore, U.S. patent rights will continue to originate in the inventors, and inventorship will still play a prominent role under the AIA. Though some of the procedural requirements surrounding inventorship have been relaxed under the AIA, it is still prudent to probe inventorship early, compiling clear records surrounding the invention.

2. *Inventorship Dictates Ownership and Licensing Rights*

Patent rights originate in the inventors,²⁰ and, therefore, inventorship dictates ownership.²¹ This also means that ownership of patent rights may change if an inventor is added or removed and such inventors have not assigned, or are under an obligation to assign, the invention to the same company or entity.

A change in ownership directly affects licensing rights because each co-owner holds an equal and undivided interest in the entire patent and can license freely without the consent of other co-owners.²² Care must be taken particularly when there is a question of inventorship that may lead to an unanticipated change in ownership. Such a scenario was dealt with in the *Ethicon, Inc., v. U.S. Surgical Corp.*²³

Ethicon filed suit in 1989 against U.S. Surgical for infringing two claims of Patent No. 4,535,773 on surgical instruments (claims

¹⁸ See § 3, 125 Stat. at 285. The U.S. Patent Office has not proposed new rules of practice under new § 102 as of the date of preparation of this Article.

¹⁹ See *id.* Records of invention timing may also be needed with regard to a defense against prior-user rights for university-developed technologies. See *id.* at § 5.

²⁰ See 35 U.S.C. §§ 101, 111, 116 (2006); see also U.S. CONST., art. I, § 8, cl. 8 (providing the U.S. Congress with the power “[t]o promote the Progress of Science . . . by securing for limited Times to . . . Inventors the exclusive Right to their respective . . . Discoveries”).

²¹ See Murphy & Sibley, *supra* note 13, at 1.

²² *Ethicon, Inc. v. U.S. Surgical Corp.*, 135 F.3d 1456, 1465 (Fed. Cir. 1998).

²³ *Id.*

34 and 50).²⁴ At that time, the patent named Dr. Yoon, a medical doctor and inventor of numerous patented devices for endoscopic surgery, as the sole inventor.²⁵ Dr. Yoon had developed a safety trocar, a device used during surgical procedures, and filed a patent application on the same in 1982.²⁶ After he had been working on safety trocar devices for some time, Dr. Yoon met Mr. Choi, an engineer who "had some college training in physics, chemistry, and electrical engineering, but no formal degree."²⁷ Dr. Yoon and Mr. Choi worked together for approximately eighteen months before Mr. Choi decided to leave the collaboration.²⁸ Mr. Choi had not been paid for his work, and was under the impression that Dr. Yoon was not satisfied with his work.²⁹ Later that same year, Dr. Yoon filed a patent application disclosing various embodiments of a safety trocar.³⁰ After the '773 patent issued a few years later, Dr. Yoon granted an exclusive license to Ethicon.³¹

Ethicon filed suit against U.S. Surgical in 1989 for infringement of claims 34 and 50 of the '773 patent.³² During the course of the litigation, defendant U.S. Surgical became aware of Mr. Choi.³³ U.S. Surgical made a claim that the inventorship on the '773 patent was wrong because Mr. Choi should have been listed as a co-inventor, and moved for the court to correct inventorship pursuant to 35 U.S.C. § 256 and include Mr. Choi.³⁴ U.S. Surgical also signed a contract with Mr. Choi in which he granted to them a retroactive license to practice the invention.³⁵

²⁴ *Id.* at 1459.

²⁵ *Id.*

²⁶ *Id.*

²⁷ *Id.*

²⁸ *Id.*

²⁹ *Id.*

³⁰ *Id.*

³¹ *Id.*

³² *Id.*

³³ *Id.*

³⁴ *Id.*

³⁵ *Id.* Under the terms of the agreement, U.S. Surgical would give Choi an immediate payment of \$300,000, in addition to future payments of up to \$100,000 per year for ten years that were contingent on U.S. Surgical's prevailing in the litigation. *Id.* at 1465.

The court ultimately found that Mr. Choi had contributed to the conception of two of the 55 claims of the '773 patent (claims 33 and 47), and, therefore, was a co-inventor.³⁶ Being a co-inventor, he was also a co-owner of the patent.³⁷ Being a co-owner, he could unilaterally grant U.S. Surgical a license to practice the invention.³⁸ However, the Federal Circuit would not allow the license obtained by U.S. Surgical from Mr. Choi to extend retroactively to past infringement.³⁹

Though the decision of the Federal Circuit to not allow the license to extend to past infringement may have seemed like a win for Ethicon, the victory was fleeting. The court went on to hold that Mr. Choi, as a co-owner, was a necessary party to bring suit for infringement.⁴⁰ All co-owners must join in a patent infringement suit to meet the threshold requirement of standing.⁴¹ Because Mr. Choi, a co-owner of the '773 patent, had not consented to an infringement suit against U.S. Surgical, and could no longer consent based on the terms of his license agreement with U.S. Surgical, Ethicon's infringement suit was dismissed by the court for lack of standing.⁴²

As a result, Mr. Choi, an inventor found to have contributed to only two claims out of the 55 claims of the '773 patent (and, in fact, *different* claims than those that were being asserted by Ethicon in the infringement suit), had the power to freely license rights (at least prospectively) in the *entire* patent.⁴³ Moreover, one joint inventor could effectively prevent another joint inventor from enforcing the patent against a potential infringer for past infringement by not joining in the suit.

³⁶ *Id.*

³⁷ *Id.*

³⁸ *Id.* at 1465–66.

³⁹ *Id.* at 1467.

⁴⁰ *Id.*

⁴¹ *Id.* at 1468 (“[A]s a matter of substantive patent law, all co-owners must ordinarily consent to join as plaintiffs in an infringement suit.”).

⁴² *Id.* (noting that Mr. Choi had granted an exclusive right to sue in the license to U.S. Surgical).

⁴³ *See id.* at 1468 (Newman, J., dissenting).

3. *All Owners Must Join to Bring a Suit for Infringement*

As counseled by the court in *Ethicon*, it is necessary for all co-owners to join in the litigation to have standing to sue.⁴⁴ Standing is a procedural requirement that can be brought by motion under the Federal Rules of Civil Procedure⁴⁵ even after the conclusion of a long and expensive trial.

This danger is also illustrated in *Lucent Techs., Inc. v. Gateway, Inc.*⁴⁶ In *Lucent*, because the court found that the patent had a co-owner, by virtue of co-inventorship, who had not joined in the suit, the district court granted judgment as a matter of law (“JMOL”) after the conclusion of the trial based upon on a lack of standing, overturning a jury verdict of \$1.5 billion for the patentee.⁴⁷ The decision was appealed, but was eventually affirmed by the U.S. Court of Appeals for the Federal Circuit.⁴⁸ Again, though joint work leading to co-inventorship was found in only two of the claims (claims 2 and 4), the joint owner was a necessary party to the suit.⁴⁹ Regardless of the merits of the case, the patent could not be enforced in court without joining all of the co-owners, and the judgment, though already handed down by a jury, was thrown out.⁵⁰

These cases strongly advise that if subject matter appearing anywhere in the claims were developed during a collaboration of two or more parties, one cannot simply choose to omit the name of one collaborator due to ownership concerns. An ownership issue may linger just under the surface, only to later rise and prevent the patent’s enforcement. As noted at the beginning of this section, having incorrect inventorship on a patent may be grounds for

⁴⁴ *Id.* at 1467. Unless, for example, co-owners have granted each other a unilateral right to sue. *See id.* at 1554.

⁴⁵ FED. R. CIV. P. 12(b)(7).

⁴⁶ 543 F.3d 710 (Fed. Cir. 2008).

⁴⁷ *Id.* at 712, 721.

⁴⁸ *Id.* at 722.

⁴⁹ *Id.* at 716. In fact, the court notes that claim 2 was canceled from the patent when it was reissued, and thus ownership may in fact only attach based on one claim—claim 4. *Id.* at 719 n.5.

⁵⁰ *See id.*

completely invalidating it, especially if the inventorship is no longer correctable at that point.⁵¹

Instead, potential ownership concerns may be addressed through the presentation of the claims of the patent during prosecution.⁵² This is because it is the claims, and not the application as a whole, that determines inventorship. Though a patent application may be hundreds of pages long in its description, with many concepts and examples included therein, it is the concise language of the claims at the very end of that document, which may be only a few pages long, that determine ownership;⁵³ and claims can be amended or canceled.

B. *A Practical Approach to Inventorship*

Clearly, having the correct inventorship of a patent is important both under current law and after the AIA comes into effect. Of course, a formal inventorship review may be conducted, which normally involves document and fact gathering, and personal interviews, together with the review of these items by an experienced patent attorney. Certainly this approach is ideal, and may be appropriate under the right circumstances. But, how can the topic of inventorship be approached short of (or, perhaps, in addition to) a formal and potentially expensive inventorship review? What follows is a practical approach to addressing the question of inventorship under normal circumstances.⁵⁴

Four action points make up the practical approach to inventorship presented herein: (1) *Know* the general legal standard for inventorship; (2) *Ask* about each potential contributor's involvement in the project; (3) *Obtain* more in-depth legal advice

⁵¹ See correction of inventorship discussion *infra* Part IV.

⁵² See *Lucent*, 543 F.3d at 722 n.6 (noting that claim 4 could have also been canceled in the reissue application in addition to claim 2 for AT&T, and subsequently Lucent, could have retained sole ownership of the patent).

⁵³ As is often the case in patent law, "*the name of the game is the claim.*" Giles S. Rich, *Extent of Protection and Interpretation of Claims—American Perspectives*, 21 INT'L REV. INDUS. PROP. & COPYRIGHT L. 497, 499 (1990) (emphasis added).

⁵⁴ This is not legal advice, and each situation is different.

if a question or dispute arises; and (4) *Disclose* any questions of inventorship to the U.S. Patent Office.

The first action point is to know the general legal standards. This provides a foundation of the concepts that will be applied by a court and should be kept in mind throughout the consideration of inventorship. The second action point is to gather the available information: obtain documents and laboratory notebooks, and ask those involved in the project leading to the invention what roles they see others having played in the project. Preferably, a cohesive story behind the invention will begin to materialize when multiple people are interviewed. If a question arises during the asking and documents gathering, or even thereafter, professional legal advice should be sought, as action point number three suggests. Finally, the fourth action point recommends that inventorship questions or ambiguities be disclosed to the U.S. Patent Office to comply with the duty of disclosure.⁵⁵

Part III below provides a general overview of the legal standards for inventorship to know for the first action point.

III. GENERAL LEGAL CONCEPTS, EVIDENCE, AND TIMING

Inventorship has been described as “one of the muddiest concepts in the muddy metaphysics of patent law.”⁵⁶ This oft-quoted statement from the Eastern District of Pennsylvania highlights the lack of bright-line standards in the case law concerning inventorship. But, there are some general concepts that should be kept in mind when conducting an inventorship inquiry.

⁵⁵ See discussion on the disclosure to the Patent Office to comply with the duty of disclosure under 37 C.F.R. § 1.56 (2012) *infra* Part IV.

⁵⁶ *Mueller Brass Co. v. Reading Indus.*, 352 F. Supp. 1357, 1372 (E.D. Pa. 1972).

A. *Clearing the Mud—General Legal Concepts*

1. *Contribution to the Conception of At Least One Claim*

First, the focus of the inventorship determination is on the claims.⁵⁷ Inventive contributions of individuals are probed with respect to the subject matter included in the claims, which may or may not reflect everything that is contained in the application as a whole.⁵⁸ Furthermore, and as illustrated *supra* in the discussion of *Ethicon*,⁵⁹ one claim out of the entire claim set is enough.⁶⁰

To be an inventor, a person must have contributed to the “conception” of at least one claim.⁶¹ Conception, the “touchstone of inventorship,”⁶² is the mental part of invention, the brain-intensive problem-solving that goes on inside an inventor’s mind as a problem and potential solutions are considered in detail. A person does not become an inventor merely by suggesting a desired end result, a general approach, or a research plan he or she hopes to pursue—he or she must contribute to the development of a viable means by which that result may actually be achieved.⁶³

Further, the thinker must be able to describe the invention with “particularity.”⁶⁴ That is, the solution must be defined in sufficient detail in the thinker’s mind, such that no more than “ordinary skill would be necessary to reduce the invention to practice, without extensive research or experimentation.”⁶⁵

⁵⁷ This discussion of inventorship under patent law assumes that, at the very least, an application has actually been drafted and some idea of the claims has been achieved.

⁵⁸ See *Laitram Corp. v. NEC Corp.*, 163 F.3d 1342, 1347 (Fed. Cir. 1998) (“[I]t is the *claims*, not the written description, which define the scope of the patent right.”).

⁵⁹ See *supra* Part II.A.2.

⁶⁰ *Laitram Corp.*, 163 F.3d at 1347.

⁶¹ *Ethicon Inv. v. U.S. Surgical Corp.*, 135 F.3d 1456, 1460 (Fed. Cir. 1998).

⁶² *Burroughs Wellcome Co. v. Barr Labs., Inc.*, 40 F.3d 1223, 1227–28 (Fed. Cir. 1994).

⁶³ *Ethicon, Inc. v. U.S. Surgical Corp.*, 937 F. Supp. 1015, 1035 (D. Conn. 1996), *aff’d*, 135 F.3d 1456 (Fed. Cir. 1998).

⁶⁴ *Burroughs Wellcome*, 40 F.3d at 1228.

⁶⁵ *Id.*

Testing the solution or reducing the idea to practice is not usually necessary to achieve a complete conception.⁶⁶ And a person who merely acts to reduce to practice a complete conception, or has simply followed the instructions of another in performing experiments, is normally not considered an inventor.⁶⁷ Nonetheless, records documenting reduction to practice can serve as evidence to corroborate the acts of conception.⁶⁸

2. *Joint Inventorship*

Two or more persons working together to achieve conception at the required level of particularity are considered co-inventors (or joint inventors).⁶⁹ Each co-inventor need not contribute to the conception of every claim of a patent; a single claim is sufficient.⁷⁰ Also, it is not necessary that each inventor has the same type or the same amount of contribution, or even that they physically work on the invention together or at the same time.⁷¹

It is not necessary that the entire inventive concept to occur to each of the joint inventors, or that the two should physically work on the project together. One may take a step at one time, the other an approach at different times. One may do more of the experimental work while the other makes suggestions from time to time. The fact that each of the inventors plays a different role and that the contribution of one may not be as great as that of another, does not detract from the

⁶⁶ See *id.* (“An inventor’s belief that his invention will work or his reasons for choosing a particular approach are irrelevant to conception.”). Although there is a concept of “simultaneous conception and reduction to practice,” this is only when conception cannot be complete until reduction to practice has happened. See *id.* In general, “reduction to practice” is the development or testing of a practical embodiment of the more generally defined invention. See MPEP § 2138.05 (8th ed. Rev. 8, July 2010).

⁶⁷ See *Maxwell v. K Mart Corp.*, 880 F. Supp. 1323, 1334 (D. Minn. 1995); see *Mueller Brass Co. v. Reading Indus.*, 352 F. Supp. 1357, 1372 (E.D. Pa. 1972), *aff’d*, 487 F.2d 1395 (3d Cir. 1973).

⁶⁸ *Burroughs Wellcome*, 40 F.3d at 1228–29 (“[A]n inventor need not know that his invention will work for conception to be complete. He need only show that he had the idea; the discovery that an invention actually works is part of its reduction to practice.”).

⁶⁹ *Id.* at 1227.

⁷⁰ 35 U.S.C. § 116 (2006); *Ethicon Inv. v. U.S. Surgical Corp.*, 135 F.3d 1456, 1460 (Fed. Cir. 1998).

⁷¹ 35 U.S.C. § 116; see also *Falana v. Kent State Univ.*, No. 2011-1198, 2012 WL 171550, at *6 (Fed. Cir. Jan. 23, 2012).

fact that the invention is joint, if each makes some original contribution, though partial, to the final solution of the problem.⁷²

However, each co-inventor does need to “contribute in some significant manner to the conception of the invention.”⁷³ A person who has merely followed the instructions of another in performing experiments, without more, has not contributed to the conception, and, thus, cannot be a co-inventor.⁷⁴ That is, a person who merely acts to reduce the inventor’s complete conception to practice is not a joint inventor.⁷⁵

3. *What Is Known in the Art*

The putative inventor performs the mental task of inventing by creating and coalescing ideas and, perhaps, the ideas of a collaborator, or putative co-inventor, in his or her mind. But, does it matter that the collaborator is contributing ideas that are known in the art, or must they be completely original? When does providing information that is publicly known in the art rise to the level of contributing to conception?

Explaining concepts that are well-known and found in textbooks does not rise to the level of inventive contribution.⁷⁶ “[I]t can make no difference, in this respect, whether [the inventor] derives his information from books, or from conversation with men skilled in the science.”⁷⁷ Similarly, “simply teaching skills or general methods that somehow facilitate a later invention, *without more*,”⁷⁸ or the “basic exercise of the normal skill expected of one

⁷² *Monsanto Co. v. Kamp*, 269 F. Supp. 818, 824 (D. D.C. 1967).

⁷³ *Fina Oil & Chem. Co. v. Ewen*, 123 F.3d 1466, 1473 (Fed. Cir. 1997).

⁷⁴ *Mueller Brass Co. v. Reading Indus., Inc.*, 352 F. Supp. 1357, 1372 (E.D. Pa. 1972), *aff’d*, 487 F.2d 1395 (3d Cir. 1973).

⁷⁵ *Maxwell v. K Mart Corp.*, 880 F. Supp. 1323, 1334 (D. Minn. 1995).

⁷⁶ *Hess v. Advanced Cardiovascular Sys. Inc.*, 106 F.3d 976, 981 (Fed. Cir. 1997).

⁷⁷ *O’Reilly v. Morse*, 56 U.S. 62, 111 (1853).

⁷⁸ *Falana v. Kent State Univ.*, No. 2011-1198, 2012 WL 171550 at *7 (Fed. Cir. Jan. 23, 2012) (emphasis added) (quoting *Bd. of Educ. ex rel. Bd. of Trs. of Fla. State Univ. v. Am. BioSci., Inc.*, 333 F.3d 1330, 1342 (Fed. Cir. 2003)).

skilled in the art” is not normally a sufficient contribution to be a co-inventor.⁷⁹

Generally, once an idea becomes public knowledge, the person it originated from cannot be said to contribute to conception of any idea built thereupon.⁸⁰ However, what is technically “known” in the art is not necessarily decisive. A person who contributes his own ideas, as opposed to “well-known” principles, in a collaborative relationship with another person that leads to an embodiment of the claimed invention, may be appropriately included as an inventor.⁸¹ This can be true even though the ideas contributed by that person have been publicly disclosed more than a year earlier, so that a patent on those ideas, as such, would technically be barred as prior art under 35 U.S.C. § 102(b).⁸²

4. *Summary of Legal Concepts*

Taken together, there are various concepts in inventorship law without bright lines, and ultimate determination of who provided an inventive contribution to conception of the claimed invention can be difficult in practice, particularly when multiple parties are involved.⁸³ Nevertheless, these concepts provide general guideposts, and should certainly be kept in mind as the determination is considered.

⁷⁹ *Id.*, at *8 (quoting *Fina Oil & Chem. Co. v. Ewen*, 123 F.3d 1466, 1473 (Fed. Cir. 1997)).

⁸⁰ *Id.* at *8 (“This holding does not mean that such an inventor necessarily has a right to claim inventorship of all species within that genus which are discovered in the future. Once the method of making the novel genus of compounds becomes public knowledge, it is then assimilated into the storehouse of knowledge that comprises ordinary skill in the art.”). See also *Eli Lilly & Co. v. Aradigm Corp.*, 376 F.3d 1352, 1362 (Fed. Cir. 2004).

⁸¹ See *Fina Oil*, 123 F.3d at 1473 (noting that joint inventors must contribute in a “significant manner to conception of the invention”).

⁸² *Pannu v. Iolab Corp.*, 155 F.3d 1344, 1351 (Fed. Cir. 1998) (holding that even though the plaintiff disclosed his ideas to others, including the defendant a year earlier, his ideas still contributed to the invention between plaintiff and defendant).

⁸³ *Fina Oil*, 123 F.3d at 1473 (“The determination of whether a person is a joint inventor is fact specific, and no bright-line standard will suffice in every case.”).

As a basic summary of these concepts, an inventor, with respect to the *claimed* invention is one who: contributed to the “conception” of at least one claim (the *mental* part of the invention), and contributed to a “complete” conception thereof, such that only routine skill would have been required to carry out the complete idea (i.e., only routine skill needed to reduce to practice). Regarding co-inventors, each need not have made the same amount or type of contributions to the invention, or physically worked on the invention together or at the same time. But each must have contributed in some significant manner to conception of the invention, and not merely with ideas or concepts already well-known in the art.

Again, if there is at least one claim in which contribution was made to complete conception, the individual should be named as an inventor as to the entire patent. If this may lead to an undesired commingling of ownership, the claim set may be drafted or amended to exclude those claims that may potentially affect ownership, or those claims may be presented in other applications.⁸⁴

B. Evidence Considered by the Courts

Within this legal framework, evidence of contributions to the project that lead to the invention should be gathered and considered. Toward that end, the second action point of the practical approach outlined above is to ask questions. Ask potential contributors (and preferably multiple people involved in the project), and compare notes. This may lead to the identification of relevant documentation and also probe what testimonial evidence may be available. Typically this evidence will include laboratory notebooks and communications between collaborators. However, other kinds of evidence may be found.

A later challenge to inventorship must be supported by corroborating evidence of a contemporaneous disclosure.⁸⁵

⁸⁴ For an illustration on how this may be done in practice, see Murphy & Sibley, *supra* note 13.

⁸⁵ *Burroughs Wellcome Co. v. Barr Labs., Inc.*, 40 F.3d 1223, 1228 (Fed. Cir. 1994); *see also* *Mahurkar v. C.R. Bard*, 79 F.3d 1572, 1577 (Fed. Cir. 1996)

Gathering evidence and having knowledge of what evidence may be available will aid in making a correct inventorship determination during the proper times in which to consider this issue.

Some of the different types of documentary evidence considered by courts in making an inventorship determination can be seen in the recent case of *Falana v. Kent State University*.⁸⁶ Dr. Olusegun Falana brought suit against Kent State University, Kent Displays, Inc. (KDI), and the three inventors listed on the face of U.S. Patent 6,830,789 (“’789”), seeking correction of inventorship under 35 U.S.C. § 256.⁸⁷ Dr. Falana asserted that he was an omitted co-inventor and wanted the patent to be corrected by adding him to the list of inventors on the patent.⁸⁸ The U.S. District Court of the Northern District of Ohio agreed, ordering the U.S. Patent Office to issue a certificate of correction adding Dr. Falana to the patent as an inventor.⁸⁹ Further, the court found the case to be exceptional under 35 U.S.C. § 285 and awarded attorney fees to Falana.⁹⁰

The ’789 patent is directed to a class of chemical compounds useful in the manufacture of liquid crystal displays (“LCDs”) used in various electronic devices.⁹¹ Dr. Falana, a Ph.D. level chemist, had developed a method of synthesizing a particular class of compounds—naphthyl substituted TADDOLs.⁹² The compound actually synthesized by Dr. Falana (Compound 7) while he was working on the project did not satisfy the goals of the project and was not, therefore, commercially viable.⁹³ However, after Dr.

(explaining that without such a requirement for corroboration, there would be a great temptation to perjury.).

⁸⁶ No. 2011-1198, 2012 WL 171550 (Fed. Cir. Jan. 23, 2012).

⁸⁷ *Id.* at *3. Two of the three inventors and KDI were dismissed from the suit at the District Court level after they made the statement that they had no disagreement with the addition of Dr. Falana as a co-inventor on the patent. *Id.* at *6.

⁸⁸ *Id.* at *1-2.

⁸⁹ *Id.*

⁹⁰ *See id.*

⁹¹ *Id.*

⁹² *Id.* at *4.

⁹³ *Id.*

Falana left KDI and Kent State University, his synthetic method continued to be used by the named inventors to create other naphthyl substituted TADDOL compounds.⁹⁴ One of the compounds synthesized after Dr. Falana left (Compound 9) did meet the goals of the project.⁹⁵ The patent application leading to the '789 patent was filed soon after, but did not name Dr. Falana as a co-inventor.⁹⁶ Considering the evidence as outlined above, the Federal Circuit agreed with the District Court, concluding that Dr. Falana had contributed more to the project than the exercise of ordinary skill, and should be a named co-inventor of the '789 patent.⁹⁷

To be added as an inventor in an issued patent, which enjoys a presumption of validity, contribution to conception must be shown by clear and convincing evidence.⁹⁸ Furthermore, the evidence must be contemporaneous with the act of invention and be corroborated.⁹⁹ Thus, documentary evidence clearly showing a contribution to conception that is close to the time of invention is important to prove co-inventorship.

The evidence considered by the court in *Falana* included a United Kingdom patent application filed in 1991 by another inventor listed on the patent, including that inventor's comments explaining how it had represented his earlier work;¹⁰⁰ an advertisement in a trade magazine seeking a high-level scientist (a post-doctoral researcher) to synthesize chiral organic molecules for

⁹⁴ *Id.* at *2.

⁹⁵ *Id.*

⁹⁶ *Id.*

⁹⁷ *Id.* at *6–9. One of the arguments on appeal was that the compound Dr. Falana synthesized was not commercially viable. *Id.* at *4. However, the court noted that the claims of the '789 patent were not limited to the preferred embodiment of Compound 9. *Id.*

⁹⁸ 35 U.S.C. § 282 (2006); *Microsoft v. i4i Ltd. P'ship*, 131 S. Ct. 2238, 2242 (2011) ("We consider whether § 282 requires an invalidity defense to be proved by clear and convincing evidence. We hold that it does.").

⁹⁹ *Burroughs Wellcome Co. v. Barr Labs., Inc.*, 40 F.3d 1223, 1228 (Fed. Cir. 1994); *see also Mahurkar v. C.R. Bard*, 79 F.3d 1572, 1577 (Fed. Cir. 1996) (explaining that without such a requirement for corroboration, there would be a "great temptation to perjury").

¹⁰⁰ *Falana*, 2012 WL 171550, at *5–6.

the research project to which Dr. Falana had responded prior to being hired,¹⁰¹ and grant applications to the National Science Foundation listing Dr. Falana and the named inventors as “Co-Research Institution Investigators.”¹⁰² These examples of documentary evidence served to paint Dr. Falana as a thinker in the project, one who was aiding in the problem solving that ultimately led to the invention.

Another form of evidence considered by the court was a letter to the Immigration and Naturalization Service in support of Dr. Falana’s immigration status, in which he was described as “the sole organic chemist responsible for the synthesis of the chiral material.”¹⁰³ The immigration status letter stated that Dr. Falana’s “outstanding performance led to a patent we are currently preparing and a proposal we have submitted to [the National Science Foundation].”¹⁰⁴ The letter was dated April 1999, and Dr. Falana had resigned from Kent State to take another position in September of that same year.¹⁰⁵ The patent application was filed in June 2000.¹⁰⁶ Thus, the letter was close in time to, and therefore deemed contemporaneous with, the time of invention.¹⁰⁷

Falana illustrates that a court may consider the broader events leading up to a claimed invention in its determination of the inventorship. Here, though the claims at issue were drawn to compounds, and not methods of making such compounds, Dr. Falana’s previous development of a synthetic route to make such compounds was found to contribute to the conception of the ultimate compound claims at issue.¹⁰⁸ *Falana* also demonstrates that evidence used to corroborate a claim to inventorship can take many forms. Therefore, probing documents contemporaneous with invention should go beyond the traditional laboratory notebooks.

¹⁰¹ *Id.* at *1.

¹⁰² *Id.*

¹⁰³ *Id.* at *2.

¹⁰⁴ *Id.*

¹⁰⁵ *Id.*

¹⁰⁶ *Id.*

¹⁰⁷ *See id.*

¹⁰⁸ *Id.* at *9, *11.

C. *Timing—When to Consider Inventorship*

Consideration of inventorship could begin with an invention disclosure form or similar documentation that is submitted by contributors, and be revisited at several points during patent preparation, prosecution and the life of the patent.

An invention report, disclosure, or related document provides a starting point upon which the application may be drafted and claims determined. However, though an invention report, disclosure, or related document may provide some ideas as to who might be considered, at this early stage the application has not been written and the claims not yet drafted. Therefore, unless it is a situation where it is quite clear who the inventor or co-inventors will be, the decision of who to include as the inventors of the application should be saved until after a claim set is in place.

The first occasion to consider inventorship to some detail is prior to or soon after filing. For example, when preparing an application, inventorship may be considered after review of the draft claims just prior to filing or the final claims upon filing. At that point, the invention disclosure document may be reviewed, as well as other documentary evidence, and interviews conducted for the determination of who contributed to conception of the claimed subject matter.

Inventorship may also need to be revisited and updated after filing, during prosecution, when a change to the claim set is proposed. For example, if groups of claims are canceled after receiving a restriction requirement, persons whose contributions no longer appear in the claims must be deleted from the list of inventors.¹⁰⁹

¹⁰⁹ See MPEP § 817 (8th ed. Rev. 8, July 2010) (providing a reminder that, upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 C.F.R. § 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application). A restriction requirement is made by the U.S. Patent Office when it is deemed that two or more independent or distinct inventions are claimed in a single application, and the applicant must then elect one of the inventions to be examined in the application for patent. See *id.* at § 802.02.

Inventorship may also be revisited at the end of prosecution, when the U.S. Patent Office allows the application and it stands ready to be issued as a patent. Though there are cases in which the original claims are issued with no, or substantially no, amendments during prosecution, more substantial amendments may change the claims enough to affect who should be included as an inventor.¹¹⁰

Once the initial application has been allowed, inventorship should be considered when filing a continuation or divisional application containing a different claim set than the parent application. Then, once again, inventorship should be considered during prosecution of that subsequent application if claims are canceled or substantially changed.

The points in time noted above all coincide with creating and changing the makeup of the claim set of an application or family of applications during preparation and prosecution of patents. Another time when inventorship might be prudently considered is just before licensing, whether you are the putative licensee who is probing the portfolio during due diligence, or the licensor who needs to be prepared to answer questions regarding inventorship during licensing negotiations.¹¹¹ As highlighted by the case law discussed above in Part II A, another time inventorship should be considered is before the onset of litigation, and, if possible, any potentially problematic claims should be identified and canceled from the claim set.

But perhaps the most important time of all to probe inventorship is anytime questions arise. When they do, a more detailed level of investigation should be performed. A full inventorship determination with the assistance of counsel may even be warranted to determine the correct inventorship. Failure to fully investigate inventorship can lead to allegations of deceptive intent, and its bedfellow, inequitable conduct.¹¹² Thus, the third

¹¹⁰ See 37 C.F.R. § 1.48(b)-(c) (2011).

¹¹¹ This is particularly true if a formal review of inventorship has not been done prior to the point at which the patent is to be licensed.

¹¹² Inequitable conduct is a defense to patent infringement in which a patent may be valid, but is held unenforceable under principles of equity. *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276, 1285 (Fed. Cir. 2011) (en banc). It is known as “the ‘atomic bomb’ of patent law” because, unlike an

action point presented above is to obtain more in-depth legal advice if a question or dispute arises.

Questions can arise when the inventorship is discussed with named inventors and/or other colleagues, such as when the named inventors express their surprise that someone was or was not included as an inventor. Though this may very well be the result of the person simply not aware of the legal standards for inventorship, asking questions is advisable to determine why that person thinks the listing does not seem correct.

In fact, the apparent lack of understanding of the applicable law of inventorship may, itself, constitute a red flag. A scientific inventor, for example, may assume that an inventorship listing in the patent application would be similar to authorship of a publication, or that a supervisor or department head should always be included—both of which are erroneous assumptions.

In addition, questions arise if there is some reason from the written record to believe that the inventorship may be incorrect. For example, if the work included in the patent application appears in a manuscript or grant application that lists other authors who appear to have a significant role in the project, a deeper understanding of the contributions is warranted.¹¹³ This is particularly advisable if there are other persons from different companies or institutions, which may ultimately affect ownership.

A review of the written record may also reveal a lack of carefully kept laboratory notebooks on the part of the inventors, warranting a further investigation that may require formal interviews to obtain the corroborating evidence that a court will look to if inventorship is later questioned.

Signs of personal bias or business bias may also be a warning sign. In this instance care should be taken not only to ensure that persons are listed as inventors who should be, but also persons are

invalidity defense, which is claim-specific, it renders the entire patent unenforceable, and can even spread to other related patents. *Id.* at 1288 (quoting *Aventis Pharma S.A. v. Amphastar Pharm., Inc.*, 525 F.3d 1334, 1349 (Fed. Cir. 2008) (Rader, J., dissenting)).

¹¹³ See *Falana v. Kent State University*, No. 2011-1198, 2012 WL 171550 (Fed. Cir. Jan. 23, 2012).

not listed who should not be.¹¹⁴ The assistance from an attorney who is outside of the organization may be helpful as an independent reviewer.

Despite the sincerity of these efforts, they may not guarantee that the determination made was correct when considering the murky case law surrounding inventorship. But, if it is not correct, a court may correct it later under § 256.¹¹⁵ However, correction under § 256 may not save the patent from any bad apples that may be lurking in its history. It is the bad apple that is the real hidden danger.

IV. CORRECTION OF INVENTORSHIP AND ONE BAD APPLE

Though inventorship errors may have dire consequences, invalidation of the patent is not normally one of them because errors can normally be corrected.¹¹⁶ This is true both in the existing law and under the AIA. In addition, the AIA may make it easier to effect the correction of inventorship. However, even if technically correctable under the applicable statutes, the patent may nevertheless be vulnerable to being held unenforceable by a court under the doctrine of inequitable conduct. Questions regarding inventorship should be disclosed to the Patent Office during examination to comply with the duty of disclosure and help guard against any such allegations of inequitable conduct during enforcement.

¹¹⁴ See *Mueller Brass Co. v. Reading Indus., Inc.*, 352 F. Supp. 1357, 1375–76 (E. Dist. Penn. 1972) (finding misjoinder of an inventor and then considering whether there was any deceptive intent and whether the misjoinder served to provide any gain to the patentee that she otherwise would not have had).

¹¹⁵ 35 U.S.C. § 256 (2006).

¹¹⁶ See *Monsato Co. v. Kamp*, 269 F. Supp. 818, 824 (“[I]t should be observed that the patent law does not regard as crucial the question whether an invention is the product of several joint inventors, or of a sole inventor. A misjoinder or nonjoinder of joint inventors, does not invalidate a patent. An error in that respect may be corrected . . .”); *Mueller*, 352 F. Supp. at 1379 (“Sections 116 and 256 evidence realization on the part of Congress that because of the haziness of the boundaries of co-inventorship status and the realities of work in large research labs, misjoinder is bound to be common and should be easily correctable at any time with no loss of benefit under the law.”).

A. Inventorship Correction and Changes to It Under the AIA

Sections 116 and 256 of 35 U.S.C. allow correction of inventorship “error” in a patent application or issued patent, respectively, provided there was *no deceptive intent* on the part of included or omitted inventors.¹¹⁷ To correct inventorship under § 116 during the prosecution of a pending patent, the inventors being added or deleted must submit sworn statements that there was no deceptive intent on their part.¹¹⁸ Under the AIA, the deceptive intent requirement was stricken:

35 U.S.C. 256 Correction of named inventor.

Whenever through error a person is named in an issued patent as the inventor, or through error an inventor is not named in an issued patent ~~and such error arose without any deceptive intention on his part~~, the Director may . . . issue a certificate correcting such error.¹¹⁹

Despite its appearance, the amendment is not really removing a safeguard against deceptive intent of patentees, but removing an odd and superfluous provision, particularly with respect to omitted inventors.¹²⁰ Considering that being named as an inventor on a patent is normally welcomed, this requirement of no deceptive intent on the part of an omitted inventor was not difficult to meet in practice.

In addition, it is the omission of an inventor, or “nonjoinder,” for which the notable consequences may occur. Addition of an inventor may thereby add a co-owner, and that co-owner might be able to freely license the invention or prevent enforcement of the patent by refusing or not being able to join in a lawsuit. Furthermore, the courts do not favor an infringement defense of

¹¹⁷ *Diligence in correction* by the applicant is no longer required under 37 C.F.R. § 1.48 (1997). See *Schulze v. Green*, 136 F.3d 786, 789 n.3 (Fed. Cir. 1998).

¹¹⁸ 37 C.F.R. § 1.48 (2011).

¹¹⁹ See Leahy-Smith America Invents Act, Pub. L. No. 112-29, § 20, 125 Stat. 284, 334 (2011). Language in § 256 pertaining to correction of inventorship on a patent already issued was similarly amended. See *id.*

¹²⁰ An omitted inventor, or nonjoinder, is where a true inventor is not named on an application or patent, but should have been included along with the named inventors. See, e.g., discussion of *Ethicon supra* Part II.A.2; discussion on *Falana supra* Part III.B.

having named too many inventors on a patent, termed "misjoinder."¹²¹

The correction of a patent for nonjoinder is illustrated in the case of *Stark v. Advanced Magnetics, Inc.*¹²² In *Stark*, Dr. David Stark, a physician specializing in radiology, had developed magnetic resonance imagining ("MRI") technologies in collaboration with Advanced Magnetics, Inc. ("AMI"), which led to six issued patents.¹²³ However, Dr. Stark was not named on any of these patents, so he filed suit, alleging, inter alia, a state law claim of fraud on the part of AMI.¹²⁴ AMI, in turn, argued that because Dr. Stark alleged fraud in his pleadings, he could not bring the action under § 256 to correct inventorship because he pled that there was deceptive intent.¹²⁵

Though the court acknowledged the question of deceptive intent on the part of the inventors who *were* named on the patent, the court held that correction for nonjoinder of inventors is authorized by the plain language of § 256 when there is no deceptive intent *on the part of the omitted inventors*, and, thus, does *not* require inquiry into the intent of the originally-named inventors.¹²⁶ Therefore, correction of the patents was allowed. However, the court did note that fraud on the part of the named inventors may have implications under the doctrine of inequitable conduct.¹²⁷ But, that issue was not reached by the court in *Stark*, so the comment was merely dicta.¹²⁸

¹²¹ *Mueller*, 352 F. Supp. at 1372-73 ("It is worth observing here that nonjoinder has often been treated more harshly than misjoinder, even when raised by a third party, because of the more suspicious nature of a failure to give credit initially to one entitled to credit."). Furthermore, "even if plaintiffs knew of the misjoinder, and thought they were defrauding the Patent Office because they hadn't read the law, their act would lack the materiality needed to sustain the counterclaim [of inequitable conduct]." *Id.* at 1379.

¹²² 119 F.3d 1551 (Fed. Cir. 1997).

¹²³ *Id.* at 1552.

¹²⁴ *Id.*

¹²⁵ *Id.*

¹²⁶ *Id.* at 1556.

¹²⁷ *Id.* at 1555-56.

¹²⁸ *Id.*

The issue was reached, however, in *Frank's Casing Crew & Rental Tools, Inc. v. PMR Technologies, Ltd.*¹²⁹ Here, though the patent could be corrected under § 256 to add an innocent omitted co-inventor,¹³⁰ the patent was nonetheless held to be unenforceable for inequitable conduct as two of the named inventors (brothers Darrell and Larry Vincent) “deliberately concealed” the involvement of the unnamed co-inventor, Dr. Weiner, in the invention claimed in U.S. Patent No. RE 34,063, and “engaged in a pattern of intentional conduct designed to deceive the attorneys and patent office as to who the true inventors were.”¹³¹

Frank's Casing, the assignee of Dr. Weiner's interest, sought to correct the '063 patent to name Dr. Weiner as the sole inventor and appealed to the Federal Circuit to overturn the District Court in holding the patent unenforceable for inequitable conduct so that they might obtain enforceable rights to the patent.¹³² Frank's argued that, because the Vincent brothers were not true inventors of the '063 patent, their conduct should not render the patent unenforceable with respect to the true, innocent inventor.¹³³

The court declined: “[I]f unenforceable due to inequitable conduct, a patent may not be enforced even by ‘innocent’ co-inventors. *One bad apple spoils the entire barrel.* Misdeeds of co-inventors, or even a patent attorney, can affect the property rights of an otherwise innocent individual.”¹³⁴ Furthermore, “[t]his was not a situation where the patent would have issued without the participation of the wrongdoers.”¹³⁵ Despite unenforceability, the Court remanded for determination of correct inventorship, should

¹²⁹ 292 F.3d 1363 (Fed. Cir. 2002).

¹³⁰ *Id.* at 1370.

¹³¹ *Id.* at 1376.

¹³² *Id.* at 1376–77.

¹³³ *Id.*

¹³⁴ *Id.* at 1377 (quoting *Stark v. Advanced Magnetics*, 119 F.3d 1551, 1556 (Fed. Cir. 1997) (emphasis added)).

¹³⁵ *Id.* Under the doctrine of inequitable conduct, the intentional deceit must also be material to patentability. *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276, 1290 (Fed. Cir. 2011) (en banc).

the plaintiff still wish to pursue its claim under § 256 to correct the inventorship on a patent that is unenforceable.¹³⁶

Thus, under current law, deceptive intent is most relevant under the doctrine of inequitable conduct. Despite the language in § 256 stating that the patent should not be held invalid if correctable, it may nevertheless be held unenforceable under the doctrine of inequitable conduct.¹³⁷

Under the AIA, practitioners will no longer have to fulfill the procedural requirement of filing a statement at the Patent Office on behalf of the nonjoined inventors that they did not have deceptive intent in not being included on the filing. But, and as shown in *Frank's Casing*, the intent of the inventors may ultimately affect the patent rights by preventing enforcement under the doctrine of inequitable conduct.

B. *Disclose Inventorship Questions to the Patent Office*

Given the inequitable conduct issues noted above, practitioners, or anyone with a Rule 56 duty,¹³⁸ should take care to disclose any inventorship disputes. Thus, the fourth and final action point presented herein is to disclose any questions as to inventorship to the Patent Office. In fact, the Patent Office specifically notes that inventor disputes are material information,¹³⁹ and that an examiner should reject the application for patent under § 102(f) for improper inventorship.¹⁴⁰ Inventorship designations

¹³⁶ *Id.* (“Nothing in the statute governing a court’s power to correct inventorship, 35 U.S.C. § 256, however, prevents a court from correcting the inventorship of an unenforceable patent.”).

¹³⁷ 35 U.S.C. § 256 (2006).

¹³⁸ Under this rule, there is a duty to disclose to the U.S. Patent Office any information that is known to be material to patentability of any pending claim until the claim is canceled or withdrawn from consideration, or the application is abandoned. 37 C.F.R. § 1.56 (2011). The Rule 56 duty extends to anyone “substantively involved” in the prosecution. *Id.*; see also *Avid Identification Sys., Inc. v. Crystal Import Corp.*, 603 F.3d 967, 974 (Fed. Cir. 2010) (interpreting “substantively involved” as involvement relating to the content of the application or decisions related thereto, and not wholly administrative or secretarial in nature).

¹³⁹ MPEP §§ 2001.04, 2001.06(c), 2004 (8th ed. Rev. 8, July 2010).

¹⁴⁰ *Id.* § 2137.01.

may also have other prior art and double patenting implications.¹⁴¹ Failure to disclose inventorship questions to the Patent Office may lead to a finding of inequitable conduct.

In *PerSeptive Biosystems, Inc. v. Pharmacia Biotech, Inc.*,¹⁴² the Court of Appeals for the Federal Circuit affirmed a district court decision holding three patents unenforceable for inequitable conduct when close collaboration with unnamed inventors was not disclosed to the examiner at the U.S. Patent Office, and misleading statements regarding the involvement on the part of the omitted inventors were made.¹⁴³ The lower court found that the named inventors had intentionally presented falsehoods and omissions to the U.S. Patent Office on the subject of inventorship.¹⁴⁴

Specifically, the named inventors had falsely credited certain discoveries and work to themselves and misleadingly suggested that the unnamed inventors were only a source of raw materials.¹⁴⁵ There was “no doubt” that the inventorship was incorrect, and intentional misrepresentations, omissions, and half-truths were told to the U.S. Patent Office as a persistent course of conduct.¹⁴⁶ Regarding the materiality of the inventorship misrepresentations, the court opined:

As a critical requirement for obtaining a patent, inventorship is material. See, e.g., 35 U.S.C. § 102(f) (1994) (“A person shall be entitled to a patent unless . . . he himself did not invent the subject matter sought to be patented.”); 35 U.S.C. § 116 (“When an invention

¹⁴¹ See *id.*; see also *id.* § 804.03. In fact, the U.S. Patent Office is even authorized to require an applicant to identify the inventive entity of the subject matter of each claim in an application or patent, including invention dates where appropriate. 37 C.F.R. § 1.110.

¹⁴² 225 F.3d 1315 (Fed. Cir. 2000).

¹⁴³ *Id.* at 1322–23.

¹⁴⁴ *Id.* at 1320.

¹⁴⁵ *Id.* Even further, the district court found that after the named inventors surprised the collaborator, Polymer Labs, by filing for a patent on the properties exhibited by their particles (contradicting earlier assurances that such a patent would not be sought), PerSeptive announced to Polymer Labs that it would file suit if Polymer Labs sold their particles to anyone but PerSeptive. *Id.* at 1320 n.1.

¹⁴⁶ *Id.* at 1321.

is made by two or more persons jointly, they shall apply for a patent jointly.”).¹⁴⁷

The court also noted that the examiner must attend to the question of inventorship pursuant to § 102(f), also referenced by the MPEP:

Examiners are required to reject applications under 35 U.S.C. § 102(f) on the basis of improper inventorship. *See* Manual of Patent Examining Procedure § 2137.01 (hereinafter “MPEP”). Accordingly, the Manual of Patent Examining Procedure details the “rules” of inventorship to be used by examiners, *see id.*, and specifically notes that information about inventorship is material under 37 C.F.R. § 1.56, *see* MPEP § 2001.06(c) (inventorship disputes are material information); MPEP § 2004 (suggesting that applicants carefully consider inventorship in the duty to disclose context).¹⁴⁸

However, this subsection (f) has been deleted from § 102 in the AIA. Of course, the reliance of the majority opinion on § 102(f) to support materiality is questioned in the dissenting opinion of Judge Newman.¹⁴⁹ It seems unlikely that a court would allow such conduct to go unpunished after the AIA comes into effect, and will simply craft their reasoning in accordance with other sections untouched or added by the AIA.

A likely candidate section on which courts may now base the examiner’s duty to attend to the question of inventorship is the oath or declaration of the inventors under § 115, still required under the AIA, particularly if the rules implementing that section require inventors to state their belief in the correctness of the inventive entity.¹⁵⁰ Of course, a court might not feel the need to

¹⁴⁷ *Id.*

¹⁴⁸ *Id.*

¹⁴⁹ Indeed, Judge Newman’s dissent asserts that the inventorship of these patents were not incorrect in the first place. *Id.* at 1323 (Newman, J., dissenting). Regarding the “asserted commercial threat” by Perseptive noted by the majority, Judge Newman stated, “[w]hether or not this threat was supportable, it is unrelated to inventorship or inequitable conduct in the [U.S. Patent Office].” *Id.* at 1331 n.8.

¹⁵⁰ The final rules are not issued, so it is currently not clear whether the U.S. Patent Office will require the inventors to state their belief with respect to the entire inventive entity or only their own. New § 115 under the AIA does have a “savings clause” preventing the patent from being held unenforceable if the inventorship is remedied under § 115(a), perhaps providing an avenue for curing

point to a statute at all under the particular facts of the dispute, as was the case in *Frank's Casing* where the court merely noted that the patent would not have issued without the intentional deceit by the Vincent brothers.¹⁵¹ This reasoning also would appear to be applicable under the recent Federal Circuit *en banc* decision in *Therasense*, which tightened the standard to find a patent unenforceable for inequitable conduct.¹⁵²

V. CONCLUSION

Inventorship of a patent is important and should be considered during key points in prosecution, licensing, and enforcement. However, a mistake in inventorship can normally be fixed absent deceptive intent. To handle inventorship under current law, including the AIA, a practical approach is to know the general legal standard for inventorship; to ask about each contributor's involvement in the project; to obtain more in-depth legal advice if a question or dispute arises; and to disclose questions of inventorship to the U.S. Patent Office.

any alleged wrongdoing in proceedings before the U.S. Patent Office. Leahy-Smith America Invents Act, Pub. L. No. 112-29, § 4, 125 Stat. 284, 293–94 (2011). There is no such savings clause under § 256, which is only part of the “technical amendments” in the AIA. *See id.* at § 20.

¹⁵¹ *Frank's Casing Crew & Rental Tools, Inc. v. PMR Techs., Ltd.*, 292 F.3d 1363, 1377 (Fed. Cir. 2002). Had they not absconded with Dr. Weiner's idea and filed a patent application, no patent would have been filed in the first place. *Id.* (“If not for the Vincents, the '063 patent never would have issued; Weiner made no claim of inventorship until 1998.”).

¹⁵² *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276, 1291 (Fed. Cir. 2011) (*en banc*). Under *Therasense*, it must be shown that a patent would not have been issued but for the intentional deceit or fraud. *Id.* at 1291.

