

LET ME GET MY HUMAN FOR THAT: THE STRUGGLES OF A BROKEN PATENT SYSTEM FOR AI INVENTORS

*Jessica Smith**

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* Jessica is a 3L in the traditional day program at Southwestern Law School. She is a Lead Articles Editor for Southwestern’s Journal of International Law, the Editor-in-Chief for Southwestern’s Law Commentator, a Senior Writing Fellow, and a member of the Negotiations Honors Program. In addition to her education at Southwestern, Jessica is also pursuing her MBA at the Claremont Graduate University through Southwestern’s JD/MBA partnership. Currently, Jessica works for a real estate development company, Columbus Pacific, and she will pursue a career in real estate development after graduation while finishing her MBA.

I. INTRODUCTION

“Hey, Siri, what is artificial intelligence?” A quick question to Apple’s Siri elicits the Wikipedia definition stating that Artificial Intelligence (AI) is “intelligence demonstrated by machines, as opposed to the natural intelligence displayed by animals including humans.”¹ The idea of AI evokes a variety of images for different people. Some may think of robots; others may even envision Siri herself. Siri comes in many forms; someone may associate her with the floating, colorful orbital at the bottom of the iPhone screen, or he may have a full image of what she looks like from head to toe. Others thinking of AI will turn to the elusive Sophia, Hanson Robotics’ human-like robot who “personifies our dreams for the future of AI.”² Sophia is acclaimed for her talents and visited television sets worldwide, as she walked the stages of *The Tonight Show*³ and *Good Morning Britain*.⁴ Sophia demonstrated to the world how AI steps closer to possessing human-caliber intelligence every day and with every innovation.

While we once lived in a world in which humans created AI, and then humans coined the AI as their inventions, we now encounter far developed AI that creates its own inventions, absent human interaction. For example, Lucid.AI claims that its technology can make human-like qualitative deductions and can successfully solve the business world’s most complicated problems.⁵ As such, Lucid.AI worked on behalf of an investment banking client and saw “connections across long chains of relationships not detected by human compliance functions.”⁶ While impressive, Lucid.AI’s output falls short of ground-breaking for technology capabilities today. Intellectual Property (IP), which in Lucid.AI’s case is data, is the normal output for any research company or device. The human inventors who created Lucid.AI surely have armed their invention with lawful protection over its thirty-year conception period.⁷ However, Lucid.AI undoubtedly creates its own IP through its reasoning. Now, how can Lucid.AI protect its inventions? Should Lucid.AI file for its own patent

1. Artificial Intelligence, WIKIPEDIA (last visited Nov. 25, 2021), https://en.wikipedia.org/wiki/Artificial_intelligence.

2. Hanson Robotics, *Sophia* (last visited Nov. 25, 2021), <https://www.hansonrobotics.com/sophia/>.

3. Jimmy Fallon, *The Tonight Show* (NBC television broadcast Nov. 18, 2018).

4. *Good Morning Britain* (ITV June 17, 2017).

5. Lucid.AI, *Lucid Technology* (last visited Nov. 25, 2021), <https://lucid.ai/technology/>.

6. Lucid.AI, *Success Stories* (last visited Nov. 25, 2021), <https://lucid.ai/success-stories/>.

7. Lucid AI, *supra* note 5.

to protect its IP, or should the human inventors of the technology take the credit? Today, we face this long-winded debate about AI's lawful rights.

Given the technological advances of AI, courts must recognize the evolving role of AI in developing patents. However, the most effective system requires countries to develop a harmonized approach that allows a human co-inventor to be named on the patent with the AI.

The article proceeds as follows. Part II provides background information regarding the most prominent litigation regarding AI's rights to the patents in various countries. Part III explains that AI itself is only property and will never meet the human threshold needed to own property or to enter contracts; it would merely act as a shell for its owners. Part IV argues that because a fair trial to protect a patent requires that an inventor must testify in court, and AI legally cannot take an oath to testify, a human co-inventor must pair with an AI to explain the AI's processes in court; otherwise, AI could infringe on other patents and keep the evidence hidden. Part V offers a response to critics who are concerned that AI will not be properly credited for the mental conception of its intellectual property by arguing that trade secret law provides a good alternative because it does not require a human inventor. Part VI examines the patent system and explores the possibility of creating international harmonization among the patent laws. Finally, Part VII concludes with recommendations for the World Intellectual Property Organization to create a universal patent law.

II. BACKGROUND

Patents serve as a powerful protection for inventors to ensure that they receive credit for their IP and inventions. According to Cornell Law School, “[a] patent grants the patent holder the exclusive right to exclude others from making, using, importing, and selling the patented innovation for a limited period of time.”⁸ Patentable material must: (1) be of patentable subject matter, (2) have utility, (3) be novel, (4) be nonobvious, and (5) be enabled.⁹ Patent laws also prescribe how the patented material can be protected, utilized, and owned.

Perhaps surprisingly, each country enacted its own patent law to govern its territory. For example, the United States (U.S.) sets forth a foundation for patents in Article I, section 8 of the U.S. Constitution.¹⁰ The Article grants Congress the power to “promote the progress of science and

8. Cornell Law, *Patent* (last visited Nov. 25, 2021), <https://www.law.cornell.edu/wex/patent>.

9. *Id.*

10. *See* 35 U.S.C.

useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries.”¹¹ Further, the U.S. formed the Patent Act, 35 U.S. Code, to grant additional protections to inventors.¹² The Patent Act prohibits double patenting for the same invention, proscribes the subject matter eligibility, describes the utility necessary for the invention, and defines who may be named an inventor.¹³ People in the intellectual property community largely accept the law, but the area of who may be named an inventor leads to a hot debate.

U.S. patent law requires the inventor named on the patent be the person who mentally conceives of the IP.¹⁴ Before the technological advances of AI, patent law adequately met the needs of human inventors. However, since AI now can mentally conceive of its own IP, proponents of AI inventors believe that the law must change to allow for AI inventors to protect their IP through patents.¹⁵ Stephen Thaler is one of the greatest proponents of this amendment.

Thaler is the President and CEO of Imagination Engines Incorporated.¹⁶ He invented a machine, Device for Autonomous Bootstrapping of Unified Sentience (DABUS), with intentions for the AI to create its own inventions.¹⁷ He described DABUS as a human-like machine which “is sentient and develops ideas.”¹⁸ Further, he said DABUS is “a swarm of many disconnected neural nets, each containing interrelated memories” that “are constantly combining and detaching due to carefully controlled chaos introduced within and between them.”¹⁹

In 2019, DABUS invented a “food storage container based on fractal geometry.”²⁰ Thus, Thaler filed the patent in DABUS’s name because

11. Bitlaw, *Patent Law in the United States* (last visited Nov. 25, 2021), <https://www.bitlaw.com/patent/index.html#summary>.

12. See 35 U.S.C. § 271.

13. See 35 U.S.C. §§ 100, 101, 102, 103, 112.

14. The United States Patent and Trademark Office, 2109 INVENTORSHIP [R-10.2019] (last visited Nov. 25, 2021), <https://www.uspto.gov/web/offices/pac/mpep/s2109.html>.

15. IP Stars, *The Latest News on the DABUS Patent Case* (last visited Nov. 25, 2021), <https://www.ipstars.com/NewsAndAnalysis/the-latest-news-on-the-dabus-patent-case/Index/7366>.

16. Imagination Engines Incorporated, STEPHEN L. THALER (last visited Feb. 5, 2023), <https://imagination-engines.com/founder.html>.

17. IP Stars, *supra* note 15.

18. Max Walters, *DABUS Applicant: ‘It Would be Criminal to list Myself as Inventor’* (last visited Nov. 25, 2021), <https://www.managingip.com/article/b1p6d2xrpdxrfs/dabus-applicant-it-would-be-criminal-to-list-myself-as-inventor>.

19. Michael M. Rosen, *AI Invents- But Should it Get Patents, Too?* (last visited Nov. 25, 2021), <https://issues.org/artificial-intelligence-patents-innovation-rosen/>.

20. IPWATCHDOG, *DABUS Gets Its First Patent in South Africa Under Formalities Examination* (last visited Nov. 25, 2021), <https://www.ipwatchdog.com/2021/07/29/dabus-gets-first-patent-south-africa-formalities-examination/id=136116/>.

DABUS mentally conceived the invention.²¹ Courts in South Africa, the United Kingdom, the U.S., Europe, and Australia reviewed DABUS's patent application.²² Only South Africa granted the patent, making DABUS the first AI inventor to hold a patent.²³ Further, this decision granted a patent to the first artificial intelligence in history.²⁴

South Africa's decision created turmoil within the intellectual property legal world. South Africa's patent system "does not offer formal examination and instead requires applicants to merely complete a filing for their invention."²⁵ It also does not define who can be an "inventor" in its patent law.²⁶ Many skeptics attribute DABUS's South Africa win to its "rubber stamp approval" system.²⁷ However, Thaler believes that DABUS rightfully earned its patent because South Africa allows for non-human inventors with its lack of definition for an inventor.²⁸ Similarly, Australia's Federal Court followed in the footsteps of South Africa and granted DABUS's patent.²⁹ The court claimed that "AI is eligible to be designated as a patent inventor."³⁰ Reviewing each country's patent law brings light to the courts' decisions.

a. *South Africa*

South African patent laws define a patent as "an exclusive right granted for an invention, which is a product or a process that provides a new way of doing something or offers a new technical solution to a problem."³¹ The law requires that an invention be novel, useful, and

21. *Id.*

22. *Id.*

23. IP Stars, *supra* note 15.

24. Quartz Africa, IN A WORLD FIRST, SOUTH AFRICA GRANTS A PATENT TO AN ARTIFICIAL INTELLIGENCE SYSTEM (last visited Jan. 24, 2022), <https://qz.com/africa/2044477/south-africa-grants-patent-to-an-ai-system-known-as-dabus/>.

25. Ed Conlon, DABUS: SOUTH AFRICA ISSUES FIRST-EVER PATENT WITH AI INVENTOR, *Managing IP* (July 29, 2021), <https://www.managingip.com/article/2a5czh91g6c8zwxjcp1a8/dabus-south-africa-issues-first-ever-patent-with-ai-inventor>.

26. IPWATCHDOG, *supra* note 20.

27. *Id.*

28. *Id.*

29. Amy Sandys, Opinion, *An Australian patent is a start. But Dabus needs the EPO to succeed*, *JUVE PATENT* (Aug. 18, 2021), <https://www.juve-patent.com/news-and-stories/legal-commentary/an-australian-patent-is-a-start-but-dabus-needs-the-epo-to-succeed/> (last visited Nov. 25, 2021).

30. *Id.*

31. CIPC, REGISTER PATENT, https://www.cipc.co.za/?page_id=4184 (last visited Feb. 2, 2023).

inventive.³² On July 28, 2021, South Africa granted a patent for one of DABUS's inventions.³³ The patent designated DABUS as the inventor and Thaler as the owner.³⁴

South Africa's patent law contains two major differences compared to other nations.³⁵ First, South African courts do not engage in an extensive approval or examination process.³⁶ As long as a patent application is properly completed, the courts essentially give a rubber stamp approval.³⁷ Second, as mentioned before, South Africa's Patent Act of 1978 does not define the inventor, so non-humans can qualify.³⁸ Specifically, Section 27(1) of the Patent Act states that "an inventor or any other person acquiring from him the right to apply" or both the inventor and such other person as those qualified to apply for a patent in South Africa.³⁹ Thus, Thaler won his first patent on behalf of DABUS because he completed the application and DABUS theoretically met the definition of an inventor per South Africa's patent law.

b. United Kingdom

The United Kingdom (UK) follows the Patents Act of 1977.⁴⁰ Section 7(1) of the Act describes that "any person may make an application for a patent."⁴¹ Section 7 also stipulates that "a patent may be granted to (a) the inventor, (b) any person who is the first owner of the 'property in' the invention at the time of the making of the invention."⁴² This section is one of the many hurdles for AI inventors in the UK. Section 13 also proves problematic for DABUS and AI inventors because "the inventor or joint inventors of an invention shall have a right to be mentioned as such in any patent granted for the invention" and shall also file a statement with the patent office "(a) identifying the person or persons whom he believes to be

32. Smit & Van Wyk, *Patent Law in South Africa*, <https://www.svw.co.za/patent-law-in-south-africa/> (last visited Nov. 25, 2021).

33. Catherine Cotter, *The Edge of Glory?: Will DABUS 'success' in South Africa and Australia be repeated in the UK?*, LEXOLOGY (Aug. 10, 2021), <https://www.lexology.com/library/detail.aspx?g=ee3fc7e5-e43c-4771-bd30-f0527f007785> (last visited Nov. 25, 2021).

34. *Id.*

35. *Id.*

36. *Id.*

37. *Id.*

38. Patents Act, 155, Republic of South Africa Government Gazette, at 9.

39. *Id.* at 23.

40. Patents Act 1977 (UK), at 1.

41. *Id.* § 7.

42. *Id.*

the inventor or inventors; and (b) where the applicant is not the sole inventor or the applicants are not the joint inventors, indicating the derivation of his or their right to be granted the patent; and, if he fails to do so, the application shall be taken to be withdrawn.”⁴³ The UK Court of Appeal initially denied Thaler’s patent because DABUS failed to be an adequate inventor as a non-human, and Thaler held no right to file the patent on behalf of DABUS.⁴⁴ On appeal, the court denied Thaler’s application again.⁴⁵ Largely, the court agreed with the original case decision because DABUS is not a natural person and the inventor must be the person who conceived the invention.⁴⁶

After the Court of Appeal denied the decision on DABUS, the UK government has published responses on how to move forward with artificial intelligence and intellectual property. The government response stated that “the power of AI is a top priority in the plan to be the most pro-tech Government ever.”⁴⁷ The response also stated that “AI will soon be inventing and creating things in ways that make it impossible to identify the human intellectual input in the final invention or work.”⁴⁸ If the AI can prove the human input versus its own input in the invention, officials can properly credit the AI for its work, which appears to be a big hurdle for the government’s decision today. With the UK seemingly having an open mind to the future of AI, critics expect that the UK Supreme Court will hear Thaler’s appeal in 2023.⁴⁹

c. *Australia*

The Federal Court of Australia originally denied Thaler’s patent application for DABUS’s invention.⁵⁰ The court determined that a “system”

43. *Id.* § 13.

44. *Thaler v. Comptroller General of Patents Trade Marks and Designs*, [2021] Royal Ct. of Justice (Sept. 21, 2021).

45. *Id.*

46. *Id.*

47. Gov.UK, *Artificial Intelligence and Intellectual Property: Copyright and Patents: Government Response to Consultation* (June 28, 2022), <https://www.gov.uk/government/consultations/artificial-intelligence-and-ip-copyright-and-patents/outcome/artificial-intelligence-and-intellectual-property-copyright-and-patents-government-response-to-consultation>.

48. *Id.*

49. IP Stars, *The Latest News on the DABUS Patent Case* (Nov. 17, 2022), <https://www.ipstars.com/NewsAndAnalysis/The-latest-news-on-the-DABUS-patent-case/Index/7366>.

50. *Thaler v. Commissioner of Patents*, [2021] FCA 879, VID 108 of 2021, Fed. Ct. Austl., at 2 (July 30, 2021).

cannot be an inventor under Australian law.⁵¹ Further, the court reasoned that while AI can create inventions that satisfy novelty, inventiveness, and utility, it cannot meet the last requirement of being a human inventor.⁵² After the decision,⁵³ Thaler sought judicial review, citing Section 15 of the Judiciary Act of 1903,⁵⁴ and he claimed that the Act and Regulations do not preclude AI as being treated as an inventor.⁵⁵ On appeal, Justice Beach, justice for the Federal Court of Australia, shared his opinion that artificial intelligence can be an inventor in the eyes of the Act because 1) an inventor is an agent noun, which could include a person or thing; and 2) there are many situations in which humans cannot be held as inventors; and 3) nothing in the Act definitively says otherwise.⁵⁶ Justice Beach further argued that while humans can be inventors, so can AI, and he believes that the High Court's argument in the past decision focused too heavily on textbook definitions for "inventor," and that the system described in the past decision improperly precludes inventions which are created by non-humans.⁵⁷ He continued to say that no provisions incorporated in the Australian patent law "exclude an inventor from being a non-human artificial intelligence device or system."⁵⁸ Justice Beach also distinguished patent law from copyright law, which requires that there be human authors or the existence of moral rights.⁵⁹ Justice Beach claimed that the copyright requirements necessitate a human inventor, but these provisions are not associated with patent law in Australia. Conversely, Justice Beach analogized patent law to the Act's object clause, which provides that the Australian patent system must balance the "interests of producers, owners and users of technology and the public," to promote economic well-being through innovation.⁶⁰ In sum, Justice Beach dismissed the original Commissioner's decision and Thaler's appeal is pending in the Full Federal Court.⁶¹

On April 13, 2022, the Full Court of the Federal Court agreed with the Commission of Patents in the original decision from 2021 and denied that

51. *See id.*

52. *Id.*

53. *See id.* at 1.

54. Judiciary Act 1903, Office of Parliamentary Counsel at 39B.

55. *Thaler*, FCA 879 at 13.

56. *See id.* at 20-21.

57. *See id.* at 1.

58. *Id.* at 13.

59. *Id.* at 21.

60. *Id.*

61. *See id.* at 41.

an AI could be an inventor in the Australian patent system.⁶² Ultimately, the Court agreed with the original denial because when giving regard “to the statutory language, structure and history of the Patents Act, and the policy objectives underlying the legislative scheme, [it] respectfully disagree[d] with the conclusion reached by the primary judge,” and decided that naming DABUS as an inventor on the parent application did not comply with the regulations.⁶³ Following this decision, the High Court rejected a special leave to appeal in November 2022, which officially ended Thaler’s DABUS’s patent litigation in Australia.⁶⁴

d. United States

U.S. patent law is governed by the U.S. Patent Act, 35 U.S.C.⁶⁵ The Code states that “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.”⁶⁶ After the U.S. Patent and Trademark Office (USPTO) denied DABUS’s patent, Thaler brought his DABUS case to the U.S. District Court for the Eastern District of Virginia on Appeal in 2021.⁶⁷ Thaler named Andrew Hirshfeld, the director of the USPTO,⁶⁸ as the defendant in the case.⁶⁹ In his appeal, Thaler sought “[a] declaration that a patent application for an AI-generated invention should not be rejected on the basis that no natural person is identified as an inventor; [a] declaration that a patent application for an AI-generated invention should list an AI where the AI has met inventorship criteria; and an award of the costs and reasonable attorneys’ fees plaintiff incurred in this litigation.”⁷⁰

62. Luvisa Gierson, *Full Court of the Federal Court of Australia dismisses DABUS – An AI system cannot be an Inventor*, LEGAL INSIGHTS (May 11, 2022), <https://www.gadens.com/legal-insights/full-court-of-the-federal-court-of-australia-dismisses-dabus-an-ai-system-cannot-be-an-inventor/>.

63. Commissioner of Patents v. Thaler [2022], VID 496 of 2021, Fed. Ct. Austl. ¶ 117 (Apr. 13, 2022).

64. See Dr. Claire Gregg & David Webber, *High Court powers down DABUS patent prospects* (Nov. 15, 2022), <https://dcc.com/news-and-insights/high-court-powers-down-dabus-patent-prospects-in-australia/#:~:text=On%2011%20November%202022%2C%20three,special%20leave%20applicati on%20with%20costs.>

65. U.S. Patent Act, 35 U.S.C. § 101 (1952).

66. *Id.*

67. Thaler v. Hirshfeld, 558 F. Supp. 3d 238 (E.D. Va. 2021).

68. *Id.*

69. *Id.*

70. *Id.* at 241.

Several requirements on the U.S. Patent application proved difficult for Thaler. For the inventor's "given name," Thaler wrote "DABUS," and for "family name," he wrote "Invention generated by artificial intelligence."⁷¹ Typically these sections contain a person's first and last name, however Thaler needed to improvise because DABUS does not have a family name. Similarly, Thaler included his own mailing address information to identify the "mailing address of inventor," however Thaler named DABUS as the inventor.⁷²

The preceding issues were minor compared to the next two problems within the application. First, because DABUS cannot execute an oath or declaration that the Patent Act requires, Thaler included a form for "Substitute Statement Under 37 CFR 1.64 in Lieu of Declaration Under 35 U.S.C. § 115(d)," which would allow Thaler to sign the substitute statement on DABUS's behalf because it has "no legal personality or capability to execute this substitute statement."⁷³ However, DABUS had no way of assigning its rights to Thaler and, thus, Thaler made the decision without necessary input from the inventor.

Thaler's second major application problem shows in the "Assignment" document, which Thaler included to show that DABUS assigned its inventor rights to Thaler.⁷⁴ The Assignment claimed that "in view of the fact that the sole inventor is a Creativity Machine, with no legal personality or capability to execute said agreement, and in view of the fact that the assignee is the owner of said Creativity Machine, this Assignment is considered enforceable without an explicit execution by the inventor."⁷⁵ Since DABUS has no legal personality and cannot receive any consideration, Thaler, as the owner/representative, acknowledged the sufficiency of "good and valuable consideration for this assignment."⁷⁶ Thaler signed the Assignment contract on behalf of both the assignor and the assignee.⁷⁷ However, U.S. contract law would not recognize this contract as being legally executed because Thaler gave no proper consideration to DABUS and the assignor and the assignee cannot be the same person on a contract.⁷⁸ The USPTO ultimately dismissed Thaler's petition because Congress defines "inventor" as an "individual," or

71. *Id.*

72. *Id.*

73. *Id.*

74. *Id.* at 241-42.

75. *Id.* at 242.

76. *Id.*

77. *Id.*

78. U.S. Const. art. I, § 10, cl. 1.

“himself or herself,” thus indicating that an inventor must be a human being, which DABUS fails to meet.⁷⁹ The USPTO further concluded that it “properly issued the Notice . . . noting the inventor was not identified by his or her legal name.”⁸⁰

In June 2022, the Federal Circuit heard Thaler’s appeal. The court handed down its judgment on August 5, 2022, concluding that “the Patent Act requires that inventors must be natural persons; that is, human beings.”⁸¹ The Court held firm in its opinion that “only a natural person can be an inventor, so AI cannot be.”⁸² Thaler’s counterpart, Ryan Abbott,⁸³ plans to appeal the decision.⁸⁴

Given the differences in how the court views AI inventors, justice calls for an international harmonization of patent laws. Without harmonization, chaos will ensue as the International Patent Cooperation and other similar agencies worldwide will be inundated with requests to resolve disputes in which inventors do not receive fair protection for their patents in different regions.

III. AI CANNOT ORCHESTRATE LEGAL OR BUSINESS CAPABILITIES ON ITS OWN

Allowing AI inventors to hold patents will decrease innovation because the invention will essentially become dead since AI cannot license or produce it because AI is merely a shell for its owners. As property, it will never meet the human threshold needed to own property itself or to enter contracts. These functions are essential to the furtherance of the invention. One of the many legal rights granted to the patent owner is the power to give permission or to license third parties to use the invention based on agreed upon terms.⁸⁵ The patent owner also can sell the patent to another owner.⁸⁶ All of these scenarios would involve the inventor to grant legal rights to another person. Traditionally, this transfer of rights occurs through a contract. The basic elements of a legally enforceable contract in the U.S.

79. *Thaler*, 558 F. Supp. 3d. at 242-43.

80. *Id.* at 242.

81. *Thaler v. Vidal*, 43 F.4th 1207, 1209 (Fed. Cir. 2022).

82. *Id.* at 1213.

83. Ryan Abbott is the Research Lead in AI at the Surrey Law and Technology Hub and a professor of Law and Health Sciences at the University of Surrey. *Ryan Abbott*, SURREY L. AND TECH. HUB, <https://surreylawtech.org/authors/rabbott/> (last visited Nov. 27, 2021).

84. *Ryan Abbott*, <https://www.linkedin.com/feed/update/urn:li:activity:6961343021221113856/>.

85. *See Up Counsel, How do Patents Work: Everything You Need to Know*, ¶ 4 (Oct. 28, 2020), <https://www.upcounsel.com/how-do-patents-work> (last visited Nov. 27, 2021).

86. *Id.*

include mutual assent, expressed by a valid offer and acceptance; consideration; capacity; and legality.⁸⁷ AI would have difficulties satisfying these elements. The Restatement of Contracts defines consideration in terms of exchange and requires that a promise be supported by consideration in order to be legally enforceable.⁸⁸ Considering that AI is property itself, and cannot legally own or transfer property to another, AI cannot properly give adequate consideration. Second, having the capacity to legally enter a contract means a person is of “legal capacity to incur at least voidable contractual duties,”⁸⁹ and someone who is not “under guardianship, or an infant, or mentally ill or defective, or intoxicated.”⁹⁰ AI neither meets the qualification of being “a person,” and opponents of AI patent rights will argue that AI is not “of sound mind.” Thus, AI cannot legally enter contracts to promote the furtherance of its invention.

However, Thaler would argue that he orchestrated a legal assignment when he appealed the decision of the USPTO on DABUS’s behalf. As noted above, Thaler attached an “Assignment” contract, which stated that DABUS assigned Thaler all intellectual property rights in DABUS’s inventions to Thaler.⁹¹ He signed the contract as both the assignor and assignee.⁹² The contract, in essence, allowed Thaler to keep DABUS named as the inventor but gave Thaler the ability to orchestrate business functions. No consideration accompanied the contract.⁹³ Although the Assignment stated that Thaler “acknowledges the receipt and sufficiency of good and valuable consideration for this assignment,” still, DABUS offered no consideration.⁹⁴ Contract law requires that a party gives consideration in the course and dealings of an assignment, and thus, AI should not have an exception when entering into contracts. Thus, until AI can legally and properly give adequate consideration, all AI contracts, including Thaler’s Assignment in the U.S. appeal, should remain illegal.

Proponents who believe that AI should own patents believe that AI furthers the goals of the patent system by encouraging innovation.⁹⁵ They argue that AI brings a different perspective to the inventing world and can

87. U.C.C § 2-206 (amended 2002).

88. RESTATEMENT (SECOND) OF CONTRACTS § 17 (1979).

89. *Id.* § 12.

90. *Id.* § 12.2(a-d).

91. Memorandum of Law in Support of Defendants’ Motion for Summary Judgement & in Opposition to Plaintiff’s Motion for Summary Judgement, at 8, Thaler v. Hirshfeld, 558 F. Supp. 3d 238 (2021) (Civ. Action No. 1:20cv903).

92. *Id.*

93. *Id.*

94. *Id.*

95. See Rosen, *supra* note 19, ¶¶ 8-10.

provide machine-made solutions to human problems, perhaps more efficiently and creatively than a human could.⁹⁶ They believe AI will create more breakthroughs, which would further benefit society.⁹⁷ Abbott, Thaler's counterpart, argues that allowing for AI-generated patents "would make inventive AI more valuable and incentivize AI development, which would translate to rewards for effort upstream from the stage of invention and ultimately result in more innovation."⁹⁸ If AI receives recognition and protection over its inventions, proponents believe that the AI's creators will "be motivated to create more and better AIs—which will in turn develop new and better ideas to improve human well-being."⁹⁹

While proponents of AI patent ownership argue that AI needs this power to further promote computer-generated innovation, AI patent owners would actually decrease innovation. If AI were to receive inventor rights, it would be the sole individual capable of licensing and granting use of its inventions to third parties. However, based on the above, AI cannot legally enter contracts, and thus, its inventions would be at a complete standstill. To further the process of innovation, humans must play a role in the business dealings for AI-created inventions.

IV. HUMAN CO-INVENTORS CAN ENSURE A FAIR TRIAL

Another crucial role of a patent owner is to file patent infringement claims for its invention. AI inventors cannot legally take an oath in court, and thus, a human counterpart who can testify must be a co-inventor named on the patent. Patent trials typically last between one to two weeks, and they take place in front of a jury of six to eight citizens from that court's district.¹⁰⁰ Parties generally use expert witnesses to provide background information on the patent process, as well as information about the specific patent at hand. Parties themselves will also present evidence, which begins with testimony from the inventor or patent owner.¹⁰¹ All witnesses must be competent, meaning that the witness must "ha[ve] the sufficient mental capacity to perceive, remember, and narrate the incident he or she has

96. *See id.*

97. *See id.* ¶¶ 9-10.

98. *Id.* ¶ 10.

99. *Id.*

100. Fish & Richardson, *A Guide to Patent Litigation in Federal Court*, at 16, https://www.fr.com/wp-content/uploads/2019/11/2019-Q4-Guide-to-Patent-Litigation-in-Federal-Court_FINAL.pdf (last visited Nov. 27, 2021).

101. *Id.* at 10.

observed.”¹⁰² A competent witness must also “be able to understand and appreciate the nature and obligation of an oath.”¹⁰³ In the U.S. Rule 603 of the Federal Rules of Evidence requires that “before testifying, a witness must give an oath or affirmation to testify truthfully...[and] [i]t must be in a form designed to impress that duty on the witness’s conscience.”¹⁰⁴

The requirement for a witness to take an oath before testifying in court causes additional struggles for AI patent owners. A typical oath mimics the following: “I swear by Almighty God that the evidence I shall give will be the truth, the whole truth, and nothing but the truth.”¹⁰⁵ Based on the current patent system, if AI inventors were named as a party in a patent infringement suit, they would be required to testify as the inventor in the court of law. Thus, the AI inventor would need to take an oath to promise that the evidence it shares would be nothing but the truth.

Simply put, AI inventors cannot legally testify in court. History proves that AI does have the ability to lie. For example, Facebook developed an AI system to simplify negotiations within its system.¹⁰⁶ Facebook researchers claimed that its AI agents “learnt to deceive without any explicit human design simply by trying to achieve their goals.”¹⁰⁷ Thus, human inventors of AI can program it so that the AI can deceive and communicate something other than the truth. The American Psychological Association wrote that “[r]esearch has consistently shown that people’s ability to detect lies is no more accurate than chance, or flipping a coin.”¹⁰⁸ Judges and other officials in the court room should not be unfairly tasked with trying to determine if AI is effectively giving a truthful testimony, given that its oath would be meaningless. AI cannot serve as an adequate patent owner/inventor in the courtroom because it lacks the ability to legally testify in a patent infringement lawsuit.

Proponents may argue that AI inventors can handle lawsuits through the USPTO instead of in a federal court because the USPTO does not require testimony. The USPTO post-grant proceedings include

102. LEGAL INFO. INST., Cornell Law., *Competent Witness* ¶ 1, https://www.law.cornell.edu/wex/competent_witness (last visited Nov. 27, 2021).

103. *Id.*

104. FED. R. EVID. R. 603.

105. ACT GOVERNMENT VICTIM SUPPORT, *Oath or Affirmation*, <https://www.victimsupport.act.gov.au/criminal-justice-system/court-process/giving-evidence-in-court/oath-or-affirmation> (last visited Nov. 27, 2021).

106. Tristan Greene, *Study: It Might be Unethical to Force AI to Tell us the Truth*, THE NEXT WEB (Mar. 10, 2021, 10:43 PM), <https://thenextweb.com/news/it-might-be-unethical-to-force-ai-to-tell-us-the-truth>.

107. *Id.*

108. Laura Zimmerman, *Deception Detection*, APA (Mar. 2016 Vol. 47, No. 3), <https://www.apa.org/monitor/2016/03/deception>.

supplemental examination, which only the patent owner can seek.¹⁰⁹ AI inventors do not presently have the functionality or capabilities to request these proceedings from the court. Since the patent owner is the only individual with the right to file for supplemental examination, an AI inventor would also make the USPTO proceedings impossible to adequately complete.

The legal system still needs a solution to deal with proceedings involving an AI inventor. While humans formerly took ownership and responsibility over intellectual property created by their AI, humans no longer feel they can morally take credit. AI has evolved to the point in which it mentally conceives of the IP. The foregoing reasons presented in this section detail why AI cannot legally testify in court, and thus cannot hold the title as a patent owner, as the legal system would fall apart. However, two solutions can credit AI inventors while safeguarding human inventors from patent infringement. First, the legal system can allow for AI and human co-inventors to share the “inventor” title on a patent through a system similar to Copyright Law’s Work Made for Hire doctrine. Alternatively, the legal system can parallel a patent system for an AI-human relationship in a similar way to how the system currently allows for corporations to participate in the patent system as assignees.

a. “*Work Made for Hire*” Solution

Patent law and copyright law have many similarities, as they both aim to protect a creator’s intellectual property. Copyright law allows for a solution to an employee-employer relationship as it relates to inventorship, which can translate well to the AI-human relationship debate. U.S. copyright law accepts Section 101 of the Copyright Act, which details the “works made for hire” doctrine.¹¹⁰ The law defines the works that qualify under the act as “a work prepared by an employee within the scope of his or her employment or a work specially ordered or commissioned for use (1) as a contribution to a collective work, (2) as a part of a motion picture or other audiovisual work, (3) as a translation, (4) as a supplementary work, (5) as a compilation, (6) as an instructional text, (7) as a test, (8) as answer material for a test, or (9) as an atlas, if the parties expressly agree in a written instrument signed by them that the work shall be considered a Work Made for hire.”¹¹¹ The law states that “if a work is made for hire, an employer is

109. Fish & Richardson, *supra* note 100, at 5.

110. U.S. COPYRIGHT OFFICE, *Works Made for Hire 2*, <https://www.copyright.gov/circs/circ30.pdf> (last visited Nov. 27, 2021).

111. *Id.*

considered the author even if an employee actually created the work.”¹¹² For this doctrine, the employer can be a firm, an organization, or an individual.¹¹³

The humans who create AI can deem the AI as its employee at the beginning of its conception. If the human creates a contract preceding the AI’s existence that positions the AI as an employee/agent of the human, then the human can take ownership of the AI’s inventions. Similar to the crediting in copyright law where the employee can claim creation rights to the intellectual property while the employer remains the owner, human owners of the AI can claim ownership over the AI’s IP while still crediting the AI for its inventions. This solution would allow for human actors to further the invention through business operations. However, humans must program its AI to detail each step of its conception process so that they can understand and properly articulate the AI’s choices when testifying on its behalf in court.

b. Treating AI Like Corporations in the Eyes of Patent Law

While AI may not yet be developed enough to receive the same rights as a human inventor, AI should be treated like other non-human entities that have rights in the patent system. For example, corporations, “a legal entity created through the laws of its state of incorporation,”¹¹⁴ have rights in the patent system. Generally, employees own the rights to their inventions that they create during their course of work unless one of the following two exceptions apply: 1) the employee signed an employment agreement assigning invention rights; or 2) the employer specifically hired the employee with the intent to create the specific invention on behalf of the corporation.¹¹⁵ In other words, in the eyes of patent law, if an employer considers an employee an officer of the business, then any inventions the employee/officer creates will be credited to the company.¹¹⁶ Per the first exclusion, typically, employers require employees to sign over pre-invention assignments when a company hires an individual to the

112. *Id.* at 4.

113. *Id.* at 3.

114. LEGAL INFO. INST., Cornell Law, *Corporations* ¶ 1, <https://www.law.cornell.edu/wex/category/corporations?page=7> (last visited Jan. 20, 2023).

115. Richard Stim, *Who Owns Patent Rights: Employer or Inventor?*, NOLO, <https://www.nolo.com/legal-encyclopedia/who-owns-patent-rights-employer-inventor.html> (last visited Nov. 27, 2021).

116. *Who Owns the Rights to a Patent? The Employer or Inventor?*, ADLI LAW, <https://adlilaw.com/who-owns-the-rights-to-a-patent-the-employer-or-inventor/> (last visited Nov. 27, 2021).

company.¹¹⁷ Per the second exclusion, employees automatically assign their patent rights to a company when a company hires for the purpose of creating an invention.¹¹⁸ When a fiduciary relationship exists, the court is more likely to rule that the corporation owns the rights to the invention.¹¹⁹

Human inventors of AI can create a similar relationship with their AI inventors to mimic how corporations treat their employees in regard to patent law. With corporations, the entity itself is not claiming mental conception of the product. Rather, the corporation is taking legal credit for the invention that the employee created while exhibiting a fiduciary duty to the corporation. The entity takes ownership over legal actions and can choose how to license the invention to third parties. Patent law created a streamlined and efficient process for employers and corporations to steadily increase innovation through their employees by assigning ownership rights to the entity and leaving the credit to the employee who created the invention.

The corporation solution would prove effective to meet the goals of the AI patent proponents. The solution would allow for AI inventors to remain credited for their mental conception but would allow the human inventors of the AI to take legal ownership over the AI's invention. Humans could then continue the flow of innovation by licensing the invention and allowing it to flourish in the open market for creators and businesses to use. Allowing humans to gain ownership rights would promote the flow of innovation because they have the legal capacity to testify in court and legally enter into contracts by providing adequate consideration. Upon the idea of an AI, humans can create contracts that essentially assign all patent law rights to the human inventors so that any invention created by the AI can be legally patented with the help of humans and can effectively protect the IP.

However, as noted in the "Work Made for Hire" solution above, humans still must find a solution for how to testify on behalf of AI. To properly take an oath in court, a witness must promise to tell the whole truth. In order to tell the truth, humans must have a full picture and cognitive understanding of the AI's functioning and choices. Humans must keep this in consideration when creating the AI's processing system. As the world evolves to adapt to AI, humans must also adapt to ensure that AI inventors will fit within the legal system. Proponents of AI inventors believe that AI should hold patent ownership rights, but currently the

117. Stim, *supra* note 115, ¶ 6.

118. *Id.*

119. *Patents: Protecting Corporate Patent Rights*, WIGGIN (Dec. 1, 1998), <https://www.wiggin.com/publication/patents-protecting-corporate-patent-rights/>.

humans cannot articulate the AI's processes as a witness in court, so the AI should not be granted a patent, and the invention will have to be protected through another means.

Ultimately, the business world is not ready to accept AI inventors as competent legal owners, and thus, in order to promote innovation, the patent system must allow for human co-inventors or another solution such as Work Made for Hire or a corporation treatment.

V. TRADE SECRET LAW AS AN ALTERNATIVE

If proponents of AI inventors insist that the AI is recognized as the inventor of the IP, they can turn to the already existing trade secret law to protect the invention. Serving as an intellectual property protection, trade secret law protects intellectual property in a similar manner to patents, trademarks, and copyrights. In the U.S., trade secret law is protected by the Lanham Act and the Uniform Trade Secrets Act.¹²⁰ Trade secrets are defined as “information that derives independent economic value because it is not generally known or readily ascertainable, and it is the subject of efforts to maintain secrecy.”¹²¹ All three elements of the definition must be encompassed in a trade secret for it to be eligible for protection under the law.¹²² The information contained in a trade secret includes “information that can be memorized or noted down by employees, customers, developers, suppliers, and others.”¹²³ Like other intellectual property protections, trade secrets bar infringement and allow enforcement of the protection by inventors.¹²⁴

A key difference for trade secrets, in comparison to other intellectual property protections, is that an inventor can acquire this protection without registering for it with a government agency.¹²⁵ Additionally, trade secret law does not require a human inventor to hold the protection.¹²⁶ While no formal registration system exists, companies are responsible for securing its trade secrets so that if a trade secret is divulged to the public through a

120. *What is a Trade Secret?*, ROCKETLAWYER, <https://www.rocketlawyer.com/business-and-contracts/intellectual-property/legal-guide/what-are-trade-secrets> (last visited Nov. 27, 2021).

121. *Trade Secrets*, JUSTIA, <https://www.justia.com/intellectual-property/trade-secrets/> (Oct. 2022).

122. U.S. Pat. & Trademark Office, *Trade Secrets/Regulatory Data Protection*, <https://www.uspto.gov/ip-policy/trade-secret-policy> (last visited Nov. 27, 2021).

123. JUSTIA, *supra* note 121, ¶ 3.

124. *Id.* ¶ 5.

125. *Id.* ¶ 1.

126. *See id.* ¶ 4.

breach of contract or breach of confidence, then the company can show the information was classified as a trade secret.¹²⁷

Trade secrets can also be protectable under a patent.¹²⁸ However, patents require the inventor to publicly disclose how the invention can be reproduced, whereas trade secrets protect an inventor's "secrets," including how they produced and created the invention. Trade secret law does not provide "defensive protection" for an inventor.¹²⁹ Thus, the protections of trade secrets and patents are at issue with each other, and courts will not issue both at the same time. In the interim, while the legal system decides how to patent AI-created inventions, trade secret law would provide adequate protection for AI inventors.

Other critics have discussed the idea of trade secret protection as an alternative to the AI inventor problem. Notably, Anna Carnochan Comer, the author of *AI: Artificial Inventor or the Real Deal?*, argued that trade secret law will not solve the AI-inventors' patent issues effectively.¹³⁰ Comer believes that "trade secrets do not always provide adequate protection due to the fluctuation of employees and the difficulty of actually keeping information secret."¹³¹ Additionally, Comer argues that "trade secrets inherently inhibit transparency and collaboration," and that trade secrets do not "prevent competitors from independently coming by the same invention, and then filing a patent with a human as the inventor."¹³²

However, Comer does not address the use of nondisclosure agreements, which is the "most effective way to protect trade secrets."¹³³ While trade secrets do not serve as the most protection for an invention, they do provide legal grounds for an inventor to file infringement claims. Inventors can limit their employees to a trusted group of individuals who can sign nondisclosure agreements for the invention. If a party to a nondisclosure agreement defies its commitments to the contract, then the

127. *See id.* ¶ 6.

128. *Id.* ¶ 5.

129. *See Trade Secrets*, WIPO, <https://www.wipo.int/tradesecrets/en/> (last visited Nov. 27, 2021).

130. *See* Anna Carnochan Comer, Note, *AI: Artificial Inventor or the Real Deal?*, 22 N.C. J.L. & Tech. 447,470 (2021).

131. *Id.*

132. *Id.* at 471.

133. *Trade Secret Basics FAQ*, NOLO, <https://www.nolo.com/legal-encyclopedia/trade-secret-basics-faq.html#:~:text=The%20most%20common%20and%20most,the%20secrecy%20of%20confidential%20information> (last visited Nov. 27, 2021).

breaching party may be subject to a lawsuit.¹³⁴ Human inventors, in collaboration with their AI, can create an isolated, controlled group to understand the “secrets” of the AI inventions to avoid the issues that Comer suggested could occur with large businesses. Using these agreements with a small, trusted group will allow for a legal protection of the IP in which the AI inventors and human counterparts can seek remedies for a breach.

While ultimately patent protection would prove the most effective for an AI-created invention, trade secret law will provide adequate legal protection to give AI inventors the rights to file infringement claims. Additionally, trade secret law eliminates the problems associated with the human-inventor prong of patent law. Proponents of AI-inventorship can find protection in trade secret law if they feel strongly that AI deserve inventor credit. When humans first create an AI, they can set guidelines through contracts to govern the AI’s inventions with protections through the company. For example, the company can create contracts stating that any humans who interact or learn about the inventions created by the AI will be subject to a nondisclosure agreement limiting exploitation about the IP for their own or someone else’s benefit. However, as Comer noted, competitors can step in to file a patent for the same or similar invention if a human inventor creates the same or similar product.¹³⁵ Thus, courts will still need to find a solution to the AI-invented products that require patent protection. When patent law resolves AI’s role, then AI inventors can upgrade their trade secret protection to patents and receive the same legal recognition as human inventors.

If the patent system does not allow AI inventors to protect their inventions, humans will likely name themselves as the inventor, even though they did not mentally conceive of the IP. Humans falsely claiming inventorship will cause the patent system to crumble, as inventors named on a patent must be the individuals who mentally conceived of the IP. Thus, the inefficiencies will create disincentive for humans to create AI, who could create important inventions, if AI cannot protect its own intellectual property. An alternative protection and adequate solution to this epidemic lies within trade secret law, which will serve as a protection for AI inventors until the patent system determines how to best incorporate them.

134. LEGAL INFO. INST., Cornell Law, *Nondisclosure Agreement*, [https://www.law.cornell.edu/wex/nondisclosure_agreement#:~:text=A%20non%2Ddisclosure%20agreement%20\(NDA,with%20any%20non%2Dauthorized%20party](https://www.law.cornell.edu/wex/nondisclosure_agreement#:~:text=A%20non%2Ddisclosure%20agreement%20(NDA,with%20any%20non%2Dauthorized%20party) (last visited Nov. 27, 2021).

135. Comer, *supra* note 130, at 470-71.

VI. THE NEED FOR HARMONIZATION OF INTERNATIONAL PATENT LAWS

Patent laws around the world are too diverse, and the legal system needs a uniform patent law to govern intellectual property. If countries fail to coordinate their approaches to patent law, then patent owners will forum shop for a jurisdiction which will allow for AI inventor protections. Given the inequalities in how AI is viewed, unfair competition and exploitation will ensue in favorable jurisdictions. For example, Australia proves to be an appealing forum for AI proponents because its courts are “blazing the trail for patent protection,” following its DABUS decision.¹³⁶ Australia’s Justice Beach, who overturned the original DABUS decision, encourages AI inventors to create IP because, like other proponents, he believes that they are increasing the flow of innovation.¹³⁷ Justice Beach discussed the impact of patents on the COVID-19 pandemic. He believes that AI advances “could significantly accelerate drug discovery.”¹³⁸ Given the need for fast and effective solutions to the environment COVID-19 created, Beach believes that “no narrow view should be taken as to the concept of ‘inventor,’” so that they do not discourage new inventions because they cannot be protected by patent law.¹³⁹

Like other countries such as South Africa, Justice Beach takes a progressive stance on patent law. The international patent system will become more complex with these alternative approaches to defining an inventor. For example, in the U.S., patents protect an inventor against anyone “making, using, selling, or offering for sale the invention in the United States.”¹⁴⁰ Additionally, U.S. patents protect against unauthorized imported copies of the invention making their way into the country.¹⁴¹ However, the U.S. patent protection does not reach beyond the national borders.¹⁴² Thaler demonstrated that an inventor must file a patent application in each country’s courts to receive protection within that country; no international patent exists which protects an invention in every

136. Grant Shoebridge, *The DABUS Decision Makes Australia Look Like a Champion of Innovation, Not a Chump*, IAM (Sept. 11, 2021), <https://www.iam-media.com/law-policy/the-dabus-decision-makes-australia-look-champion-of-innovation-not-chump>.

137. *See id.*

138. *Id.*

139. *Id.*

140. Brian Farkas, *Can I Get International Patent Protection?*, NOLO, <https://www.nolo.com/legal-encyclopedia/can-i-get-international-patent-protection.html> (last visited Nov. 27, 2021).

141. *Id.*

142. *Id.*

court in every country. This international patent crisis proves problematic for inventors seeking protection.

Not only is the patent application process and approval process time-consuming, but it is also extremely expensive. Countries have implemented task forces to help facilitate international patent filings and assist in protection in disputes. For example, the U.S. created the International Patent Cooperation to lead “efforts to assist U.S. inventors and businesses in protecting their patent rights worldwide and [to support] the global innovation community.”¹⁴³ The United States Patent and Trademark Office also employs the International Patent Legal Administration to assist the patent community in further developing inventions and policy related to the patents, as well as to help resolve legal issues arising internationally.¹⁴⁴ Inevitably, organizations such as the International Patent Cooperation will be inundated with requests for help with patent infringement if patent laws remain different in each country. Like Australia, South Africa proves more lenient in its characterization of an inventor. Courts in these regions will be overwhelmed with both patent approvals and consequently international patent infringement suits that follow. The World Intellectual Property Organization (WIPO) also holds its own offices for some international matters. For example, WIPO’s office in Geneva processes Patent Cooperation Treaties on behalf of several countries that agreed to be members of the Patent Cooperation Treaties.¹⁴⁵ This office and international processing system could stand as a strong foundation for a governing entity for a uniform patent law.

Critics will argue that creating a uniform patent system is not realistic and that international harmony will be difficult to achieve. However, several legal systems exist that acknowledge international harmony. Some of these already developed international agreements could serve as a framework for a uniform patent law system. These treaties include the Paris Convention,¹⁴⁶ the Patent Cooperation Treaty,¹⁴⁷ the Strasbourg Agreement Concerning the International Patent Classification,¹⁴⁸ and the Patent Law

143. U.S. Pat. & Trademark Office, *International Patent Cooperation* (Jan. 30, 2019, 4:09 PM), <https://www.uspto.gov/patents/basics/international-patent-cooperation>.

144. U.S. Pat. & Trademark Office, *Patent Cooperation Treaty*, (Sept. 20, 2018, 6:27 AM), <https://www.uspto.gov/patents/basics/international-protection/patent-cooperation-treaty>.

145. *Participating Offices*, WIPO, http://www.wipo.int/das/en/participating_offices/details.jsp?id=10589 (last visited Nov. 27, 2021).

146. The Paris Convention, Mar. 20, 1883.

147. Patent Cooperation Treaty, June 19, 1970.

148. The Strasbourg Agreement Concerning the International Patent Classification, Mar. 24, 1971.

Treaty.¹⁴⁹ Elements of these already existing agreements can be combined as a strong and effective universal governing system for the problem we face today.

a. The Paris Convention for the Protection of Industrial Property

Dating back to 1883, the Paris Convention provided that member countries must “adopt certain minimum protections for industrial property,”¹⁵⁰ which includes patents, trademarks, and trade names. The agreement consists of three main substantive provisions. First, member countries must extend the same IP protections to non-citizens as they do to their own nationals.¹⁵¹ Second, an application for industrial property protection “in one member country may use that application as the basis for filing later applications for that IP in other member countries.”¹⁵² For patents, if any later application is filed within 12 months of the first application, then the right of priority applies.¹⁵³ Third, the member countries must abide by other rules the convention sets for particular types of IP.¹⁵⁴

While the Paris Convention has 177 nations in agreement,¹⁵⁵ several countries do not agree with its governing orders. The agreement makes some strides in regard to extending IP protections to non-citizens,¹⁵⁶ but it does not solve the problems associated with differing inventor definitions and the unfair competition which will ensure when human counterparts forum shop for patent protection.

b. The Patent Cooperation Treaty

Similar to the Paris Convention, the Patent Cooperation Treaty allows applicants to file patent protection internationally, and through one application, they can “simultaneously seek protection for an invention in a

149. Patent Law Treaty, June 1, 2000.

150. *Paris Convention for the Protection of Industrial Property (Paris Convention)*, THOMAS REUTERS, [https://ca.practicallaw.thomsonreuters.com/8-506-0344?transitionType=Default&contextData=\(sc.Default\)&firstPage=true](https://ca.practicallaw.thomsonreuters.com/8-506-0344?transitionType=Default&contextData=(sc.Default)&firstPage=true) (last visited Nov. 27, 2021).

151. *Id.*

152. *Id.*

153. *Id.*

154. *Id.*

155. WIPO IP Portal, *WIPO-Administered Treaties*, https://www.wipo.int/wipolex/en/treaties/ShowResults?search_what=C&treaty_id=2 (last visited Feb. 9, 2023).

156. The Paris Convention, *supra* note 146, art. 3.

large number of countries.”¹⁵⁷ The treaty procedure includes filing, international search, international publication, supplementary international search, international preliminary examination, and national phase.¹⁵⁸ Currently, 153 contracting states accepted the treaty.¹⁵⁹ While an applicant only files one international patent for countries to consider, each court still uses its own governing law to grant or deny the patent.¹⁶⁰ This filing system is appealing to inventors, as the application need only be filed in one language, and the inventor needs only to pay one fee.¹⁶¹

While the Patent Cooperation Treaty helps streamline the application process, this ease may be detrimental to the regions which will accept AI inventors. For example, South Africa and Australia both are contracting members of the treaty.¹⁶² Therefore, inventors who use the treaty to file patents will have an incentive to file in these regions because with a quick check of the box, they have a high probability that their patents will be accepted. This treaty makes the patent application process too simple for inventors, and in turn, countries will be flooded with new patent applications to assess.

c. *The Patent Law Treaty*

The Patent Law Treaty aims to “harmonize and streamline formal procedures in respect of national and regional patent applications and patents,” and to make the experience more user-friendly.¹⁶³ Like the Paris Convention, the Strasbourg Agreement, and the Patent Cooperation Treaty, the Patent Law Treaty still looks to each nation for its own patent law when considering whether or not a patent will be accepted.¹⁶⁴ One of the unique features of the agreement is that it “provides relief with respect to time

157. *PCT- The International Patent System*, WIPO, <https://www.wipo.int/pct/en/> (last visited Nov. 27, 2021).

158. *PCT FAQs*, WIPO, <https://www.wipo.int/pct/en/faqs/faqs.html> (last visited Nov. 27, 2021).

159. *PCT Contracting States*, WIPO, https://www.wipo.int/pct/en/pct_contracting_states.html (last visited Nov. 27, 2021).

160. U.S. Pat. & Trademark Office, *Patent Cooperation Treaty*, <https://www.uspto.gov/patents/basics/international-protection/patent-cooperation-treaty> (last visited Nov. 27, 2021).

161. Farkas, *supra* note 140.

162. WIPO IP Portal, *WIPO-Administered Treaties*, https://wipolex.wipo.int/en/treaties/ShowResults?search_what=C&treaty_id=6 (last visited Nov. 27, 2021).

163. *Summary of the Patent Law Treaty (PLT)*, WIPO (2000), https://www.wipo.int/treaties/en/ip/plt/summary_plt.html (last visited Nov. 27, 2021).

164. U.S. Pat. & Trademark Office, *Patent Law Treaty*, <https://www.uspto.gov/ip-policy/patent-policy/patent-law-treaty> (last visited Nov. 27, 2021).

limits that may be imposed by the Office of a Contracting Party and reinstatement of rights where an applicant or owner has failed to comply with a time limit and that failure has the direct consequence of causing a loss of rights.”¹⁶⁵ The Patent Law Treaty is similar in many respects to the Patent Cooperation Treaty, as both make the application process more refined so that inventors can easily file their patent in many regions. This treaty will result in the same issues of inundation and overflow of applications in regions that have a more lenient definition of an inventor. Thus, this treaty does not address the issues that would be solved by a uniform patent law.

d. The Strasbourg Agreement Concerning the International Patent Classification

The Strasbourg Agreement is a great example of how a uniform system could benefit the intellectual property community. The agreement establishes the International Patent Classification (IPC) which sets forth a system to divide “technology into eight sections with approximately 80,000 subdivisions.”¹⁶⁶ The system creates a uniform “classification of patents, inventors’ certificates, utility models and utility certificates.”¹⁶⁷ The classification system is organized with Arabic numerals and letters of the Latin alphabet to signify different subdivisions.¹⁶⁸ Each patent application is filed with the appropriate symbols, which allows for “the retrieval of patent documents in the search for ‘prior art.’”¹⁶⁹ The agreement further suggests that a Committee of Experts, comprised of individuals from the member countries, will work together to amend the classification system to make it the most effective.¹⁷⁰ The agreement also prescribes an International Bureau to host conferences for the Committee of Experts to discuss revisions and improvements to the classification system.¹⁷¹

165. *Id.*

166. *Strasbourg Agreement Concerning the International Patent Classification*, WIPO, <https://www.wipo.int/treaties/en/classification/strasbourg/> (last visited Nov. 27, 2021).

167. *Strasbourg Agreement Concerning the International Patent Classification*, KENYA LAW, <http://kenyalaw.org/treaties/treaties/1035/Strasbourg-Agreement-Concerning-the-International> (last visited Nov. 27, 2021).

168. *Summary of the Strasbourg Agreement Concerning the International Patent Classification (1971)*, WIPO, https://www.wipo.int/treaties/en/classification/strasbourg/summary_strasbourg.html (last visited Nov. 27, 2021).

169. *Id.*

170. *Strasbourg Agreement Concerning the International Patent Classification*, *supra* note 148, art. 4.

171. *Id.* art. 7.

Additionally, the agreement sets forth a voting system, in which each member nation will hold one vote on each revision at issue.¹⁷²

Currently, only sixty-four nations are members to the agreement.¹⁷³ The Strasbourg Agreement is the perfect breeding ground for the implementation of a uniform patent law to be used by all courts worldwide. Members of the agreement see the benefits of an international classification system. By filing these patents in a uniform manner, courts and inventors can track down different similar inventions that exist all over the world. The Committee of Experts is a particularly interesting component of the agreement. Experts from all different regions, with different interpretations of patent laws, bring their background and expertise to one conversation. Each expert is given one vote. This level playing field allows for a unique opportunity for the brilliant minds of patent law to come together to agree on the best approach for this legal protection. The classification system proves to have many benefits for the worldwide patent community. This group of experts can turn the conversation to defining a uniform patent law for all countries to abide by. During this conversation, the experts can bring their experiences, opinions, and ideas for the future to collaborate on a uniform approach to patent law that can benefit the group as a whole. In these conversations, the group can determine the best path forward for how to incorporate the future of technology into its approach. One major point of discussion obviously remains within the definition of a patent-accepted inventor. Voices from around the world can work to decide how to approach the future of AI with patent law.

The international legal bodies need to create a uniform patent system to ensure a just foundation for inventors.

VII. CONCLUSION

AI inventors on their own will not effectively further their inventions because they lack legal capabilities. Patent laws need to allow for a human co-inventor to be named on the patent to continue the flow of innovation. Solo AI patent owners would decrease innovation, given that AI is property and is unable to enter contracts or otherwise exploit the patent. Additionally, patent lawmakers must allow for a human co-inventor to be named on the patent with the AI who mentally conceives so that the human can testify under oath on behalf of the AI to explain its processes and

172. *Id.*

173. WIPO IP Portal, *WIPO-Administered Treaties*, https://www.wipo.int/wipolex/en/treaties/ShowResults?search_what=C&treaty_id=11 (last visited Feb. 9, 2023).

protect the patent in court. Given the current legal system, those AI proponents who want the AI to be credited for its inventions can look to trade secret law to protect the IP. However, courts should consider adopting a system like copyright law's "Work Made for Hire" doctrine or mimicking how corporations are viewed in patent law to give AI similar protections. Ultimately, World Intellectual Property Organization needs to create a universal patent law to combat an abuse of the more lenient courts and to provide harmony and ease for the evolving inventors of today.