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TEACHING THE FEDERAL CIRCUIT NEW TRICKS: UPDATING THE LAW OF JOINT INVENTORSHIP IN PATENTS

*"If a man write a better book, preach a better sermon, or make a better mousetrap than his neighbor, though he build his house in the woods, the world will make a beaten path to his door."*¹

In February 1998, Judge Pauline Newman of the Federal Circuit filed a dissenting opinion in *Ethicon, Inc. v. United States Surgical Corp.*² and identified an anomaly in the patent law brought upon by the 1984 amendments to the Patent Act.³ By doing so, she invited discussion of the law of joint inventorship⁴ and its relation to the law of joint ownership⁵ in patents. One of the 1984 amendments to the law of joint inventorship allows the inclusion of all participating inventors on a patent, without regard to the contribution of each.⁶ This amendment raises concerns of equity in joint ownership of the patent amongst joint inventors who did not contribute equally to the invention.⁷ Prior to 1984, co-inventors must have worked together on virtually every aspect of the invention to be named as joint

1. Ralph Waldo Emerson (1803-1882), *quoted in* J.T. Eaton & Co., Inc. v. Atlantic Paste & Glue Co., 106 F.3d 1563, 1572, n.* (Fed. Cir. 1997) (Rader, C.J., dissenting). What result, when the "man" and the "neighbor" make a better mousetrap together? Will the world make a beaten path to both of their doors? Will they—should they—both reap the rewards of the mousetrap? These are the questions raised by the world of joint inventorship in patents.

2. 135 F.3d 1456, 1468-72 (Fed. Cir. 1998) (Newman, J., dissenting).

3. *See id.* at 1471 (Newman, J., dissenting). The Patent Act is codified in Title 35 of the United States Code.

4. *See generally* 35 U.S.C. § 116 (1994).

5. *See Ethicon*, 135 F.3d at 1471 (Newman, J., dissenting).

6. *See* 35 U.S.C. § 116.

7. *See Ethicon*, 135 F.3d at 1469 (Newman, J., dissenting).

inventors on the patent.⁸ Otherwise courts would require such inventors to apply for separate patents.⁹

It is now apparent that judges transpose pre-1984 concepts of joint ownership into the new post-1984 inventorship law¹⁰—a judicial act, which the amended law did not specifically address.¹¹ When she dissented, Judge Newman indicated that there were no scholarly articles on the amended 35 U.S.C. § 116, which covers joint inventorship.¹² Nearly fifteen years after the amendments and a year after *Ethicon* was decided, this anomaly remains unaddressed by the courts and in need of discussion. This Comment begins that discussion by exploring what will undoubtedly be a further litigated and juristic subject in the Federal Circuit.¹³

I. INTRODUCTION

There are numerous companies, associations, and services in the business of helping small-time inventors in patenting their inventions.¹⁴ Many, if not most, of these organizations are legitimate and often make a profit by becoming a co-inventor¹⁵ with the person seeking the patent.¹⁶ There is nothing wrong with this proposition as long as the original inventor is aware of the ramifications of changing their status from inventor to co-inventor.

One such organization, AAA InventionMakers™, provides an example of such a service.¹⁷ InventionMakers™ suggests on their

8. See *infra* Part III (discussing the law of joint inventorship prior to the 1984 amendments).

9. See *infra* notes 166-68 and accompanying text.

10. See *Ethicon*, 135 F.3d at 1471 (Newman, J., dissenting).

11. See *id.*

12. See *id.*

13. The Federal Circuit is the federal court of appeals with exclusive appellate jurisdiction over patent cases. See 28 U.S.C. § 1295(a) (1994).

14. For example, a word search for "inventor" on www.yahoo.com, gives a comprehensive listing of services available to potential patentees. See *Yahoo! Search Results* (visited Feb. 24, 1999) <<http://search.yahoo.com/bin/search?p=inventor>>.

15. Where appropriate, the terms joint inventor and co-inventor are used interchangeably to mean the same inventive entity.

16. See, e.g., AAA InventionMakers™ *Partners in US Patents, Engineering, Manufacturing and Marketing Services* (visited Feb. 11, 1999) <<http://www.inventionmakers.com/>> (providing patenting services).

17. See *id.* [hereinafter InventionMakers™].

World Wide Web home-page that "Co-Inventing" is their unique program allowing an inventor to improve the invention while at the same time providing an advocate to develop the technology.¹⁸ InventionMakers™ compares their services to those of a patent attorney who charges a rate of \$150 to \$300 per hour.¹⁹ InventionMakers™ does not state, however, that normally a patent attorney does not become a co-inventor with the original inventor, due to rules of professional conduct.²⁰ In spite of its silence on this issue, InventionMakers™ does provide a valuable service. Without such services, many ideas would never come to fruition and be shared with the public. InventionMakers™ has the resources and marketing ability to patent an invention that the inventor—working alone—lacks. Moreover, InventionMakers™ offers its services with a money-back guarantee if the patent is not issued.²¹

InventionMakers™ claims incredibly low costs to the inventor for manufacturing, marketing and patenting the invention.²² How then does InventionMakers™ make its money? By taking advantage of 35 U.S.C. § 262!²³ Section 262, entitled "Joint Owners," provides in its entirety:

18. See AAA InventionMakers™ Partners in US Patents, Engineering, Manufacturing and Marketing Services (visited Feb. 11, 1999) <<http://www.inventionmakers.com/coinvent.htm>>.

19. See *id.*

20. See MODEL RULES OF PROFESSIONAL CONDUCT Rule 1.8(a), (d), (j) & cmts. (1999). The American Bar Association's *Model Rules of Professional Conduct* prohibit an attorney from entering into a business transaction with a client or from acquiring an ownership interest adverse to the client or in the subject matter of the litigation, unless the terms are fair and reasonable, in writing, and reasonably understood by the client. See *id.* at Rule 1.8(a)(1). Further, the client must be given a reasonable opportunity to seek the advice of independent counsel. See *id.* at Rule 1.8(a)(2)-(3). Admittedly, uninformed clients can potentially be taken advantage of by attorneys who do not reveal their ethical duty, a step which InventionMakers™ can avoid.

21. See AAA InventionMakers™ Partners in US Patents, Engineering, Manufacturing and Marketing Services (visited Feb. 11, 1999) <<http://www.inventionmakers.com/Intro.htm>>.

22. See *id.* InventionMakers™ compares its fee of "as little as \$7,000" to manufacture and market a product with what it claims are the more common costs of over \$200,000, to entice the inventor to consider its services. *Id.* Its fee for getting a patent, it claims, is \$1,995, as compared to \$30,000 from a patent attorney. See *id.*

23. 35 U.S.C. § 262 (Supp. II 1997).

In the absence of any agreement to the contrary, each of the joint owners of a patent may make, use, offer to sell, or sell the patented invention within the United States, or import the patented invention into the United States, without the consent of and without accounting to the other owners.²⁴

By becoming a co-inventor with the original inventor, InventionMakers™ has the legal title, as used in the Patent Act, of a "Joint Inventor."²⁵ Under the current application of joint ownership principles, InventionMakers™, as a joint inventor, can become a joint owner, unless it enters into an agreement to the contrary.²⁶ InventionMakers™ then relies upon § 262 to exploit the patent and reap the rewards of the original inventor.²⁷ The situation is not unlike the employee-employer context where employees license their rights to any patented invention they may conceive to their employers.²⁸ Section 262, therefore, allows InventionMakers™ to take full advantage of the patent, including licensing it to others without the consent and somewhat to the detriment, of the original inventor.²⁹ Of course the

24. *Id.*

25. See 35 U.S.C. § 116.

26. In actuality, the Patent Act does not automatically equate a joint inventor with a joint owner. Although an inventor has ownership rights in the invention, the inventor can alienate the rights to the patent and cease being a joint owner. See *infra* note 28 and accompanying text (discussing alienation of ownership rights in the employee-employer context).

27. Indeed, in its company mission, InventionMakers™ states that it profits from "product sales[,] provid[ing] the capital to expand." AAA InventionMakers™ Partners in US Patents, Engineering, Manufacturing and Marketing Services (visited Feb. 11, 1999) <<http://www.inventionmakers.com/Intro.htm>>.

28. The employee discovers or invents a new and useful invention, and is named on the patent, but then the employee assigns the ownership rights in the patent to the employer, who then exploits the patent with minimal remuneration to the employee. See James C. Pistorino, *Recent Developments in Patent Law*, 6 TEX. INTELL. PROP. L.J. 355, 362 (1998). In all practicality, employers often ask the employee to sign a release of interest in the patent at the time employment commences, even if the employee has not yet conceived of an invention. See *id.* See, e.g., W. Fritz Fasse, *The Muddy Metaphysics of Joint Inventionship: Cleaning Up After the 1984 Amendments to 35 U.S.C. § 116*, 5 HARV. J.L. & TECH. 153, 156 (1992) (discussing patents in an employment context).

29. Allowing InventionMakers™ to take full advantage of the patent is to the detriment of the original inventor because, potentially, all income from the patent could be retained by the original inventor but for the joint inventorship

original inventor also has this right, and may do the same without the consent of InventionMakers™. Patent co-owners are thus “at the mercy of each other.”³⁰

The concern posed by Judge Newman, therefore, is the allocation of an undivided interest in the joint ownership rights amongst each of the joint inventors when the contribution of each inventor is unequal.³¹

An overview of the case that brought about this concern is illustrative. In *Ethicon*, the patent of interest related to trocars, tools used in endoscopic surgery.³² A trocar is used to make small incisions by applying pressure on the wall of a body cavity.³³ A blade within the trocar makes the necessary puncture.³⁴ The tool is designed so that after the blade is removed, a sleeve remains in place to accept endoscopic instruments, such as small cameras, for performing surgery. Due to the pressure necessary to puncture the body cavity, however, a sudden loss of resistance from the puncture could thrust the blade forward causing injury to internal organs.³⁵

A patent was issued to Doctor InBae Yoon³⁶ containing fifty-five claims³⁷ and claiming a trocar that nearly eliminated the danger

status of InventionMakers™. See 35 U.S.C. § 262.

30. *Willingham v. Lawton*, 555 F.2d 1340, 1344 (6th Cir. 1977); see also *Ethicon, Inc. v. United States Surgical Corp.*, 135 F.3d 1456, 1468 (Fed. Cir. 1998) (“This freedom to exploit the patent without a duty to account to other co-owners also allows co-owners to freely license others to exploit the patent without the consent of other co-owners.”) (citing *Schering Corp. v. Roussel-UCLAF SA*, 104 F.3d 341, 344 (Fed. Cir. 1997)). These cases demonstrate the congressional policy within § 262. See *Ethicon*, 135 F.3d at 1468.

31. See *Ethicon*, 135 F.3d at 1472 (Newman, J., dissenting).

32. See *id.* at 1459.

33. See *id.* A body cavity, for example, can be classified as the abdomen. See *id.*

34. See *id.*

35. See *id.*

36. See *id.* at 1458-59 (United States Patent No. 4,535,773 issued in 1985).

37. See *id.* The claims section of a patent defines the protected invention. See John McDermott, *Patent Law Fundamentals* 10 (1998) (unpublished manuscript, on file with *Loyola of Los Angeles Law Review*). It is important to note that only claims may be found invalid and infringed and not the patent itself. See *id.* For example, when a single claim is found to be invalid in a multiple claim patent, the remaining claims are not necessarily invalidated as well. See STEPHEN A. BECKER, *PATENT APPLICATIONS HANDBOOK* § 3.07 (1998 ed.). “If a patent is analogized to real property, the claims correspond to the boundary of the property described in the deed. Whereas one trespasses on

of injury.³⁸ The potential for injury could be alleviated in two ways.³⁹ The trocar could either be equipped with a blunt rod which would jut ahead of the blade at the moment of puncture preventing the blade from reaching other organs, or the blade would retract back into the trocar at the instant of puncture, again preventing it from reaching any internal organs.⁴⁰

Yoon thought of a safety device to prevent such accidental injury many years before the patent was issued.⁴¹ Prior to full embodiment of the invention and issuance of its patent, Yoon asked Mr. Young Jae Choi, an electrical technician without a college degree, to work with him for the development of a safety trocar; the two worked together for eighteen months.⁴² Although Choi was not paid for his work, he produced numerous designs during this time and suggested possible configurations of the new device, including several that were ultimately included and granted in the patent claims.⁴³ After their relationship ended, Yoon applied for the patent naming himself as the sole inventor, without informing or naming Choi.⁴⁴

Ultimately, Yoon granted an exclusive license to Ethicon, Inc.⁴⁵ Later, when Ethicon sued United States Surgical Corporation for infringement of the Yoon Patent, United States Surgical learned of Choi's involvement and moved to correct inventorship to include Choi as a joint inventor.⁴⁶ At the same time, Choi granted a retroactive license to United States Surgical allowing it to practice and market the invention.⁴⁷ The Federal Circuit, agreeing with the district court, found that Choi had in fact conceived two of the fifty-five claims of the Yoon Patent.⁴⁸ Particularly, Choi had conceived of

real property, one infringes a patent claim." *Id.*

38. *See Ethicon*, 135 F.3d at 1458, 1459.

39. *See id.*

40. *See id.*

41. *See id.*

42. *See id.*

43. *See id.* at 1459, 1462.

44. *See id.* at 1459.

45. *See id.* at 1458.

46. *See id.* at 1459. Correction of inventors on an issued patent is allowed under 35 U.S.C. § 256 by a court when notice and hearing are given to all parties concerned. *See* 35 U.S.C. § 256 (1994).

47. *See Ethicon*, 135 F.3d at 1459.

48. *See id.* at 1461-64.

“locating the blunt probe in the shaft and allowing it to pass through an aperture in the blade surface,”⁴⁹ and he had contributed to “the rod detaining means.”⁵⁰ Both of these contributions prevent the blade from causing further injury by projecting a blunt rod ahead of the blade.⁵¹ In deciding that these contributions by Choi were sufficient, the majority determined that they indeed appeared within the claims of the patent.⁵² This rendered Choi a joint inventor.⁵³

The majority in *Ethicon* dismissed Judge Newman’s concern that a joint inventor in two of the fifty-five claims was not entitled to joint ownership of the entire patent.⁵⁴ Instead, the majority stated that, “in the context of joint inventorship, each co-inventor presumptively owns a pro rata undivided interest in the entire patent, no matter what their respective contributions.”⁵⁵ Therefore, “[i]n this case, Yoon must now effectively share with Choi ownership of all the claims, even those which he invented by himself.”⁵⁶

As Judge Newman stated, this outcome is fundamentally unfair.⁵⁷ Such outcomes lead to the following hypothetical: inventor X contributes to claims 1, 2, and 3 of a total of ten claims; the patent issues with all ten claims; later, it is determined that only claims 4 through 10 are “good claims”; inventor X remains a joint owner of the entire patent although inventor X did not contribute whatsoever to the “good claims” composing the ultimate invention. This is the current state of the law governing joint inventorship in patents.⁵⁸

49. *Id.* at 1462.

50. *Id.* at 1463 (the “rod detaining means” developed by Choi refers to the action of a solenoid, which interposes a blunt rod to block injury from the blade).

51. *See id.*

52. *See id.* at 1462, 1464.

53. *See id.* at 1465.

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

55. *Id.* at 1465 (citations omitted); *see also* Elizabeth Forminard et al., *Joint Inventors Own Undivided Interest in Entire Patent*, 10 J. PROPRIETARY RTS. 16 (1998) (discussing *Ethicon*); Katherine Kelly, *Cases and Recent Developments: Patents*, 7 FED. CIR. B.J. 417, 432-33 (1997) (discussing *Ethicon*).

56. *Ethicon*, 135 F.3d at 1466.

57. *See id.* at 1468-72 (Newman, J., dissenting).

58. *See* DONALD S. CHISUM, CHISUM ON PATENTS § 2.03[3] (1998) [hereinafter CHISUM]. *See, e.g., Ethicon*, 135 F.3d at 1456 (granting a joint inventor who contributed to only two claims, out of a total of fifty-five claims, an equal and undivided interest in the entire patent); *Pannu v. Iolab*, 155 F.3d 1344

District courts grant joint inventors an undivided interest in the entire patent although each joint inventor has not contributed proportionally to the invention.⁵⁹

An anomaly therefore exists in the law of joint ownership, created by a change in the law of joint inventorship. This Comment discusses the change in the law and its effect on joint ownership rights in a patent. Part II reviews the law of joint inventorship as it stands today, in particular analyzing the idea of conception as the touchstone of invention and reviewing the policies inherent in joint inventorship. Part III examines the 1984 amendments that caused the change in the law. Part IV assesses how the amended law has impacted joint ownership of patents and suggests fractionating the patent to cure the problems posed. Part V makes three recommendations for alleviating the inequity of joint ownership. Finally, Part VI concludes that only fractionating the patent into its claims produces the most equitable outcome for joint inventors.

II. JOINT INVENTORSHIP

Part II of the Patent Act contains one of the most important provisions of United States Patent Law—namely 35 U.S.C. § 102.⁶⁰ Section 102 sets out the “Conditions for patentability; novelty and loss of right to patent.”⁶¹ The common import of this section is to establish the well-known and often litigated novelty bars and statutory bars to patentability.⁶² Among the intricate language

(Fed. Cir. 1998) (undisputed that unnamed co-inventor contributed to a total inventive concept when the two co-inventors were engaged in collaborative enterprise). *See also* Fina Oil & Chem. Co. v. Ewen, 123 F.3d 1466 (Fed. Cir. 1997). The court, stating that “a joint inventor must contribute in some significant manner to the conception of the invention[.]” vacated and remanded the case, because significant disputes regarding the respective contributions of the alleged co-inventor existed and the sole named inventor did not meet his burden of proving with clear and convincing evidence that the alleged co-inventor’s contributions were qualitatively insignificant. *Id.* at 1473-74. These and numerous other cases illustrate that the inventive contribution of a co-inventor need not be significant—it only must not be insignificant. *See id.*

59. *See Ethicon*, 135 F.3d at 1470 (Newman, J., dissenting).

60. 35 U.S.C. § 102 (1994).

61. *Id.*

62. *See generally* CHISUM, *supra* note 58, § 2.02[2]-2.02[5] (discussing novelty and statutory bars). “The general purpose behind all the bars is to require inventors to assert with due diligence their right to a patent through the

establishing the novelty and statutory bars of § 102, a hidden single line provision states, “[a] person shall be entitled to a patent unless . . . he did not himself invent the subject matter sought to be patented[.]”⁶³ The word “he” within the above passage refers to the specific inventive entity named on the patent.⁶⁴ With this phrase the law mandates that “the patent accurately list the correct inventors of a claimed invention.”⁶⁵ However, to accurately exclude non-inventors from the list, one must first determine which inventors are to be included. Thus, a differing and surprisingly more complicated role also contemplated by § 102 is the naming of the proper inventor or inventors of the subject matter of the patent.⁶⁶

filing and prosecution of a patent application.” *Id.* § 6.01. For example, 35 U.S.C. § 102(b) bars a patent if the invention was patented or “described in a printed publication” anywhere in the world or was in “public use or on sale” in the United States more than one year before the date of the United States patent application. 35 U.S.C. § 102(b); *see also* CHISUM, *supra* note 58, § 6.01 (explaining the § 102(b) bar). By setting a time limit (one year) within which one must file for a patent, the resulting bar set by § 102(b), is known as a statutory bar. *Cf.* 35 U.S.C. § 102(d). *See generally* CHISUM, *supra* note 58, § 6 (discussing statutory bars). The remaining subsections of § 102 also pose bars to patentability. Section 102(a) bars a patent from issuing if the invention “was known or used by others” in the United States, or “patented or described in a printed publication” anywhere in the world before the applicant’s invention. 35 U.S.C. § 102(a). Unlike § 102(b), § 102(a) does not impose an artificial time limit within which one must file a patent application. Instead, it merely requires the applicant to have invented the invention prior to it being patented, described in a printed publication, or known or used by others. Therefore, this type of a bar is known as a novelty bar. *See* McDermott, *supra* note 37, at 192. *Cf.* 35 U.S.C. § 102(e).

63. 35 U.S.C. § 102(f).

64. *See* Pannu v. Iolab, 155 F.3d 1344, 1349 (Fed. Cir. 1998); *see also* CHISUM, *supra* note 58, § 2.03[1] (discussing disputes under § 102(f)).

65. *Pannu*, 155 F.3d at 1349. Section 102(f) has often been used to challenge patentability based on an assertion of misjoinder or nonjoinder of the proper inventors. *See* Schulze v. Green, 136 F.3d 786, 792 (Fed. Cir. 1998) (third party can challenge patentability under § 102(f) on a misjoinder basis); *Trans-World Mfg. Corp. v. Al Nyman & Sons, Inc.*, 750 F.2d 1552, 1562 (Fed. Cir. 1984) (where the sole named inventor in fact co-invented and deceptively withheld the co-inventorship, § 102(f) barred the applicant since he “did not *himself* invent the subject matter sought to be patented.”) (emphasis added); *but cf.* McDermott, *supra* note 37, at 109 (stating that § 102(f) is normally used in disputes involving derivation, where the question is whether the applicant stole the invention from someone else).

66. *See* Mueller Brass Co. v. Reading Indus., Inc., 352 F. Supp. 1357 (E.D. Pa. 1972), *aff’d without opinion*, 487 F.2d 1395 (3d Cir. 1973).

Generally, the naming of a single inventor does not pose problems. However, when two or more inventors pursue claims of a patent, especially when one has contributed less than the other, determining joint inventorship becomes a critical issue.⁶⁷

A. Factors Determining Inventorship

In addition to the § 102 requirement that the correct inventors be named on the patent, § 282 bestows a presumption of validity upon an issued patent.⁶⁸ This presumption of validity extends to the named inventors on the patent, even if the names were included erroneously, or even deceptively.⁶⁹ An inventor-claimant challenging the inventorship of a patent has to meet the burden with clear and convincing evidence.⁷⁰ Additionally, inventorship is a question of law, which the Federal Circuit reviews without deference to the district courts, thus mitigating the burden upon the inventor-claimant.⁷¹ Two key requirements for inventorship are: conception of the subject

67. See *id.* at 1373. The court in *Mueller Brass* was frustrated with the law of joint inventorship, announcing, "[t]he exact parameters of what constitutes joint inventorship are quite difficult to define. It is one of the muddiest concepts in the muddy metaphysics of the patent law." *Id.* at 1372.

68. See 35 U.S.C. § 282 (1994); see also *Ethicon*, 135 F.3d at 1460 ("[p]atent issuance creates a presumption that the named inventors are the true and only inventors."). The Federal Circuit has explained that the presumption of validity embodied in § 282 is "static, never-changing." *Magnivision, Inc. v. Bonneau Co.*, 115 F.3d 956, 958 (Fed. Cir. 1997) (citing *American Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1360 (Fed. Cir. 1984)).

The purpose of the presumption of validity, codified at 35 U.S.C. § 282, is to contribute stability to the grant of patent rights. . . . The presumption operates by placing the burden of proving invalidity on the person attacking the patent, who must prove invalidity by clear and convincing evidence. The presumption does not dissolve and the burden of proof does not change during the trial; rather, the evidence presented by the challenger must be of such quality and weight as to establish invalidity despite the presumption.

Magnivision, 115 F.3d at 958 (citations omitted).

69. See *Hess v. Advanced Cardiovascular Sys., Inc.*, 106 F.3d 976, 980 (Fed. Cir.), *cert. denied*, 117 S. Ct. 2459 (1997). Deception is, however, grounds for inequitable conduct rendering the entire patent invalid. See generally *Critikon, Inc. v. Becton Dickinson Vascular Access, Inc.*, 120 F.3d 1253 (Fed. Cir. 1997) (discussing the requirements of inequitable conduct).

70. See *Magnivision*, 115 F.3d at 958.

71. See *Ethicon*, 135 F.3d at 1460; *Sewall v. Walters*, 21 F.3d 411, 415 (Fed. Cir. 1994).

matter of the invention, and corroboration of the invention with others.⁷² Likewise, determining whether an alleged inventor participated in conceiving the subject matter at issue is important in joint inventorship.⁷³

1. Conception

It has been said that "[c]onception is the touchstone of inventorship, the completion of the mental part of invention."⁷⁴ Conception is the "formation, in the mind of the inventor, of a definite and permanent idea of the complete and operative invention, as it is hereafter to be applied in practice."⁷⁵ Conception is complete when a person of ordinary skill in the art⁷⁶ would be able to reduce the invention to practice without subjecting it to extensive research or experimentation.⁷⁷ At this point, the idea is clearly defined in the inventor's mind.⁷⁸ Conception, then, is the key element to a determination of inventorship.

The issue of joint inventors is governed by 35 U.S.C. § 116.⁷⁹ When joint inventors conceive the invention, it is not necessary that

72. See *Ethicon*, 135 F.3d at 1460-61.

73. See *Sewall*, 21 F.3d at 415.

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

75. WILLIAM C. ROBINSON, *THE LAW OF PATENTS FOR USEFUL INVENTIONS* § 376 (1890), *quoted in* *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1376 (Fed. Cir. 1986).

76. The "person of ordinary skill in the art," a term of patent law, has been defined by the Federal Circuit to be one "presumed to . . . think[] along the line[s] of conventional wisdom in the art . . . not one who undertakes to innovate, whether by patient, and often expensive, systematic research or by extraordinary insights." *Standard Oil Co. v. American Cyanamid Co.*, 774 F.2d 448, 454 (Fed. Cir. 1985).

77. See *Burroughs Wellcome*, 40 F.3d at 1228; *see also Sewall*, 21 F.3d at 415 (stating that "[c]onception is complete when one of ordinary skill . . . could construct the apparatus without unduly extensive research or experimentation."); *Coleman v. Dines*, 754 F.2d 353, 359 (Fed. Cir. 1985) (stating that conception must include every feature of the claimed invention).

78. See *Burroughs Wellcome*, 40 F.3d at 1228. The second requirement of invention, corroborating evidence, may be shown, for example, by contemporaneous disclosure. *See id.* *See also, infra* Part II.A.2 (discussing the corroboration requirement).

79. See 35 U.S.C. § 116 (1994); *Fina Oil & Chem. Co. v. Ewen*, 123 F.3d 1466, 1473 (Fed. Cir. 1997).

each inventor "make the same type or amount of contribution' to the invention."⁸⁰ Indeed, section 116 of the Patent Act specifically authorizes the contrary.⁸¹

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.⁸²

There is no "lower limit on the quantum or quality of inventive contribution required for a person to qualify as a joint inventor [set by section 116]. Rather, a joint invention is simply the product of a collaboration between two or more persons working together to solve the problem addressed."⁸³ As § 116 suggests, a joint inventor does not have to make a contribution to every claim within a patent.⁸⁴ All that is required is that a contribution be made to one claim.⁸⁵

Of course, the specific facts of each case will ultimately determine whether a person is a joint inventor.⁸⁶ This suggests that there is no bright-line test.⁸⁷ However, each joint inventor must at least contribute significantly to the conception of the invention.⁸⁸ Merely reducing the idea to practice does not necessarily render that person a joint inventor.⁸⁹ Furthermore, inventors "do[] not lose [their] status as joint inventors just because [they] used the services, ideas, and aid of others in the process of perfecting [their] invention[s]."⁹⁰ Neither

80. *Ethicon*, 135 F.3d at 1460 (quoting 35 U.S.C. § 116).

81. *See id.*

82. 35 U.S.C. § 116 (1994).

83. *Fina Oil*, 123 F.3d at 1473 (citing *Burroughs Wellcome*, 40 F.3d at 1227).

84. *See* 35 U.S.C. § 116 (1994).

85. *See Ethicon*, 135 F.3d at 1460.

86. *See Fina Oil*, 123 F.3d at 1473.

87. *See id.*

88. *See id.*

89. *See Ethicon*, 135 F.3d at 1460 (citing *Sewall*, 21 F.3d at 416).

90. *Fina Oil*, 123 F.3d at 1473. "An inventor 'may use the services, ideas, and aid of others in the process of perfecting his invention without losing his right to a patent.'" *Shatterproof Glass Corp. v. Libbey-Owens Ford Co.*, 758 F.2d 613, 624 (Fed. Cir. 1985) (quoting *Hobbs v. U.S. Atomic Energy Comm'n*, 451 F.2d 849, 864 (5th Cir. 1971)). "The law has long been settled: He is the inventor and is entitled to the patent who first brought the machine to perfection and made it capable of useful operation." *Hobbs*, 451 F.2d at 864.

does the mere exercise of normal skill expected of one skilled in the art make a joint inventor;⁹¹ there must be an inventive act.⁹²

Thus, if one simply explains to the inventors concepts which are well known and in the current state of the art, they will not become joint inventors.⁹³ This is best illustrated in *Hess v. Advanced Cardiovascular Systems, Inc.*⁹⁴ Two doctors, unsuccessful in their efforts to develop the balloon of a balloon angioplasty catheter,⁹⁵ approached Mr. Hess, an engineer, for assistance.⁹⁶ Hess suggested that the doctors try a material that his company produced.⁹⁷ He described to them how the material could be used.⁹⁸ Hess stated that the principles, which he taught the two doctors in the use of the material, were available in published textbooks and generally known to those skilled in the art.⁹⁹ The doctors, using concepts that Hess explained to them, went on to develop their invention and ultimately obtained a patent.¹⁰⁰ Subsequently, Hess heard of the patent and declared that he was a joint inventor of the catheter.¹⁰¹ Relying upon *Shatterproof Glass*,¹⁰² the court held that Hess's suggestions did not rise to the level of conception, and therefore did not make him a co-inventor.¹⁰³ According to the court, Hess did no more than "a skilled

91. See *Fina Oil*, 123 F.3d at 1473; *Sewall*, 21 F.3d at 416.

92. See *Fina Oil*, 123 F.3d at 1473.

93. See, e.g., *Hess v. Advanced Cardiovascular Sys., Inc.*, 106 F.3d 976, 981 (Fed. Cir.), *cert. denied*, 117 S. Ct. 2459 (1997) (advancing the proposition that a company salesperson does not become a co-inventor by merely selling the company's products to inventors).

94. 106 F.3d 976 (Fed. Cir.), *cert. denied*, 117 S. Ct. 2459 (1997).

95. A balloon angioplasty catheter is used in cardiology to reduce artery blockage. See *id.* at 977.

96. See *id.*

97. See *id.*

98. See *id.*

99. See *id.*

100. See *id.* at 978. Although the doctors used material that Hess provided, they did not use the techniques that Hess suggested. See *id.*

101. See *id.* As in *Ethicon*, the issue of joint inventorship arose when the patentee's assignee sued for infringement of its patent. See *id.* As a defense, the defendant asserted invalidity of the patent for failure to join Hess as the proper inventor. See *id.*

102. See *supra* notes 86-92 and accompanying text.

103. See *Hess*, 106 F.3d at 981.

salesman would do in explaining how his employer's product could be used to meet a customer's requirements."¹⁰⁴

Therefore, unless there is an inventive act amounting to conception, mere suggestions by a would-be patentee do not amount to joint inventorship.¹⁰⁵ This proposition was first posited by the United States Supreme Court in 1853 in the landmark case of *O'Reilly v. Morse*.¹⁰⁶ In a seventy-five-page opinion by Chief Justice Taney, the Court held that Samuel Morse's patent for the telegraph was not rendered invalid by Morse's reliance upon information he obtained from others.¹⁰⁷ The Court stated:

Neither can the inquiries he made, or the information or advice he received, from men of science in the course of his researches, impair his right to the character of an inventor. No invention can possibly be made, consisting of a combination of different elements of power, without a thorough knowledge of the properties of each of them, and the mode in which they operate on each other. And it can make no difference, in this respect, whether he derives his information from books, or from conversation with men skilled in the science. If it were otherwise, no patent, in which a combination of different elements is used, could ever be obtained. For no man ever made such an invention without having first obtained this information, unless it was discovered by some fortunate accident. And it is evident that such an invention as the Electro-Magnetic Telegraph could never have been brought into action without it. For a very high degree of scientific knowledge and the nicest skill in the mechanic arts are combined in it, and were both necessary to bring it into successful operation. And the fact that Morse sought and obtained the necessary information and counsel from the best sources, and acted upon it, neither impairs his rights as an inventor, nor detracts from his merits.¹⁰⁸

104. *Id.*

105. *See also infra* Part II.A.2.

106. 56 U.S. (15 How.) 62 (1853).

107. *See id.* at 111.

108. *Id.*

Although the rule announced in *Morse* remains the law of the land today, it is not absolute.¹⁰⁹ The co-inventorship status of third parties is to be determined based on the facts of each case.¹¹⁰ Therefore, the critical question to be asked in joint inventorship cases is whether there is joint conception.¹¹¹ Joint conception, on the other hand, must be determined by analyzing "who conceived, as that term is used in the patent law, the subject matter of the claims at issue."¹¹²

2. Corroboration

Proving the required conception is quite a different matter from proving the required corroboration. Corroborating evidence of the invention is necessary to prevent inventorship determinations from turning solely on a credibility contest between co-inventors.¹¹³

109. See Gary A. Clark & Jeanine L. Hayes, *Recent Decision Reminds of the Need for Care in Using Third Parties to Assist in Invention Development* (1997) (visited Feb. 11, 1999) <<http://www.smrh.com/articles/Clark.htm>>.

110. See *id.*; see also *supra* note 86 and accompanying text (discussing the conception requirement based on specific facts). Although the principles announced in *Morse* have been firmly grounded in the law for nearly 150 years, cases such as *Hess* and *Ethicon* make it clear that potential patentees should be careful with whom they work. In determining whether the contribution made by a third party will render them a co-inventor, the courts also consider various other factors. For example, the greater the degree of control an original inventor has over the design, testing, and experimenting of the invention, the less likely a court will find that the third party was a co-inventor. See Clark & Hayes, *supra* note 109. The *Hess* court implied that when an inventor seeks advice from others, the inventor may prevent a future claim of co-inventorship by a third party if the inventor alone conducts much of the research or testing. See *id.*; see also *Hess*, 106 F.3d at 981 (discussing co-inventorship status). Furthermore, the original inventor would be wise to give specific direction for any hired assistants to follow. See Clark & Hayes, *supra* note 109. Better yet, the original inventor should actively participate in every part of the development and testing of the invention, where possible. See *id.* Other possibilities include obtaining agreements in advance, maintaining invention notebooks, and documenting communications. See *id.* As a last resort the original inventor may tailor the patent application to claim only the embodiments that the original inventor conceived independently. See *id.* Narrowly circumscribed claims, however, generally limit the scope of the patent to the exclusion of potential inventor-claimants. See *id.* See also, BECKER, *supra* note 37, §§ 2.02-2.04 (discussing various methods of claim drafting).

111. See *Ethicon*, 135 F.3d at 1460.

112. *Id.*

113. See *id.* at 1464.

Because inventorship is a mental act, the inventor must offer corroborating evidence to show that the "inventor disclosed to others his 'completed thought expressed in such clear terms as to enable those skilled in the art' to make the invention."¹¹⁴ The standard of proof required to show corroboration is that of clear and convincing evidence, and although corroboration can be in any form, an inventor's testimony on its own is insufficient to meet this standard.¹¹⁵ Once the inventor presents corroborating evidence, it is assessed under a "rule of reason" analysis.¹¹⁶ The complete evidence is evaluated "so that a sound determination of the credibility of the inventor's story may be reached."¹¹⁷

Once an alleged inventor has shown conception and corroboration, he is on his way to being named on the patent as a joint inventor.¹¹⁸

114. *Coleman v. Dines*, 754 F.2d 353, 359 (Fed. Cir. 1985) (citation omitted).

115. *See Ethicon*, 135 F.3d at 1461 (quoting *Price v. Symsek*, 988 F.2d 1187, 1194 (Fed. Cir. 1993) ("[A]n inventor's testimony respecting the facts surrounding a claim of derivation or priority of invention cannot, standing alone, rise to the level of clear and convincing proof.")). The various forms of corroborating evidence include documents, circumstantial evidence and oral testimony. Precedent suggests that contemporaneous documents that the alleged inventor prepared can corroborate his testimony. *See Price*, 988 F.2d at 1195-96. Furthermore, enough circumstantial evidence, especially if it is from an independent source, may also suffice for corroboration. *See Knorr v. Pearson*, 671 F.2d 1368, 1373 (C.C.P.A. 1982) (citation omitted). For example, circumstantial factors tending to show corroboration include: (1) the need for assistance by one of the co-inventors; (2) the backgrounds of the co-inventors; (3) the nature of the relationship between the co-inventors; (4) the length of time the co-inventors worked together; and (5) any payment made for services by one co-inventor to the other. *See Ethicon*, 135 F.3d at 1464.

116. *Price*, 988 F.2d at 1195.

117. *Id.* (citation omitted).

118. The Patent Act also allows correction of misjoinder and nonjoinder. As the terms themselves suggest, misjoinder is the inappropriate naming as an inventor on a patent or patent application of one who did not contribute to the conception of the invention. Nonjoinder, on the other hand, is the failure to name a true inventor on the patent or application who did contribute to the conception of the invention. *See generally Stark v. Advanced Magnetics, Inc.*, 119 F.3d 1551, 1554-55 (Fed. Cir. 1997) (allowing correction in all misjoinder cases featuring an error and in nonjoinder cases where the unnamed inventor is free of deceptive intent). When a patent has not yet issued, correction of inventors on the application is accomplished through § 116. After the patent is-

B. Policy Considerations Behind Joint Inventorship

The United States Constitution empowers Congress "to promote the Progress of Science and useful Arts, by securing for limited Times to . . . Inventors the exclusive Right to their . . . Discoveries."¹¹⁹ The Constitution speaks of "Inventors," not applicants. Hence, one of the fundamental principles of United States patent law is to award patents to those who are first to invent, rather than those who are first to file.¹²⁰ This same policy underlies issues of joint inventorship.¹²¹ However, in the context of joint inventorship, inventors must "travel a common path" toward a "common destination" before the patent law will grant them a patent jointly.¹²² Thus, granting a patent to the first to invent forces joint inventors to collaborate on the invention.¹²³ Two inventors working completely independently and arriving at the same invention at the same time will not be allowed to join as joint inventors.¹²⁴

Two important policy factors emerge. First, because patent law requires that an "actual" inventor be named on a patent, only an actual inventor has any natural right in his creations.¹²⁵ A natural right in an invention has been characterized as a right brought upon by the inventor's own "sweat of [the] brow."¹²⁶ Second, public benefit from a patented invention is very important.¹²⁷ "[W]ithout technological and scientific developments, we could not maintain our current standard of living or hope for the diminution of unemployment caused by foreign competition."¹²⁸ It is apparent that the "principal interest of the United States [in] granting [a] monopoly¹²⁹ [to

sues, one must rely on § 256. *See id.* at 1553.

119. U.S. CONST. art. I, § 8, cl. 8.

120. *See* W. Fritz Fasse, *The Muddy Metaphysics of Joint Inventorship: Cleaning up after the 1984 Amendments to 35 U.S.C. § 116*, 5 HARV. J.L. & TECH. 153, 154-55 (1992); *see also* CHISUM, *supra* note 58, § 10.01.

121. *See* Fasse, *supra* note 120, at 154-55.

122. *Id.* at 159.

123. *See id.*; *see also supra* notes 74-92 and accompanying text (discussing the requirements of conception by joint inventors).

124. *See* Fasse, *supra* note 120, at 159.

125. *See id.* at 155 (discussing natural rights in an invention).

126. *Id.* at 155 n.13.

127. *See id.* at 155-56.

128. 130 CONG. REC. 28,069 (1984) (statements of Rep. Kastenmeier).

129. Although our system of government does not support monopolies, the grant of a patent has been characterized as a monopoly, granted to inventors,

inventors is the] benefit[] derived by the public from the work of creators."¹³⁰ It is, therefore, imperative to grant patent rights not to the one who brings the invention to the public, but to the one who brings the invention to the public first—and that is the first actual inventor.¹³¹ The public does not gain any benefit from an inventor who derives¹³² the invention from a prior inventor and outruns the latter to the patent office.¹³³ It follows that joint inventors must have an "inventive nature of contribution";¹³⁴ they must have some relation toward each other and to the conception of the invention.¹³⁵

Special problems arise in the context of joint inventors, especially when team research, sponsored by an employer yields a patent with numerous joint inventors.¹³⁶ The employer has an incentive to name many inventors on the patent in order to spread recognition and reward the numerous people who worked on the invention.¹³⁷ On the other hand, the true inventors may feel short-changed if others who are team members but not contributors to the invention are named on the patent.¹³⁸ Inventors are often proud of their accomplishments leading to their inventions. Naming numerous inventors dilutes the inventive contribution of each individual inventor.¹³⁹ Thus, the policy behind joint inventorship supports the employee who invents by

for a limited time, in exchange for their efforts in bringing new technology to the public. See CHISUM, *supra* note 58, § 2.01. See also, A. F. Stoddard & Co., Ltd. v. Dann, (D.C. Cir. 1977) (describing the monopolistic nature of a patent as "the sole and exclusive right and liberty of making, using, and vending to others . . .").

130. 130 CONG. REC. 28,069 (1984) (statements of Rep. Kastenmeier).

131. See Fasse, *supra* note 120, at 156.

132. See 35 U.S.C. § 102(f). Derivation is the misappropriation or copying of an invention from the actual first inventor. See, e.g., Fasse, *supra* note 120 at 156.

133. See Fasse, *supra* note 120, at 156.

134. See *id.*

135. See *supra* Part II.A.1 (discussing the conception requirement of joint inventorship).

136. See, e.g., Fasse, *supra* note 120, at 156-57.

137. See *id.* at 157. The employer may also want to deliberately misidentify inventors to prevent prior in-house inventions from becoming prior art to the current invention. See *id.*

138. See *id.*

139. See *id.*

granting the patent only to the contributors who were actually involved in "legal invention."¹⁴⁰

A further interesting problem arises when employees with differing employers collaborate on an invention.¹⁴¹ The incentives of the employees remain the same. The employers, however, would like to name only their respective participating employees and leave out the employees of the collaborating employer.¹⁴² Policy dictates that only the true inventors are entitled to the patent.¹⁴³

Since new technology enhances our lives, a common aim of the policies behind joint inventorship is to promote the greatest number of patentable inventions.¹⁴⁴ To increase patentable inventions, these policies should further encourage collaboration between joint inventors.¹⁴⁵ In turn, this will increase the number of joint endeavors yielding an increasing number of patentable inventions.¹⁴⁶

III. THE 1984 AMENDMENTS TO SECTION 116

Prior to the 1984 statutory change to § 116, a person who had not jointly conceived and contributed to the entire invention could not be named a joint inventor. Similarly, a person who contributed only to some claims but not others was not a joint inventor.¹⁴⁷ There had to be a "simultaneous production of the genius and labor of both parties."¹⁴⁸ Therefore in *Ethicon*, Choi could not have been made a joint inventor prior to 1984.¹⁴⁹ As the *Morse* case supports, "[t]hose assistants who worked on an invention at the behest of the originator of the idea did not achieve the legal status of 'joint inventor.'"¹⁵⁰

140. *Id.*

141. *See id.*

142. *See id.*

143. *See id.* at 158.

144. *See id.* at 159.

145. *See id.* at 159-60.

146. *See id.* at 160.

147. *See Ethicon*, 135 F.3d at 1469 (Newman, J., dissenting).

148. *Stearns v. Barrett*, 22 F. Cas. 1175, 1181 (C.C.D. Mass. 1816) (No. 13,337).

149. *See supra* Part I.

150. *Ethicon*, 135 F.3d at 1469 (Newman, J., dissenting); *see also* *O'Reilly v. Morse*, 56 U.S. (15 How.) 62, 110-12 (1853) (discussing the challengers' claims and Morse's discourse with others).

Therefore, assistants could not be joint owners since they were not joint inventors and as such had no interest in the patent.¹⁵¹

By amending § 116, Congress authorized naming as an inventor any person who assisted in the development of an invention.¹⁵² This, however, does not mean that Congress "intended to discard the fundamental requirement tht [sic] there be some form of collaboration between the joint inventors."¹⁵³ Although § 116 does not require that joint inventors physically work together, collaboration is nevertheless possible when joint inventors work separately.¹⁵⁴ In fact, Congress "envisioned [some] level of collaboration including at least some communication among joint inventors" to support productive research.¹⁵⁵

We must read amended § 116 as imposing negative guidelines.¹⁵⁶ There are three specific negative guidelines that the new section established. First, joint inventors *do not* "physically [have to] work together or at the same time."¹⁵⁷ Second, they *do not* have to "make the same type or amount of contribution . . ."¹⁵⁸ And, finally, several inventors may be joint inventors even though each "*did not* make a contribution to the subject matter of every claim."¹⁵⁹ Because these guidelines are negative in nature, they "address only what is not required for joint invention."¹⁶⁰ Established case law fills in the rest. For example, inventors must still meet the requirements of conception and corroboration.¹⁶¹

151. *See* *Agawam Co. v. Jordan*, 74 U.S. (7 Wall.) 583, 602-04 (1868). "[O]ne less than a true joint inventor was forbidden from 'appropriat[ing] to himself the entire result of the ingenuity and toil of the originator, or put[ing] [sic] it in the power of any subsequent infringer to defeat the patent.'" *Ethicon*, 135 F.3d at 1469 (Newman, J., dissenting) (quoting *Agawam*, 74 U.S. at 604) (alterations in original).

152. *See* *Ethicon*, 135 F.3d at 1469 (Newman, J., dissenting).

153. Fasse, *supra* note 28, at 166 (quoting DONALD J. CHISUM, PATENTS, § 2.02[2] (Supp. 1990)).

154. *See* 35 U.S.C. § 116 (1994).

155. Fasse, *supra* note 120, at 180.

156. *See id.* at 165-66.

157. 35 U.S.C. § 116.

158. *Id.* (emphasis added).

159. *Id.* (emphasis added).

160. Fasse, *supra* note 120, at 166.

161. *See supra* notes 66-116 and accompanying text.

The principal reason for amending § 116 was to accommodate the growing number of patents filed by team research organizations, such as large corporations employing hundreds of “co-inventors.”¹⁶² Since the previous law required simultaneous conception and contribution by each named inventor on each claim, it was becoming increasingly impossible for team research entities to file for patents, without “producing pitfalls for patentees.”¹⁶³ The requirement that all co-inventors contribute to every claim was known as the “all claims rule.”¹⁶⁴ The Commissioner of Patents and Trademarks testified in front of the House Subcommittee Hearings on Innovation and Patent Law Reform, stating that, “[c]omplying with [the] requirement[s of the all claims rule] is sometimes difficult and at times impossible.”¹⁶⁵ Thus, to increase innovation, improve the “economic health” of the Nation and create more jobs, the amendment recognized the “realities of modern team research” by relaxing the requirements of joint inventorship and allowing more patents to be filed by joint inventors.¹⁶⁶

Prior to the amendment of § 116, serious legal problems arose when multiple inventors contributed to an invention but did not contribute to every claim.¹⁶⁷ One tool co-inventors could use to bypass the all claims rule was to file for separate patent applications on the separate claims that each inventor worked on.¹⁶⁸ This procedure however, would be complex, expensive, and often confusing.¹⁶⁹ Gradually, the advance of technology and the advent of team research added to the frustrations of joint inventorship, leading to numerous invalidated patents because all of the named inventors did

162. See *Ethicon*, 135 F.3d at 1469 (Newman, J., dissenting).

163. *Id.*

164. See Fasse, *supra* note 120, at 178.

165. *Id.*

166. See 130 CONG. REC. 28,069-71, 28,074 (1984) (statement of Rep. Kastenmeier).

167. See *Ethicon*, 135 F.3d at 1469 (Newman, J., dissenting).

168. See CHISUM, *supra* note 58, § 2.03[3]; Fasse, *supra* note 28, at 178 n.146; *Ethicon*, 135 F.3d at 1469 (Newman, J., dissenting). See also *Worden v. Fisher*, 11 F. 505, 509 (C.C.E.D. Mich. 1882) (stating that when distinct parts of a machine are invented by two different persons, they should each take out separate patents).

169. See *Ethicon*, 135 F.3d at 1469 (Newman, J., dissenting).

not contribute to each and every claim.¹⁷⁰ The amendment identified these "pitfalls" and removed them.¹⁷¹

IV. JOINT OWNERSHIP

A. The Effect of Amended Section 116 on Joint Ownership

Although the amendment to § 116 alleviated many of the concerns involving joint inventorship, it did not specifically address the issue of joint ownership.¹⁷² Nowhere within the text of § 116, as amended, are the words "joint ownership," nor is there a reference to ownership. Why, then, have the courts repeatedly applied pre-1984 ownership concepts to post-1984 inventorship cases? The courts do acknowledge that concepts of joint ownership are distinct from joint inventorship.¹⁷³ In 1993, the Federal Circuit stated in *Beech Aircraft v. EDO Corp.*:

It is elementary that inventorship and ownership are separate issues [I]nventorship is a question of who actually invented the subject matter claimed in a patent. Ownership, however, is a question of who owns legal title to the subject

170. See *id.* (Newman, J., dissenting). Judge Newman listed ten cases based on this antiquated rule. See *id.* at 1469-70 (Newman, J., dissenting). For example, in *Jamesbury Corp. v. United States*, 518 F.2d 1384, 1395 (Ct. Cl. 1975), the inclusion of more or fewer than the true number of inventors rendered the patent invalid. In *Amax Fly Ash Corp. v. United States*, 514 F.2d 1041, 1050 (Ct. Cl. 1975), the court stated that "[w]here more or less than the true inventors are named, the patent is void." Additionally, in *Hobbs v. United States, Atomic Energy Comm'n*, 451 F.2d 849, 866 (5th Cir. 1971), the patent on a joint invention was held invalid for failure to list all inventors. Numerous other cases support these propositions. See *Iowa State Univ. Research Found., Inc. v. Sperry Rand Corp.*, 444 F.2d 406 (4th Cir. 1971); *Pointer v. Six Wheel Corp.*, 177 F.2d 153 (9th Cir. 1949); *Shreckhise v. Ritchie*, 160 F.2d 593 (4th Cir. 1947); *Thropp & Sons Co. v. De Laski & Thropp Circular Woven Tire Co.*, 226 F. 941 (3d Cir. 1915); *Rival Mfg. Co. v. Dazey Prods. Co.*, 358 F. Supp. 91 (W.D. Mo. 1973); *Stewart v. Tenk*, 32 F. 665 (C.C.S.D. Ill. 1887).

171. See *Ethicon*, 135 F.3d at 1470 (Newman, J., dissenting).

172. See *id.* at 1469-71 (Newman, J., dissenting).

173. See *Beech Aircraft Corp. v. EDO Corp.*, 990 F.2d 1237, 1248 (Fed. Cir. 1993); *Sewall v. Walters*, 21 F.3d 411, 417 (Fed. Cir. 1994); *Ethicon*, 135 F.3d at 1465.

matter claimed in a patent, patents have the attributes of personal property.¹⁷⁴

Furthermore, the court went on to say that the person, "who ultimately possesses ownership rights in that subject matter has no bearing whatsoever on the question of who actually invented that subject matter."¹⁷⁵ Realizing these fundamental principles of ownership in patents, courts nevertheless allow a joint inventor to have full ownership in an entire patent even if the joint inventor has not contributed to each and every claim.¹⁷⁶

The *Ethicon* court's acquiescence in these principles nevertheless led it to state that "an invention presumptively belongs to its creator."¹⁷⁷ What the majority failed to realize is that there is no *one* creator of an invention in a joint inventorship case. This is especially true when one of the co-inventors has contributed only a minutiae, just enough to meet the conception requirement of invention. Instead, the court simply stated that "[i]ndeed, in the context of joint inventorship, each co-inventor presumptively owns a pro rata undivided interest in the entire patent, no matter what their respective contributions."¹⁷⁸

To bolster this holding, the majority explained its reasoning by claiming that § 116 does not require joint inventors to contribute to every claim.¹⁷⁹ The majority then stated that when Congress amended § 116, it did not amend the statute covering ownership, which continues to state "patents shall have the attributes of personal property."¹⁸⁰ The majority followed this reasoning to posit the notion that property rights must attach to patents as a whole and not to individual claims.¹⁸¹ Further, the majority suggested that

174. *Beech Aircraft*, 990 F.2d at 1248.

175. *Id.*

176. *See, e.g., Ethicon*, 135 F.3d at 1465 (stating that "each co-inventor presumptively owns a pro rata undivided interest in the entire patent, no matter what their respective contributions").

177. *Id.* (quoting *Teets v. Chromalloy Gas Turbine Corp.*, 83 F.3d 403, 406 (Fed. Cir. 1996)).

178. *Id.*

179. *See id.*

180. *Id.* at 1465-66 (quoting 35 U.S.C. § 261). The provisions discussing ownership of patents are covered by 35 U.S.C. §§ 261-262.

181. *See Ethicon*, 135 F.3d at 1466.

because § 262 covering joint owners speaks of “joint owners of a patent” and not of “joint owners of claims,” § 262 must mean that a joint inventor to one claim is also a joint owner to the entire patent.¹⁸² The majority seemingly negated the fact that a co-inventor of only one claim is entitled to ownership of the entire patent, which has numerous claims, by returning to § 116 and stating that “[i]nventors may apply for a patent jointly even though . . . each did not make a contribution to the subject matter of every claim.”¹⁸³

This reasoning is skewed and circular. The majority begins by relying on § 116, stating that more than one inventor may apply for a patent even though each did not contribute to every claim.¹⁸⁴ This does not, however, automatically endow each joint inventor with full and common ownership of the entire invention. “That is not a reasonable consequence of the change in the law of naming inventors”¹⁸⁵ Furthermore, although the sections regarding ownership give patents the attributes of personal property and grant joint owners equal rights in the entirety of the patent, these sections do not define joint owners.¹⁸⁶ Joint *owners* are not joint *inventors*. This is evident from § 261, which allows assignment of the patent to a “joint owner” and from § 262, which allows the joint owner to sell the patented invention.¹⁸⁷ Finally, the majority returns to § 116 to restate that joint inventors may apply for a patent jointly even if each inventor did not contribute to every claim.¹⁸⁸ The law allows the naming of joint inventors on a patent, but does not grant rights in the entire patent to every joint inventor.¹⁸⁹

The change in the law merely provides that everyone who contributed to the invention may be named on the patent. This is a reasonable and fair result, as a patent should note the inventors. The change in the law provides the necessary ability to name as inventors those who assisted in a minor fashion—those contributing to the conception of a portion of the patent—but not to each and every

182. *See id.*

183. *Id.* (quoting 35 U.S.C. § 116).

184. *See id.* at 1466.

185. *Id.* at 1469 (Newman, J., dissenting).

186. *See* 35 U.S.C. §§ 261, 262 (1994 & Supp. II 1994).

187. *See id.*

188. *See Ethicon*, 135 F.3d at 1466.

189. *See id.* at 1471 (Newman, J., dissenting).

claim. In this way, a patent recognizes contributors who actually contribute to the "conceptive" effort and who may have been previously left off the patent because they did not contribute to each and every claim.¹⁹⁰ This has become true, for example, in the area of team research. This change removed the hurdles and pitfalls that faced joint inventors in team research situations.¹⁹¹ Therefore, ownership interests under § 116 are irrelevant to the purpose of the amendment of § 116. In other words, "[s]ection 116 has nothing to do with patent ownership."¹⁹²

B. Fractionating the Patent

Prior to the amendment of § 116, joint inventors must have made a contribution to each and every claim of the patent. In that context, it was logical that joint inventors were automatically joint owners. Unless joint inventors assigned their rights away, the issue of whether one joint inventor was also a joint owner did not arise because joint ownership was based on the principle of joint invention.¹⁹³

As section 261 of the Act states, "patents . . . have the attributes of personal property."¹⁹⁴ Thus, patent ownership has its roots in the law of property¹⁹⁵—a state law matter.¹⁹⁶ The courts have generally relied upon common law concepts of tenancy in common and undivided interests in patent ownership disputes.¹⁹⁷ Tenancy in common

190. See *id.* at 1470 (Newman, J., dissenting). Judge Newman stated that "[t]he amendment simply permitted persons to be named on the patent document, whether as minor contributors to a subordinate embodiment, or full partners in the creation and development of the invention." *Id.* (Newman, J., dissenting).

191. See *id.* (Newman, J., dissenting).

192. *Id.* (Newman, J., dissenting).

193. See, e.g., ROBINSON, *supra* note 75, § 396 ("Only where the same single, unitary idea of means is the product of two or more minds, working *pari passu*, and in communication with each other, is the conception truly joint and the result a joint invention."). *Pari passu*, a Latin term, means "[b]y an equal progress" or "without preference." BLACK'S LAW DICTIONARY 1115 (6th ed. 1990).

194. 35 U.S.C. § 261 (1994).

195. See generally *Crown Die & Tool Co. v. Nye Tool & Mach. Works*, 261 U.S. 24, 40 (1923) (discussing "patent property").

196. See *Ethicon*, 135 F.3d at 1471 (Newman, J., dissenting).

197. See *id.* (Newman, J., dissenting).

provides that property is held in undivided fractional shares.¹⁹⁸ Therefore, joint inventors fully sharing in the invention are legally tenants in common, sharing an undivided interest in the patent.¹⁹⁹ Prior to 1984, the time at which § 116 was amended, this was a logical result. However, with the amended § 116, "the legal premise that each named person had made a full and equal contribution to the entire patented invention became obsolete."²⁰⁰

Traditionally, property law has treated persons equally when their respective contributions were not equal.²⁰¹ In fact, property law suggests an inherent right to compel partition. A co-tenant has this right, a right that is "almost absolute."²⁰² The same right should belong to joint inventors who feel that their rights to ownership in a patent are being transgressed by a co-inventor who did not contribute significantly. Indeed, "[n]o theory of the law of property supports . . . a distortion of ownership rights"²⁰³ like the current application of concepts of joint inventorship to joint ownership in patents.

V. RECOMMENDATIONS

Noteworthy are three possible outcomes: (1) the patent law can fractionate the patent into its claims, (2) it can grant complete ownership rights in an undivided interest in the entire patent to all joint inventors, or (3) it can grant no rights to the co-inventor whose contribution was ancillary and minor.²⁰⁴

198. Tenancy in common is generally defined as "[a] form of ownership whereby each tenant [or owner] holds an undivided interest in property." BLACKS LAW DICTIONARY 1465 (6th ed. 1990). An important aspect of such ownership, is that the interest in each co-tenant (co-owner) does not terminate and pass to the surviving tenant (owner) upon the death of one of the co-tenants (co-owners), instead it passes to the deceased co-tenant's (co-owner's) heirs. *See id.*

199. *See Ethicon*, 135 F.3d at 1471 (Newman, J., dissenting).

200. *Id.* (Newman, J., dissenting).

201. *See id.* (Newman, J., dissenting).

202. *Id.* at 1472 n.1 (Newman, J., dissenting) (citing *Hamilton v. Hamilton*, 597 A.2d 856, 859-60 (Del. Fam. Ct. 1990)).

203. *Id.* at 1472 (Newman, J., dissenting).

204. The term "minor" is used here to mean a contribution of a co-inventor, which is insignificant as compared to the original inventor in a two-inventor scenario. Where there are more than two inventors, each inventor's contribution will be compared to that inventor's contribution which is the greatest. This establishes "a grading" system, not to determine joint inventorship, but to

A. Fractional Ownership of the Patent

Modern patent law should not treat joint inventors as equals in determining their ownership rights when their respective contributions are not equal.²⁰⁵ Instead, the law should discriminate, providing for the partitioning of interests in the patent according to the contribution to each claim. Only the patent should be partitioned into the respective claims to which co-inventors contributed. There would be no need to fragment the claims themselves; doing so would prove too cumbersome. Admittedly, inventors may contribute only to portions of claims, as well. However, a simple calculation of the number of claims to which co-inventors contributed compared with the total number of claims in the patent would suffice for determination of ownership rights. This additional calculation would not burden the courts since courts must determine to which claims an alleged co-inventor contributed in order to determine whether or not the co-inventor should be named as a joint inventor, in the first instance. For example, in *Ethicon*, Choi should be entitled to two out of the fifty-five claims, or 3.64% of the entire ownership rights in the patent. If the patent is successful and yields income, Choi should be entitled to 3.64% of that income and no more, for he should not benefit from the fruits of another.

B. Complete Ownership of the Patent

This situation reflects the state of the current law. Once co-inventors successfully name themselves as joint inventors, they would have full rights to an undivided interest in the entire patent. However, this results in an unfair distribution of patent rights among inventors who did not contribute significantly to the patent.

The modern law in patent ownership is similar to ownership of joint works in copyrights. Joint authors of a copyrighted work are co-owners.²⁰⁶ The 1976 Copyright Act, however, states that a "joint work" is a "work prepared by two or more authors with the *intention*

determine joint ownership.

205. See *supra* notes 201-02 and accompanying text.

206. See 17 U.S.C. § 201(a) (1994). To become joint owners in a work in copyright, authors must first create a joint work. Section 201(a) is entitled "Initial Ownership" and reads in pertinent part, "[t]he authors of a joint work are co[-]owners of a copyright in the work." *Id.*

that their contributions be merged into inseparable or interdependent parts of a unitary whole.”²⁰⁷ Thus, the Copyright Act introduces the element of intent as a mechanism for determining the meaning of “joint” in “joint authorship.”²⁰⁸ Under these principles, each joint author has certain rights and responsibilities.²⁰⁹ They are each co-tenants with a one-half undivided interest in the work.²¹⁰ Each joint author can grant nonexclusive licenses to third parties or the joint authors together can grant an exclusive license.²¹¹ And they are each responsible for an accounting of the profits.²¹² A similar approach can be adopted in patent law. However, under the Copyright Act, the authors must *intend* to create an inseparable work. The intention to create a unitary work is an indispensable key in copyrights. “The touchstone . . . is the intention, at the time the writing is done, that the parts be absorbed or combined into an integrated unit.”²¹³ The importance of this requirement is to ensure “that true collaborators in the creative process are accorded the perquisites of co-authorship and to guard against the risk that a sole author is denied exclusive authorship status simply because another person rendered some form of assistance.”²¹⁴ Finally, each of the contributions from putative authors must be copyrightable on its own.²¹⁵ In this way, “spurious claims”

207. 17 U.S.C. § 101. “Parts of a unitary whole are ‘inseparable’ when they have little or no independent meaning standing alone.” *Childress v. Taylor*, 945 F.2d 500, 505 (2d Cir. 1991). Works that are inseparable may include written works, for example, plays, the work in dispute in *Childress*. See *id.* “[P]arts of a unitary whole are ‘interdependent’ when they have some meaning standing alone but achieve their primary significance because of their combined effect . . .” *Id.* These types of works may include the words and music to a song. See *id.*

208. See *Childress*, 945 F.2d at 504-05.

209. See MARSHALL LEAFFER, UNDERSTANDING COPYRIGHT LAW § 5.4[C] & n.55 (2d ed. 1995).

210. See *Childress*, 945 F.2d at 507.

211. See LEAFFER, *supra* note 209, at § 5.4[C].

212. See, e.g., *Oddo v. Ries*, 743 F.2d 630, 633 (9th Cir. 1984) (discussing rights and responsibilities of joint authors).

213. *Childress*, 945 F.2d at 505 (quoting the legislative history in trying to clarify the meaning of “intent”).

214. *Id.* at 504.

215. See *id.* at 507. See also *Thomson v. Larson*, 147 F.3d 195, 201-05 (2d Cir. 1998) (applying the principles and factors from *Childress* and finding although alleged co-author made a copyrightable contribution, there was no intent on the part of either author to create a joint work).

may be avoided by "those who might otherwise try to share the fruits of the efforts of a sole author of a copyrightable work, even though a claim of having contributed copyrightable material could be asserted by those so inclined."²¹⁶

No similar construction of the law exists in patent law. Thus, where inventors intend and agree from the start of a project that their contributions to any invention be made as a whole, each can be a joint owner. But this does not change the law of joint inventors—co-inventors remain named on the patent as joint inventors if each has contributed to at least one claim of the patent.

C. No Ownership Rights to a Minor²¹⁷ Contributing Inventor

This situation does not purport to take away the right of a minor joint inventor to be named on a patent. This option, however, would require a higher standard of conception from contributing co-inventors such that their respective contributions would not be insignificant. Again, this higher standard of conception would not be used to determine inventorship—§ 116 resolves that issue—but to determine ownership.²¹⁸

VI. CONCLUSION

"Apparently no one foresaw that judges might routinely transfer pre-1984 ownership concepts into the changed inventorship law."²¹⁹ The fact that Congress did not change §§ 261 and 262 underscores this. In amending § 116, Congress greatly eased the burden on joint inventors, attorneys, and the Patent and Trademark Office of granting patents in situations where it was previously impossible to do so. Surely, Congress did not intend to create one inequity by relieving another. In the future, Congress should once again amend the Patent Act to clarify the rights of joint inventors and joint owners and to reflect the true nature of contributions from joint inventors. In the interim, courts should consider the three recommendations noted above. Of these, only fractionating the patent achieves true equity

216. *Childress*, 945 F.2d at 507.

217. *See supra* note 204.

218. *See supra* Part II.A.1 for a discussion of conception.

219. *Ethicon, Inc. v. United States Surgical Corp.*, 135 F.3d 1456, 1471 (Fed. Cir. 1998) (Newman, J., dissenting).

between co-inventors with respect to their ownership rights. As noted, none of the recommendations changes the law of joint inventorship. Rather, they change the application of joint ownership concepts. Likewise, granting ownership rights to joint inventors, who have agreed ahead of time that their contributions merge into a whole, would not alter the distribution of equity. However, at the present there remains an anomaly which equates joint inventors with joint owners, a result unsupported by the law.

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