

ASSIGNED ALL MY RIGHTS AWAY: The Overuse of Assignment Provisions in Contracts for Patent Rights

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ABSTRACT: Many companies rely on the use of assignment clauses to grant themselves ownership of intellectual property created by their employees. Many of these contracts target patent ownership rights, are overly broad, and prevent employee–inventors from receiving fair value for the work they provide to their employers. When the clause collects patent ownership rights, these contracts reduce the motivation to innovate and restrict the mobility of employees. As a result, many scholars challenge the principle of assigning away intellectual property in initial employment contracts. Only some of this criticism is warranted because businesses may validly claim some of the inventions created by their employee–inventors. Many businesses hire with the intent to innovate a specific invention, and basic principles of agency law and shop right doctrines would indicate that the invention belongs to the business. Without that invention, many businesses may struggle to survive and raise revenue. Because economic realities have changed since the Framers wrote the Patent Clause into the Constitution and Congress initially passed the Patent Act, both the employer and the employee–inventor share rights to many inventions, possessing legal rights to the invention and personhood rights to the invention, respectively. To resolve this conflict, corporations should modify existing contracting practice to rely on right of preemption provisions, courts of all levels should consistently interpret contract law in light of patent law terms of art when patent ownership suits reach them, and Congress should authorize the ability to terminate patent rights assignments to empower employee–inventors and promote more equitable consideration and compensation for inventions created by their employees.

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I. INTRODUCTION

As many corporations spearhead research and development in the United States, most of the inventive expectations are the responsibility of employees rather than shareholders or directors. Such products are frequently patentable under the Patent Clause of the Constitution and the provisions of the United States Code.¹ It is well-settled law that the inventions of employee–inventors do not immediately vest in their employers.² Employers were concerned that they could lose the invention on which they

1. U.S. CONST. art. I, § 8, cl. 8; 35 U.S.C. §§ 100–156 (2012).

2. See *Solomons v. United States*, 137 U.S. 342, 346 (1890); *Am. Cyanamid Co. v. Hubbell*, 76 F.2d 807, 807 (3d Cir. 1935). But see *United States v. Dubilier Condenser Corp.*, 289 U.S. 178, 187 (1933) (holding that inventions assign to employers if the invention was the reason for employment).

had relied and invested.³ For equity purposes, courts authorized the equitable remedy of shop rights,⁴ and employers began contracting with employees to make the employer the patent owner.⁵ These contracts utilize automatic assignment clauses, requiring no affirmative action on the part of the employer or the employee–inventor once the invention is made yet still granting employers a remedy should an employee–inventor attempt to claim the patent in his or her name.⁶ Courts have primarily treated assignment clauses favorably, even though employers have drafted them to disadvantage the inventors they hire by collecting inventions beyond the scope and term of employment.⁷ Courts have also expanded the protections available to companies beyond contract law.⁸ These provisions and their interpretations by courts have begun to reduce innovation⁹ and restrict employee mobility¹⁰—outcomes not anticipated by the Patent Clause of the Constitution.¹¹

To resolve these concerns, corporations should alter the provisions from automatic assignment clauses to right of preemption clauses to better represent the interests of the potential employee¹² and simultaneously improve the work ethic of their employees, which can greatly benefit the corporation.¹³ Another important step that should be taken to resolve inequity between employers and employee–inventors would be changing

3. See *Solomons*, 137 U.S. at 346.

4. “Shop rights” are a remedy for employers that grants them immunity from liability for infringing a patent belonging to one of their employee–inventors if the employee–inventor used the resources or equipment of the employer to invent the patented subject. See *Shop Right*, BLACK’S LAW DICTIONARY (10th ed. 2014) (“An employer’s right to an irrevocable, nonassignable, nonexclusive, royalty-free license in an employee’s invention, if the employee conceived and developed the invention during the course of employment and used company funds and materials.”).

5. See *infra* Section II.B (describing the history of assignment clauses in employment contracts through historical jurisprudence).

6. As used in this Note, “assignment clauses” are the contractual provisions that “assign,” or grant, the ownership of patent rights to someone other than an inventor or joint inventor. See RESTATEMENT (SECOND) OF CONTRACTS § 317 (AM. LAW INST. 1981); *Assignment*, BLACK’S LAW DICTIONARY (10th ed. 2014).

7. See *infra* Part III (describing the imbalance of power between employers and employee–inventors through the use of adhesion contracts, trailer clauses, noncompetition restrictions, and resource allocations).

8. See *infra* Section III.B (describing the way state courts allow more legal opportunities for employers than they do for employee–inventors with state law causes of action and trade secret law).

9. See *infra* notes 156–63 and accompanying text.

10. Employee mobility refers to “the ease by which a skilled employee can leave one job, join another company, and *immediately* apply his or her skills.” Charles Tait Graves & James A. DiBoise, *Do Strict Trade Secret and Non-Competition Laws Obstruct Innovation?*, 1 ENTREPRENEURIAL BUS. L.J. 323, 324 (2006) (emphasis added).

11. See *infra* text accompanying notes 263–65.

12. See *infra* Section IV.A (proposing that employers implement right of preemption provisions to remedy the imbalance of power).

13. See *infra* notes 160–66 and accompanying text.

existing judicial intervention to be more employee–inventor friendly. To accomplish this, courts should reinterpret some of the precedential doctrines used in this area to refine the applicable law to patent law terms of art instead of applying plain language contract interpretation.¹⁴ This Note will argue that while courts do rely on principles of contract interpretation, there are other more applicable principles that ought to be applied, such as the technical meaning rule and construing ambiguities against the drafter.¹⁵ Finally, Congress should amend the patent title to allow termination of assignment rights in order to force employers to provide adequate compensation to the employee–inventor for the value of the patent.¹⁶ This Note will create a balanced solution that will recognize the legitimate interests of both the employer and the employee–inventor rather than using adhesion contractual assignment¹⁷ of patent ownership rights.¹⁸

This Note shall address this issue through several sections. Part II lays out the existing framework of the patent system, a treatment of the principles of patent assignment clauses, and how courts apply the law based upon this context. Part III reviews how the shift in economic realities has harmed innovation by discouraging employee–inventors from inventing and how employers have capitalized on this shift to generate larger intellectual property portfolios at the employer–inventor’s expense. Part IV proposes three possible solutions to reintroduce fairness to the employer–employee relationship. The first proposal requires corporations to consciously alter existing contracting practices to include right of preemption provisions. Rather than automatically assigning the employers the invention made by employee–inventors, the employer will be given the first opportunity to add the invention to the company’s intellectual property portfolio. The second proposal encourages courts to interpret assignment clauses of employment contracts using patent case law by better employing the contract interpretation method of technical meaning. For the third proposal, Congress should restructure the patent statute to mimic a portion of the copyright statute to allow for termination of transferred rights. Individually, any of these three solutions would help correct the injustices of the current

14. See *infra* Section IV.B (proposing that courts apply federal patent law doctrine when interpreting assignment clauses for patented inventions).

15. See *infra* Section III.B.

16. See *infra* Section IV.C (proposing Congress amend Title 35 of the U.S. Code to allow termination of assignment rights similar to existing law for copyrights).

17. An “adhesion contract” is defined as “a contract entered without any meaningful negotiation by a party with inferior bargaining power.” 11 WILLISTON ON CONTRACTS § 32:12 (4th ed. 2018).

18. As a result, this Note will avoid discussion of antitrust concerns, the security interest of Article Nine of the Uniform Commercial Code, trademark law, and will primarily avoid a comprehensive discussion of trade secret law and non-compete provisions. Basic concepts of trade secret law and non-compete provisions are elaborated in this Note to illustrate the larger injustices the system uses when the employee–inventor assigns away patent rights in exchange for employment.

system; however, a combination of these three suggestions would dramatically improve the corporate intellectual property landscape.

II. PATENT LAW AUTHORIZES THE USE OF ASSIGNMENTS

To understand how the assignment of intellectual property rights at the initiation of employment disproportionately favors employers, this Part first creates a backdrop of the legal philosophy of the field of patent law in Section A. Next, in Section B, this Part addresses the broad strokes courts use to address and resolve assignment disputes as well as how the precedent developed into the application used today.

A. FOUNDATION FOR PATENTS

Patents have always been a part of the U.S. Constitution. The Framers of the Constitution empowered Congress with the authority to write legislation “[t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.”¹⁹ For inventions, Congress created the patent system, which grants

the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States or importing the invention into the United States, and, if the invention is a process, of the right to exclude others from using, offering for sale or selling throughout the United States, or importing into the United States, products made by that process, referring to the specification for the particulars thereof.²⁰

These exclusive rights are provided in exchange for the public good.²¹ When any of those rights are violated, the patent owner may sue for infringement and can demand an injunction, royalties, damages, special remedies, or combinations thereof.²²

Patent law’s primary function is to stimulate economic growth.²³ Patents are viewed through a utilitarian lens: The inventor receives the exclusive rights described above to help reimburse the cost of innovation.²⁴ By the end of the 1700s, case law mandated that within the patent document the inventor

19. U.S. CONST. art. 1, § 8, cl. 8.

20. 35 U.S.C. § 154(a)(1) (2012).

21. *United States v. Dubilier Condenser Corp.*, 289 U.S. 178, 186 (1933) (“An inventor deprives the public of nothing which it enjoyed before his discovery, but gives something of value to the community by adding to the sum of human knowledge.”).

22. 35 U.S.C. §§ 281, 283–85. Special remedies may include judicial discretion to triple the damages awarded by the jury or attorney fees. *See id.* §§ 284–85.

23. *See* ROBERT PATRICK MERGES & JOHN FITZGERALD DUFFY, *PATENT LAW AND POLICY: CASES AND MATERIALS* 8–13 (7th ed. 2017) (explaining the history of patent law).

24. ROBERT J. GOLDMAN, *SCHWARTZ’S PATENT LAW AND PRACTICE* 2–3 (8th ed. 2015); *see* MERGES & DUFFY, *supra* note 23, at 8, 247.

must “disclose”²⁵ and explain the technology behind the invention.²⁶ Informing others who are skilled in the innovative field of what precisely the invention entails allows future inventors to build on the technology.²⁷ Scientists and inventors are not forced to continually reinvent the wheel, so to speak; rather, creators can advance the field without being forced to independently invent each individual advancement. As Thomas Jefferson once observed, “[h]e who receives an idea from me, receives instruction himself without lessening mine Society may give an exclusive right to the profits arising from them, as an encouragement to men to pursue ideas which may produce utility.”²⁸ Once the government grants exclusive rights and patent owners market their products without immediate competition, the profits from those sales may be diverted back into research and development, further advancing technology.

Most strikingly, the patent system appears to foster innovation—provided the system balances exclusivity and societal reward. Renewed focus on the patent field by legislators and businessmen rises and falls with economic hardship.²⁹ One of the notable dry spells of innovation in the western world occurred in the Middle Ages, a time when societal constructs discouraged intellectual property.³⁰ Conversely, the role of patents were incredibly important during the Italian Renaissance, as well as the industrial revolutions of Great Britain and the United States.³¹ The industrial revolution created

25. “Adequate disclosure is the heart of Patent Act § 112. This core concept finds its expression in four slightly different but closely related requirements in this section: (1) enablement; (2) written description; (3) definiteness of claims; and (4) best mode.” MERGES & DUFFY, *supra* note 23, at 250; *see* 35 U.S.C. § 112; U.S. PATENT & TRADEMARK OFFICE, U.S. DEP’T OF COMMERCE, MANUAL OF PATENT EXAMINING PROCEDURE § 608 (9th ed. 2014) (revised 2018) [hereinafter USPTO] (“To obtain a valid patent, a patent application as filed must contain a full and clear disclosure of the invention in the manner prescribed The requirement for an adequate disclosure ensures that the public receives something in return for the exclusionary rights that are granted to the inventor by a patent.”).

26. MERGES & DUFFY, *supra* note 23, at 247 (“[D]isclosure of an invention in the specification was the price the inventor paid for the reward of a patent.”). *See generally* John N. Adams & Gwen Averley, *The Patent Specification: The Role of Liardet v Johnson*, 7 J. LEGAL HIST. 156 (1986) (explaining how Judge Mansfield’s opinion at the trial court level in England altered the importance of disclosing the invention by predicating the grant of a patent right on the information provided in the patent specification).

27. MERGES & DUFFY, *supra* note 23, at 8–9.

28. Letter from Thomas Jefferson to Isaac McPherson Monticello (Aug. 13, 1813), in THE LETTERS OF THOMAS JEFFERSON 1743–1826 (2012), available at <http://www.let.rug.nl/usa/presidents/thomas-jefferson/letters-of-thomas-jefferson/jefl220.php>.

29. *See* MERGES & DUFFY, *supra* note 23, at 1–13, 18 (describing the historical development of patent principles); *see also* Shlomit Yanisky Ravid, *Rethinking Innovation and Productivity Within the Workplace Amidst Economic Uncertainty*, 24 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 143, 144 (2013) (noting former President Obama’s emphasis on “improving innovation” in the U.S. in an effort to bolster the economy).

30. MERGES & DUFFY, *supra* note 23, at 4–5.

31. *Id.* at 5–9.

large corporations, and patents played an important role in funding and supporting those commercialized businesses by creating limited monopolies.³² Because of this, patents were later associated with large business and became discouraged.³³ Prior to and during the Great Depression, patents “were viewed as important weapons in the suffocating arsenal of big business.”³⁴ However, once World War II began, the government relied on patent protection to encourage innovation and fuel the war effort.³⁵ Shortly thereafter in 1952, Congress significantly reworked the Patent Act, which remained in effect until Congress passed the America Invents Act in 2011.³⁶ The primary goals of the America Invents Act were to reduce litigation costs and promote continued international harmony following the major economic recession of the early millennium.³⁷

Despite the strong incentive for profit and the owner’s desire to keep inventions, patents may be assigned to another party. Congress provides:

Applications for patent, patents, or any interest therein, shall be assignable in law by an instrument in writing. The applicant, patentee, or his assigns or legal representatives may in like manner grant and convey an exclusive right under his application for patent, or patents, to the whole or any specified part of the United States.³⁸

Regulations define assignment as “a transfer by a party of all or part of its right, title and interest in a patent, patent application, registered mark or a mark for which an application to register has been filed.”³⁹ The United States Patent and Trademark Office describes assignment slightly differently internally, limiting assignments to an entirety of all rights.⁴⁰ An assignment right “excludes all other persons, even the patentee, from making, using, or vending” the invention.⁴¹ When the Patent Office issues a patent, it may issue the patent to the person the record designates as the assignee.⁴²

32. *See id.* at 12.

33. *Id.*

34. *Id.*

35. *Id.* at 13.

36. *Id.* The America Invents Act is formerly known as the Leahy–Smith America Invents Act. Leahy–Smith America Invents Act, Pub. L. No. 112-29, § 1, 125 Stat. 284, 284 (2011).

37. MERGES & DUFFY, *supra* note 23, at 13.

38. 35 U.S.C. § 261 (2012).

39. 37 C.F.R. § 3.1 (2017).

40. USPTO, *supra* note 25, § 301 (II) (“In order for an assignment to take place, the transfer to another must include the entirety of the bundle of rights that is associated with the ownership interest, i.e., all of the bundle of rights that are inherent in the right, title and interest in the patent or patent application.”).

41. *Waterman v. Mackenzie*, 138 U.S. 252, 256 (1891).

42. 35 U.S.C. § 152; *see also* Bd. of Trs. of the Leland Stanford Junior Univ. v. Roche Molecular Sys., Inc., 563 U.S. 776, 786 (2011) (“It is equally well established that an inventor can assign his rights in an invention to a third party.”); *Filmtec Corp. v. Allied-Signal, Inc.*, 939 F.2d 1568, 1572 (Fed. Cir. 1991) (“[I]t is settled law that between the time of an invention and the

Conversely, partial grants of rights are licenses, which limit the conveyed right “as to time, geographical area, or field of use.”⁴³ A license merely promises that the owner of the patent will not bring an infringement suit against the licensee so long as the licensee does not violate any of the agreed terms.⁴⁴ A licensee does not have the authority to bring an infringement suit against a third party without also joining the patent owner.⁴⁵ Finally, the specific terms used within an instrument conveyance do not determine whether the right is an assignment or a license; this designation is left up to the interpretation of the courts.⁴⁶ Therefore, an “assignment” could be determined by a court to merely be a “license,” and vice versa.⁴⁷

B. CASE PRECEDENT

With the statutory framework and policy considerations in mind, disputes over patent ownership between employers and employee-inventors are adjudicated by the courts. As such, the doctrine created by the courts controls who owns the patent. Case precedent becomes convoluted because while intellectual property is within the authority of the federal government,⁴⁸ state law resolves both employment⁴⁹ and contract disputes.⁵⁰ The Federal Circuit, however, did specify that “[a]lthough state law governs the interpretation of contracts generally, the question of whether a patent assignment clause creates an automatic assignment or merely an obligation to assign is . . . treated . . . as a matter of federal law.”⁵¹ Therefore, this issue is one that operates on both levels of the federalism spectrum. As the Supreme Court once said,

issuance of a patent, rights in an invention may be assigned and legal title to the ensuing patent will pass to the assignee upon grant of the patent.” (citing *Gayler v. Wilder*, 51 U.S. (10 How.) 477, 493 (1851))). See generally 37 C.F.R. §§ 3.1–.85 (establishing the recording process and requirements for all patent documents, including assignments). This Note recognizes that additional requirements for issuance of a patent exist but limits the discussion of issues within patent law to assignment and licensure. Thus, this Note assumes all patents mentioned herein are indeed patentable subject matter and valid.

43. USPTO, *supra* note 25, § 301(III) (contrasting license agreements with assignment agreements).

44. *Id.* The Manual of Patent Examining Procedure (“MPEP”) definition appears to apply to any form of entity. The current Title 35 of the U.S. Code. only describes licensing when discussing the relationship of patents with a federal entity. See 35 U.S.C. §§ 207–09 (2012).

45. *Waterman*, 138 U.S. at 255 (“Any assignment or transfer . . . is a mere license, giving the licensee no title in the patent, and no right to sue at law in his own name for an infringement.”).

46. *Id.* at 256; *Mentor H/S, Inc. v. Med. Device All., Inc.*, 240 F.3d 1016, 1017 (Fed. Cir. 2001).

47. See *Waterman*, 138 U.S. at 255; *Mentor H/S, Inc.*, 240 F.3d at 1017.

48. 28 U.S.C. § 1338(a).

49. See *Metro. Life Ins. Co. v. Massachusetts*, 471 U.S. 724, 756 (1985).

50. See *Preston v. Marathon Oil Co.*, 684 F.3d 1276, 1284 (Fed. Cir. 2012).

51. *DDB Techs., L.L.C. v. MLB Advanced Media, L.P.*, 517 F.3d 1284, 1290 (Fed. Cir. 2008). This holding is very limited, however, as the Federal Circuit in this case also held that the scope of an employment agreement is a contract issue that is “governed by Texas law.” *Id.*

Congress never intended that the patent laws should displace the police powers of the States, meaning by that term those powers by which the health, good order, peace, and general welfare of the community are promoted. Whatever rights are secured to inventors must be enjoyed in subordination to this general authority of the State over all property within its limits.⁵²

Accordingly, the amount of federal case law is scarce; however, some notable disputes have reached the higher courts, typically involving inventors employed by the government.⁵³ The Supreme Court observes “no difference between the government and any other employer,”⁵⁴ which makes the federal case law relevant to the private employers at interest in this Note.

Before the use of assignment contracts became popular, the Supreme Court held that an employee–inventor does not lose rights to his or her inventions because another employs him or her.⁵⁵ This freedom to invent while in another’s employment is not absolute. If an employer hires an employee–inventor for a specific inventive purpose, then that finished product, process, or otherwise patentable subject matter belongs to the employer.⁵⁶ Upon agreement to employment, the employee–inventor loses “[w]hatever rights . . . he may have had in and to his inventive powers, and that which they are able to accomplish, [as] he has sold [them] in advance to his employer.”⁵⁷ The need for employers to develop their business and maintain the fruits of their employees’ labor has long been recognized under agency principles. “Agency is the fiduciary relationship that results from the manifestation of consent by one person to another that the other shall act on his behalf and subject to his control, and consent by the other so to act.”⁵⁸ As an application of agency law, the Court held that the patent belonged to the government because the employee–inventor used the resources of the

52. *Webber v. Virginia*, 103 U.S. 344, 347–48 (1881).

53. *Solomons v. United States*, 137 U.S. 342, 346 (1890).

54. *Id.*

55. *Id.* (“[T]he mere fact that an inventor is at the time of his invention in the employ of the [defendant does not] transfer to it any title to, or interest in it.”); see also *Am. Cyanamid Co. v. Hubbell*, 76 F.2d 807, 807 (3d Cir. 1935) (holding that an employee–inventor was not required to assign his invention to his employer where he had not been hired to create the invention and there was no contract between employee and employer requiring assignment).

56. *Solomons*, 137 U.S. at 346; *United States v. Dubilier Condenser Corp.*, 289 U.S. 178, 187 (1933); *Standard Parts Co. v. Peck*, 264 U.S. 52, 59–60 (1924); *Ushakoff v. United States*, 327 F.2d 669, 672 (Ct. Cl. 1964). Patentable subject matter is a requirement to obtain a patent under 35 U.S. Code §§ 100–01 (2012). Accordingly, the courts developed a separate line of precedent to define the confines of patentable subject matter. See *MERGES & DUFFY*, *supra* note 23, at 75–191. Three categories of matter are ineligible for patent rights: natural laws, physical phenomenon, and abstract ideas. *Alice Corp. Pty. Ltd. v. CLS Bank Int’l.*, 134 S. Ct. 2347, 2354 (2014).

57. *Solomons*, 137 U.S. at 346.

58. *A. Gay Jensen Farms Co. v. Cargill, Inc.*, 309 N.W.2d 285, 290 (Minn. 1981).

government–employer and he was hired for the purpose of making the invention.⁵⁹

Many courts operate with the presumption that when an employee–inventor is employed by another, the employer owns the invention and the employee–inventor must prove that he or she truly “invented” the creation in order to retain the rights to the invention.⁶⁰ In order to overcome the presumption that the employer controls the rights to the invention, the employee–inventor needs to have thought of the idea for the invention independent of a solution to a problem the employer told the employee–inventor to solve.⁶¹

Many companies transitioned to employment agreements in contracts to eliminate any risk that they would not win the ownership rights if a dispute arose.⁶² Courts uphold assignments even if they are made before an invention exists. Such assignments “may be viewed as an assignment of an expectant interest. . . . [which] can be a valid assignment.”⁶³ Once the invention is made, the employee–inventor no longer contains any rights in the invention and cannot create an additional assignment to a third party.⁶⁴ Even if parties do not enter into an assignment agreement until after employment begins, the assignment agreement will be upheld because continued employment constitutes sufficient consideration.⁶⁵ Assignments will also be upheld even if one of the assigning inventors is not an inventor at all.⁶⁶ Patent rights could be lost if there is poor record keeping or the inclusion of a researcher who did not invent the critical component of the invention yet agreed to give the

59. *Solomons*, 137 U.S. at 348.

60. *Riehm v. Hambleton*, 53 F. Supp. 328, 331 (D. Mass. 1943); *Owens v. Sponable*, 69 F.2d 650, 652 (C.C.P.A. 1934); *Borglin v. Palmer*, 70 F.2d 899, 900–01 (C.C.P.A. 1934). *But see* *Barlow & Seelig Mfg. Co. v. Patch*, 286 N.W. 577, 580–81 (Wis. 1939).

61. *Owens*, 69 F.2d at 652.

62. *See* Orly Lobel, *The New Cognitive Property: Human Capital Law and the Reach of Intellectual Property*, 93 TEX. L. REV. 789, 813–14 (2015).

63. *FilmTec Corp. v. Allied-Signal, Inc.*, 939 F.2d 1568, 1572 (Fed. Cir. 1991) (citing *Contract Rights as Commercial Security: Present and Future Intangibles*, 67 YALE L.J. 847, 854 n.27 (1958)). An expectant interest is “[a] property interest in which the privilege of possession or of other enjoyment is future and not present.” *Expectant Interest*, BLACK’S LAW DICTIONARY (10th ed. 2014) (directing to the “future interest” entry, which then directs to the “interest” entry).

64. *See FilmTec*, 939 F.2d at 1572 (holding that the secondary assignment made by the employee–inventor was invalid).

65. *See* *Aronson v. Quick Point Pencil Co.*, 440 U.S. 257, 261–62 (1979); *Preston v. Marathon Oil Co.*, 684 F.3d 1276, 1284–85 (Fed. Cir. 2012); *Power Lift, Inc. v. Weatherford Nipple-Up Sys., Inc.*, 871 F.2d 1082, 1085 (Fed. Cir. 1989).

66. *Memorylink Corp. v. Motorola Sols., Inc.*, 773 F.3d 1266, 1271 (Fed. Cir. 2014).

invention to another occurs.⁶⁷ In some cases, assignments are held to apply retroactively to before the agreement was signed.⁶⁸

Because ownership depends on timing of assignment, the timing of the inventive process becomes critical in assignment disputes. Many contracts include provisions that require explicit enumeration of any inventions the employee–inventor had invented prior to entering the employment agreement.⁶⁹ Because the employer cannot guess what inventions the employee–inventor may have already invented, the employee–inventor must be the reporting party.⁷⁰ If the employee–inventor does not mention the disputed invention in the employment contract, then the employee–inventor will assign the invention to the employer.⁷¹ Further, merely enumerating the invention may not sufficiently avoid assignment to the employer as the invention must truly be made—capable of being determined from the disclosure in the patent specification—and simple plain language conception is not enough to declare the invention made.⁷²

Consider *FilmTec Corp. v. Allied-Signal, Inc.*⁷³ This dispute between an employee–inventor and an employer centered on when the employee–inventor invented a reverse osmosis membrane.⁷⁴ The employee–inventor claimed to have conceived his invention one month after the conclusion of his employment; discrepancy existed due to internal record keeping.⁷⁵ Allied “allege[d] that Cadotte conceived his invention and formed the reverse osmosis membrane of the ‘344 patent earlier . . . [when] ‘he did [while still at MRI] combine the two chemicals which are claimed in the ‘344 patent.’”⁷⁶ This case was ultimately remanded to the lower court.⁷⁷ There, the lower court reinstated a preliminary injunction finding that the employee–inventor invented the reverse osmosis membrane while employed by FilmTec; however, the Federal Circuit reversed the issuance of the

67. See *id.* (“Schulz and Wyckoff did in fact transfer whatever ownership rights they possessed to Memorylink and Motorola by executing the Assignment. Whether they are later determined to have been erroneously included as co-inventors, and thus those rights are eventually decided to be nonexistent, does not create a genuine issue of material fact on the consideration issue.”). The opinion does not indicate the specific reason why Schulz and Wyckoff were erroneously included as co-inventors. *Id.*

68. See *Ga.-Pac. Corp. v. Lieberam*, 959 F.2d 901, 905–06 (11th Cir. 1992) (identifying ambiguity of a contract provision interpreting “during my employment” will be settled by law and extrinsic evidence).

69. See *Preston*, 684 F.3d at 1285–86.

70. See *id.* at 1285–86, 1288.

71. *Id.* at 1285–87.

72. *Id.* at 1286–87.

73. *FilmTec Corp. v. Allied-Signal, Inc.*, 939 F.2d 1568 (Fed. Cir. 1991).

74. *Id.* at 1569–70.

75. *Id.* at 1570.

76. *Id.* (quoting trial court opinion) (third alteration in original).

77. *Id.* at 1574.

preliminary injunction because it determined that the patent did not belong to FilmTec but rather to the government.⁷⁸

In another similar case, an employee–inventor enumerated as a previously owned invention a “CH₄ Resonating Manifold” in an attempt to maintain his patent rights instead of assigning them to his employer.⁷⁹ The employer initiated a dispute over the ownership of the patent rights, which required the court to analyze what an invention meant to resolve the dispute.⁸⁰ The contract was very clear that any invention must be assigned, so the employee–inventor argued that the CH₄ Resonating Manifold did not meet the definition of an invention.⁸¹ Instead of relying on patent law, the court looked to the contract.⁸² The contract provided:

(d) “Intellectual Property” means all inventions, discoveries, developments, writings, computer programs and related documentation, designs, ideas, and any other work product made or conceived by EMPLOYEE during the term of employment with MARATHON which (1) relate to the present or reasonably anticipated business of the MARATHON GROUP, or (2) were made or created with the use of Confidential Information or any equipment, supplies, or facilities of the MARATHON GROUP.⁸³

Using the plain language of the contract, the court determined that the invention must be assigned if it was either conceived⁸⁴ or reduced to practice⁸⁵ during the employee–inventor’s employment with Marathon.⁸⁶ The employee–inventor conceived the manifold invention prior to employment with Marathon but created a physical embodiment of the manifold during the course of employment; therefore, the employer received the rights.⁸⁷

78. *FilmTec Corp. v. Allied-Signal, Inc.*, Nos. 92-1007, 92-1023, 1993 WL 2309 (Table), at *1 (Fed. Cir. Jan. 7, 1993).

79. *Preston v. Marathon Oil Co.*, 684 F.3d 1276, 1279, 1282 (Fed. Cir. 2012).

80. *Id.* at 1279, 1286.

81. *Id.* at 1279, 1285.

82. *Id.* at 1279.

83. *Id.* This contract also included a hold-over provision. *Id.* (“Such property made or conceived by EMPLOYEE (or for which EMPLOYEE files a patent or copyright application) within one year after termination of employment with MARATHON will be presumed to have been made or conceived during such employment.”); see *infra* notes 88–94; *infra* Section III.B.1.

84. Conception, within patent law jurisprudence, means that the inventor has clearly envisioned the relevant elements of the invention, such that another person with skill in the art could recognize the invention. See *infra* notes 218–21 and accompanying text.

85. In patent law, “[t]he term ‘made’ when used in relation to any invention means the conception or first actual reduction to practice of such invention.” 35 U.S.C. § 201(g) (2012). “[A]n actual reduction to practice must satisfy a two-prong test: (1) the party constructed an embodiment or performed a process that met every element of the [claim], and (2) the embodiment or process operated for its intended purpose.” USPTO, *supra* note 25, § 2138.05(II) (quoting *Eaton v. Evans*, 204 F.3d 1094, 1097 (Fed. Cir. 2000)).

86. *Preston*, 684 F.3d at 1279.

87. *Id.* at 1286.

In addition to possibly collecting inventions made prior to the commencement of employment, employers may be able to collect inventions made after the termination of employment. Hold-over provisions, or trailer clauses,⁸⁸ “are enforceable only if they constitute a reasonable and justifiable restriction on the right of employees to work in their profession for subsequent employers.”⁸⁹ These reasonable time restrictions are also subject to whether or not the disputed invention similarly relates to the scope of the former employment.⁹⁰ Courts define the reasonable time restrictions differently and often apply non-compete principles to clarify the law regarding hold-over clauses.⁹¹ Some courts consider five years or more too great,⁹² others consider three years reasonable,⁹³ and others hold one year too broad.⁹⁴

In situations where an assignment may not be apparent in the initial contract, the employer retains a remedy if certain conditions are met. An employee–inventor who was hired for a non-research-and-development-job will retain the rights to his or her invention;⁹⁵ however, the employer may receive some license to use the invention. This right of the employer activates if the resources of the employer were used to develop the idea or if the employee–inventor allowed the employer to use the invention while the employee–inventor remained employed by the employer in question.⁹⁶ When one of those conditions occurs, the employer will be allowed to continue to use the invention without liability for infringing the invention.⁹⁷

88. “Trailer clauses” are component sections of assignment provisions that enable the employer to collect intellectual property rights after the employee–inventor concludes employment with his or her employer for any reason. *See infra* Section III.B.1.

89. *Dorr-Oliver, Inc. v. United States*, 432 F.2d 447, 452 (Ct. Cl. 1970) (citing *Guth v. Minn. Mining & Mfg. Co.*, 72 F.2d 385 (7th Cir. 1934)).

90. *Id.* (citing *Universal Winding Co. v. Clarke*, 108 F. Supp. 329 (D. Conn. 1952)).

91. *Guth*, 72 F.2d at 388–89; *GTI Corp. v. Calhoon*, 309 F. Supp. 762, 768, 774 (S.D. Ohio 1969); *United Shoe Mach. Co. v. La Chapelle*, 99 N.E. 289, 292–93 (Mass. 1912); *Milliken & Co. v. Morin*, 731 S.E.2d 288, 295 (S.C. 2012); *Rental Unif. Serv. of Florence, Inc. v. Dudley*, 301 S.E.2d 142, 143 (S.C. 1983).

92. *See, e.g., Guth*, 72 F.2d at 385 (at least five years); *GTI Corp.*, 309 F. Supp. at 773 (five years); *United Shoe Mach.*, 99 N.E. at 293 (ten years); Edward L. Raymond, Jr., Annotation, *Construction and Effect of Provision of Employment Contract Giving Employer Right to Inventions Made by Employee*, 66 A.L.R. 4th 1135 § 38(b) (1988).

93. *Rental Unif. Serv.*, 301 S.E.2d at 143.

94. *Armorlite Lens Co. v. Campbell*, 340 F. Supp. 273, 275 (S.D. Cal. 1972); *Ingersoll-Rand Co. v. Ciavatta*, 524 A.2d 866, 871–72 (N.J. Super. Ct. App. Div. 1987). *But see Milliken*, 731 S.E.2d at 295 (holding that one year was not too broad).

95. This is true provided that “the employment be general” even if the employment “cover[s] a field of labor and effort in the performance of which the employee conceived the invention.” *United States v. Dubilier Condenser Corp.*, 289 U.S. 178, 187 (1933).

96. *Id.* at 188–89.

97. *Id.*

This principle is known as “the shop right.”⁹⁸ Since the employer did not hire the employee to invent this invention, the employer cannot require the employee–inventor to assign the patent rights to them.⁹⁹ In return, the employee–inventor cannot prevent or bring successful suit against the employer for using the invention.¹⁰⁰ Shop rights are treated similarly to licenses, and, as a result, an employer with a shop right cannot transfer that right.¹⁰¹ Application of shop rights is not without some controversy within the courts, primarily for not granting the employer enough ownership rights over the invention.¹⁰² Some judges disagree with the concept that the employer receives only a license rather than full ownership of patent rights because the employee–inventor’s “scientific curiosity was precisely what gave the inventors value as research workers; the government[–employer] employed it and gave it free rein in performing the broad duty of . . . discovery and invention.”¹⁰³

Despite this generalized precedent, both employers and employees can acquiesce to the loss of their rights. The shop-right remedy for the employer activates when an employee–inventor acquiesces to employer use of the invention.¹⁰⁴ Because they are a remedy, shop rights only apply when the employee–inventor later attempts to dispute ownership.¹⁰⁵ Employers are equally capable of forfeiting their interest in the invention if the employee–inventor brings the invention to the attention of the employer and the employer expresses no interest—or states that they have no interest.¹⁰⁶

The intentional development of patent law and copyright law to promote innovation needs to be preserved when dealing with all forms of intellectual property. The current practice of dealing with assignment clauses in U.S. jurisprudence favors employers under the principles of contract law. As will be discussed in the next Part, the importance of contract law in assignment

98. *Id.*; *McClurg v. Kingsland*, 42 U.S. (1 How.) 202, 208–09 (1843).

99. *Bd. of Trs. of the Leland Stanford Junior Univ. v. Roche Molecular Sys., Inc.*, 563 U.S. 776, 785–86 (2011); *Dubilier*, 289 U.S. at 189 (“[T]he employer in such a case has no equity to demand a conveyance of the invention, which is the original conception of the employee alone, in which the employer had no part.”).

100. *See Dubilier*, 289 U.S. at 188 (holding that employers are protected from infringement suits through the affirmative defense of shop rights).

101. *Ushakoff v. United States*, 327 F.2d 669, 673 (Ct. Cl. 1964).

102. *Dubilier*, 289 U.S. at 212–14 (Stone, J., dissenting) (disagreeing with the majority, which held that an employee–inventor did not have to assign the patent to his or her employer and granted a shop right).

103. *Id.* at 212.

104. *See Diversey Corp. v. Mertz*, 13 F. Supp. 410, 412 (N.D. Ill. 1936); *see also Ultimex Cement Mfg. Corp. v. CTS Cement Mfg. Corp.*, 856 F. Supp. 2d 1136, 1143–44 (C.D. Cal. 2012) (holding that the shop-right doctrine is not barred if the employee–inventor does not acquiesce in the employer’s use of the invention).

105. *See Diversey Corp.*, 13 F. Supp. at 415; *Ultimex Cement Mfg. Corp.*, 856 F. Supp. 2d at 1143.

106. *Parker Rust-Proof Co. v. Allen*, 203 N.W. 890, 890 (Mich. 1925). *But see Picture Patents, LLC v. Aeropostale, Inc.*, 788 F. Supp. 2d 127, 143–44 (S.D.N.Y. 2011).

clauses of intellectual property burdens employee–inventors and has become detrimental to innovation.

III. CORPORATIONS TAKE ADVANTAGE OF ASSIGNMENT PROVISIONS BY MAKING ASSIGNMENT A CONDITION OF EMPLOYMENT

This Part addresses how judicial treatment of assignment clauses has harmed employee–inventors. Some of these harms are economic or legal, while others are reputational or personal. Both the general national corporate environment and specialized laws on the state level offer corporations advantages to claim more intellectual property created by their employees than their fair share. Businesses do have legitimate claims to some intellectual property created by their employees because of agency principles as developed in Part II. However, as will be developed in this Part, many of the automatic assignment provisions at issue in this Note extend beyond regular working hours and into the thoughts of employee–inventors.

Section A discusses how businesses have significantly more power than employees when entering into and enforcing the employment contract. Section A.1 describes how the economics of business have changed since the creation of the Patent Clause of the Constitution. Much of that change further benefits employers in the research and development domain because employers own necessary resources. Section A.2 analyzes how employee–inventors have few legal remedies available to them at this time, especially when compared to the legal remedies available to employers. Section A.3 considers the desire of employee–inventors for recognition of their achievements. After discussing generally applicable realities, Section B focuses on how state law exacerbates the existing imbalance of power. Section B.1 identifies how employers strategically protect themselves through the use of trailer clauses, Section B.2 details how courts favor employers by misinterpreting contracts by failing to apply federal patent law terms of art, and Section B.3 describes the protections offered to employers by state trade secret law.

A. *IMBALANCE OF POWER*

Assignment clauses are commonplace in employment contracts. When businesses hire employees, the company often requires that the employee sign “innovation clauses” among the initial documents, regardless of their position or employment capacity.¹⁰⁷ Contracts with employers often become confusing because the contracts extend for long terms, behavior may impact how contracts are viewed by the parties, and employers and employees maintain

107. Lobel, *supra* note 62, at 814 (“Many companies upon hiring demand the signing of such innovation clauses of all employees, from the ‘low-level manufacturing [employees] to design engineers and creative workers.’” (quoting Orly Lobel, *My Ideas, My Boss’s Property*, N.Y. TIMES (Apr. 13, 2014), <https://www.nytimes.com/2014/04/14/opinion/my-ideas-my-boss-property.html>.)

constant contact and may develop personal relationships.¹⁰⁸ Generally, employers aggravate the imbalance of power,¹⁰⁹ especially by misleading all employees into thinking they must accept the proffered contract as presented.¹¹⁰ The use of adhesion form contracts¹¹¹ “may mean that employers are overusing” those contract provisions “and that the standardized restraint is more likely to be overbroad in individual situations.”¹¹² The assignment of an invention that has not yet been invented also terminates the ability of an employee–inventor to contest any fraudulent representations of patents by employers because the employee no longer has a property interest.¹¹³ Employers may even terminate the employment of employee–inventors if they refuse to assign inventions pursuant to their employment contracts.¹¹⁴ This makes the employee–inventor significantly more risk adverse. Risk-adverse parties are more likely to agree to adhesion contracts, and thus “agree to lower consideration in rights or payment than they could have actually bargained for in certain conditions and with equal bargaining power.”¹¹⁵ When employee–inventors fear loss of job, they must agree to the contract presented to them. The risks of attempting to walk away from the contract include jeopardizing the livelihood of the employee–inventor, potentially harming their reputations when future employers seek recommendations, and losing rights to the intellectual property the

108. See generally Rachel Arnow-Richman, *Cubewrap Contracts and Worker Mobility: The Dilution of Employee Bargaining Power via Standard Form Noncompetes*, 2006 MICH. ST. L. REV. 963 (describing the decreasing bargaining power of employees).

109. ORLY LOBEL, TALENT WANTS TO BE FREE: WHY WE SHOULD LEARN TO LOVE LEAKS, RAIDS, AND FREE RIDING 36 (2013); Arnow-Richman, *supra* note 108, at 977 (“[E]mployers exploit and, in some instances, foster inequality of bargaining power through their contracting practices.”).

110. Employers unduly disadvantage employees “in the ongoing bargaining relationship by seriously diminishing workers’ power to exercise the limited power they possess, namely, their ability to refuse to deal.” Arnow-Richman, *supra* note 108, at 977.

111. “The typical preinvention agreement that employees hired by technical firms routinely sign are adhesion contracts because the agreements are standardized contracts drafted by the party with superior bargaining power, leaving the weaker party in a ‘take-it-or-leave-it’ position.” Mark B. Baker & Andre J. Brunel, *Restructuring the Judicial Evaluation of Employed Inventors’ Rights*, 35 ST. LOUIS U. L.J. 399, 426 (1991).

112. Arnow-Richman, *supra* note 108, at 981.

113. Lobel, *supra* note 62, at 817 (“[T]he rule has meant stripping away an employee’s ability to contest the validity of the assignment agreement as well as fraudulent actions by their employers. Imagine an employee who pre-assigns all his future innovation and later discovers that his employer had falsely omitted him from several patent applications and obtained patents without naming the employee as a co-inventor.”).

114. See Robert P. Merges, *The Law and Economics of Employee Inventions*, 13 HARV. J.L. & TECH. 1, 32–34 (1999) (describing the facts and holding of *Cubic Corp. v. Marty*, 229 Cal. Rptr. 828 (Cal. Ct. App. 1986)). As previously discussed, continued employment is sufficient consideration for altering employment contracts, which will limit remedies for employee–inventors who decline to renegotiate. See *supra* text accompanying note 65.

115. Ravid, *supra* note 29, at 162–64.

employee–inventor has created in the course of employment as well as after the termination of employment.

Furthermore, assignment clauses may be incredibly easy to create. Assignment clauses of intellectual property do not need to be in writing. In one instance, the court held an implied-in-fact contract existed, and the employer received the invention.¹¹⁶ In another, the court held that an oral agreement for assignment of intellectual property could be upheld.¹¹⁷ By making assignment clauses this simple to create, many employee–inventors are not sophisticated enough to properly protect themselves from inadvertent patent assignments. In contrast, corporations frequently have dedicated attorneys, which allows corporations to take advantage of this favorable legal construction and expand their intellectual property portfolios with ease. Contract law does not prohibit contracting between an unsophisticated actor and a more sophisticated actor.¹¹⁸ While not disallowed, the contracts remain inequitable. When one must agree to a contract, the autonomy to contract becomes a pipe dream.

As discussed above, the common concerns of contracting also plague this space. In employment situations, contracts assigning patent rights are frequently used, contract periods extending for long terms may complicate the interpretation of contracts, and the adhesive nature of these contracts decrease the ability of employee–inventors to claim their patent rights.¹¹⁹ These general principles will continue to apply and influence the analysis included within this section. Section A.1 will describe how the business economy no longer operates the way it once did, instead needing corporate structure to invent. Due to the history of agency law and the shop right remedy, corporations already possessed ways to collect most intellectual property.¹²⁰ Now that many innovative fields must occur in a corporate setting, the ability of the corporation to collect the intellectual property of their employees has ballooned.¹²¹ Section A.2 reflects on the disparity of remedies courts recognize for employers compared to the remedies available to employee–inventors. If employee–inventors cannot gain access to the courts,

116. *Larson v. Correct Craft, Inc.*, 537 F. Supp. 2d 1264, 1268–69 (M.D. Fla. 2008), *vacated and remanded by* *Larson v. Correct Craft, Inc.*, 569 F.3d 1319 (Fed. Cir. 2009) (finding district court was lacking jurisdiction because plaintiff did not have standing). In this case, the employer hired the employee–inventor to improve the design of the company’s product. *Id.* at 1265. The employee–inventor attempted to argue that there was no implied-in-fact contract because the specific design the employee–inventor created was not discussed by the employer. *Id.* at 1267.

117. *Dickman v. Vollmer*, 736 N.W.2d 202, 208 (Wis. Ct. App. 2007). The parties agreed to royalties, to creating an incorporated entity to promote the patent, and Dickman would mislead others into believing the patent was owned by different parties based on how that belief would advantage the company and the director. *Id.* at 207–08.

118. See WILLISTON ON CONTRACTS, *supra* note 17.

119. See *supra* text accompanying notes 108–18.

120. See *supra* text accompanying notes 58–59, 96–98.

121. See *infra* Section III.A.1.

they will never be able to defend their rights. Section A.3 discusses the concerns of the reputational right and creates an analogy to the copyright space where Congress did act to correct a nearly parallel imbalance of power. It becomes clear that the use of assignment clauses restricting the mobility of employee–inventors demands some reform.

1. Corporate Needs Have Displaced the Age of the Sole Inventor

Times have changed. Inventors were once able to invent as “a tinkerer toiling in the corner of a garage” as their own employer and answerable to few.¹²² Businesses can no longer successfully operate and meet their goals without relying on employees.¹²³ Equally so, most employee–inventors rely on their employers to invent.¹²⁴ The necessary resources and equipment are frequently too expensive¹²⁵—or even unlawful¹²⁶—for the employee–inventor to acquire on their own. This change has had one immense economic impact: innovation is a major asset and money producer for businesses. While it is immensely difficult to truly measure the value of intellectual property,¹²⁷ “[e]conomists estimate that official measures of gross domestic product in

122. See Marc B. Herskovitz, *Unhitching the Trailer Clause: The Rights of Inventive Employees and Their Employers*, 3 J. INTELL. PROP. L. 187, 187 (1995) (describing how Thomas Edison, while once a lauded inventor, fundamentally altered the inventing economy of the United States to a team endeavor of employment); see also Jay Dratler, Jr., *Incentives for People: The Forgotten Purpose of the Patent System*, 16 HARV. J. ON LEGIS. 129, 166–67 (1979) (noting that the simple “two-party model of invention” is no longer representative of the current innovation industry).

123. See *Wexler v. Greenberg*, 160 A.2d 430, 434 (Pa. 1960).

124. Ravid, *supra* note 29, at 145 (“[A]round eighty to ninety percent of all inventions in the U.S. are the work of employed inventors” (citation omitted)).

125. Chemists use rotary evaporators to purify and isolate organic precipitates. One large-scale rotary evaporator for “limited budgets” (also missing several key safety features) costs \$36,448. *Hei-VAP Industrial B Rotary Evaporator*, ROTOVAPS, <https://rotovaps.net/collections/large-scale-rotary-evaporators/products/hei-vap-industrial-b-rotary-evaporator> (last visited July 24, 2018). “[T]he cost of an upper echelon field emission scanning electron microscope, with accessories, is approaching \$1 million.” Gary Brake, *Buying a Pre-Owned SEM: Things to Consider When Purchasing Used Analytical Equipment*, 5 LAB MANAGER 76, 76 (2010), <http://photos.labmanager.com/magazinePDFs/2010/LMM-Oct-2010.pdf>. Even cheaper scanning electron microscopes can be in the six figures. *Id.* at 76 fig.2.

126. Some toxins and agents are heavily regulated due to the risk they pose to public health, safety, animal, or plants. See, e.g., 7 C.F.R. § 331 (2018) (agriculture); 9 C.F.R. § 121 (2018) (animal products); 42 C.F.R. § 73 (2017) (public health). See generally *Federal Select Agent Program*, CDC, <https://www.selectagents.gov/index.html> (last visited July 24, 2018) (administering the Federal Select Agent Program required by the Public Health Security and Bioterrorism Preparedness and Response Act of 2002).

127. Most corporations do not have an accounting metric to disclose non-physical assets like intellectual property, reputation, or other human capital. See Lily Kahng, *Who Owns Human Capital?*, 94 WASH. U. L. REV. 607, 613 (2017) (“Google and Microsoft’s self-created intangible assets are worth hundreds of billions of dollars, as evidenced by their market capitalization, but their balance sheets show none of these assets. Other scholars have observed a similar anomaly with respect to pharmaceutical companies: their investments in research and development are not recorded as assets on their balance sheets, but their market capitalizations clearly demonstrate the value of these assets.” (footnotes omitted)).

recent years omitted as much as one trillion dollars per year of investments in intellectual capital.”¹²⁸

Businesses also prefer automatic assignment provisions because employee–inventors now work in teams.¹²⁹ Rather than wait for groups of inventors to reach a consensus, businesses become the sole owners of the intellectual property and are better able to make decisions about implementation and use of the property, including enforcement of exclusionary rights.¹³⁰

Each individual inventor [in situations of joint invention] may only assign the interest he or she holds; thus, assignment by one joint inventor renders the assignee a partial assignee. A partial assignee likewise may only assign the interest it holds; thus, assignment by a partial assignee renders a subsequent assignee a partial assignee. All parties having any portion of the ownership in the patent property must act together as a composite entity in patent matters before the Office.¹³¹

Scholars suggest that if automatic assignment was not the rule, businesses would be unable to use inventions created by teams due to the difficulty of obtaining consensus and employers would decrease research and development investments.¹³² Even though these scholars correctly identify this inconvenience, businesses are presently at risk of stagnation because “teams with little turnover bec[o]me progressively less productive.”¹³³ Restricting employee mobility prevents turnover in teams.¹³⁴ If no one can leave, then opportunities for new hires become scarce.

Limitations on geographic region and time restrictions pose serious problems because even “[a] one-year non-competition covenant is a substantial limitation on a skilled employee looking to find the most productive and innovative position available, and on venture-backed enterprises seeking to hire the best available local talent.”¹³⁵ After the economic recession of 2008, the ability to find jobs and relocate became even

128. *Id.* (footnote omitted). The U.S. Bureau of Economic Analysis released a report in 2013 which “for the first time included research and development (R&D), as well as artistic creations such as films, music, and books, in its measures of national economic productivity and wealth, which added \$560 billion to the size of the U.S. economy.” *Id.* at 614 (footnote omitted).

129. Merges, *supra* note 114, at 20–26.

130. USPTO, *supra* note 25, § 301.

131. *Id.* (emphasis omitted).

132. See Merges, *supra* note 114, at 12–13.

133. See LOBEL, *supra* note 109, at 129.

134. Ralph Katz & Thomas J. Allen, *Investigating the Not Invented Here (NIH) Syndrome: A Look at the Performance, Tenure, and Communication Patterns of 50 R & D Project Groups*, 12 R&D MGMT. 7, 10 (1982).

135. Graves & DiBoise, *supra* note 10, at 330.

more difficult.¹³⁶ For all fields, fear for one's employment prospects are higher than in recent years,¹³⁷ and employees may no longer feel they can wait for better employment offers.¹³⁸ Moving to a new job may also be an extremely intimidating proposition as employee-inventors experience "uncertainty and fear at being defamed as a would-be misappropriator—something the former employer accomplishes without even having to present evidence of wrongdoing."¹³⁹ This fear amplifies when courts broaden the protections that non-mobility provisions in contracts offer.¹⁴⁰

Even though the individual employee-inventors deserve more rights to their intellectual property as argued in this Note, it would be unfair to suggest that the businesses are inconvenienced by the automatic assignment provision. By automatically vesting assignments to the employer, the employer will worry less about the employee-inventor seeking to benefit their own personal interests over the interests of their employer.¹⁴¹ Immediately vesting assignments of intellectual property to the employer also helps to minimize major monetary risks for potentially failed inventions that wasted a large quantity of employer resources.¹⁴² Preserving the interests of the company and saving money may make businesses more likely to innovate. These valid interests should not be forgotten when implementing a workable solution to restore balance to industries reliant on patents.

136. See U.S. BUREAU OF LABOR STATISTICS, CHARTING THE LABOR MARKET: DATA FROM THE CURRENT POPULATION SURVEY (CPS) 18, chart 15 (2018), https://www.bls.gov/web/emp/sit/cps_charts.pdf.

137. "About a third (31%) of employees globally changed jobs due to the economy. Millennials were more likely to do this than other generations." ERNST & YOUNG, GLOBAL GENERATIONS: A GLOBAL STUDY ON WORK-LIFE CHALLENGES ACROSS GENERATIONS 10 (2015), [www.ey.com/Publication/vwLUAssets/EY-global-generations-a-global-study-on-work-life-challenges-across-generations/\\$FILE/EY-global-generations-a-global-study-on-work-life-challenges-across-generations.pdf](http://www.ey.com/Publication/vwLUAssets/EY-global-generations-a-global-study-on-work-life-challenges-across-generations/$FILE/EY-global-generations-a-global-study-on-work-life-challenges-across-generations.pdf). Further, "[m]ore than one in five (22%) full-time employees encouraged their spouse or partner to return to the workforce and a quarter (25%) encouraged their spouse/partner 'not to quit their job or reduce hours to better manage work and family.'" *Id.*

138. See *supra* text accompanying note 115.

139. Graves & DiBoise, *supra* note 10, at 338. *But see* Merges, *supra* note 114, at 3 ("[T]he law has long contained a quietly effective escape hatch, allowing creative employees to exit a firm before an inventive concept has taken on a concrete, tangible form. The possibility of leaving a firm with an inchoate concept, perhaps with venture capital backing, constitutes an important counterbalance to the rights of the employer firm. An employee, armed with such a threat, has greater bargaining leverage with an employer or prospective employer.").

140. For a more complete discussion of the expansion of such provisions and the statutory schemes, see Kahng, *supra* note 127, at 615–20.

141. See Ravid, *supra* note 29, at 171–75 (describing in detail the principal-agency relationship between employers and employee-inventors).

142. See generally Merges, *supra* note 114 (arguing in support of the existing legal structure for employers to own the intellectual property created by its employee-inventors).

2. Courts Offer Corporations More Remedies than They Offer to Employee–Inventors

As businesses have many valid interests, so too the law offers many remedies for employers potentially losing their employee–inventors. Employers may bring tortious interference claims,¹⁴³ intellectual property infringement claims,¹⁴⁴ misappropriation of trade secret claims,¹⁴⁵ breach of contract claims,¹⁴⁶ breach of fiduciary duty claims,¹⁴⁷ and restrictive covenant claims,¹⁴⁸ just to name a few.¹⁴⁹ Employers may also bring claims “of third-party liability when a new employer wrongfully retains an employee who is under binding legal restrictions to a former employer,” including trade secret claims.¹⁵⁰ Employers are also protected from patent infringement suits as a result of their shop rights.¹⁵¹

143. Tortious interference claims may be specialized as tortious interference with contract and tortious interference with business expectancies. William Lynch Schaller, *Jumping Ship: Legal Issues Relating to Employee Mobility in High Technology Industries*, 17 LAB. LAW. 25, 32 (2001).

144. 35 U.S.C. § 271 (2012); USPTO, *supra* note 25, § 301.

145. UNIF. TRADE SECRETS ACT § 1(2) (UNIF. LAW COMM’N 1979) (amended 1986). The Uniform Trade Secrets Act defines “misappropriation” as:

(i) acquisition of a trade secret of another by a person who knows or has reason to know that the trade secret was acquired by improper means; or

(ii) disclosure or use of a trade secret of another without express or implied consent by a person who

(A) used improper means to acquire knowledge of the trade secret; or

(B) at the time of disclosure or use, knew or had reason to know that his knowledge of the trade secret was

(I) derived from or through a person who had utilized improper means to acquire it;

(II) acquired under circumstances giving rise to a duty to maintain its secrecy or limit its use; or

(III) derived from or through a person who owed a duty to the person seeking relief to maintain its secrecy or limit its use; or

(C) before a material change of his [or her] position, knew or had reason to know that it was a trade secret and that knowledge of it had been acquired by accident or mistake.

Id.; Schaller, *supra* note 143, at 51–60.

146. See Schaller, *supra* note 143.

147. *Id.* at 60–70.

148. *Id.* at 36–51.

149. For additional, but rarer, possible causes of actions that employers may bring against former employees, see *id.* at 84–86.

150. *Id.* at 86–87.

151. *United States v. Dubilier Condenser Corp.*, 289 U.S. 178, 188–89 (1933); *McClurg v. Kingsland*, 42 U.S. (1 How.) 202, 205, 208–09 (1843). Granted, this protection is limited to when the employer’s resources were used in the development of the allegedly infringed invention. *Dubilier*, 289 U.S. at 188–89; *McClurg*, 42 U.S. (1 How.) at 205, 208–09.

Conversely, employees have fewer causes of action against their employers. Most often, laws limit employees' ability to sue their employers to wrongful termination suits or employment discrimination suits—neither of which have a direct intellectual property corollary.¹⁵² Although some corporations will offer incentives to reward employee–inventors for valuable inventions, many of these incentives pale in comparison to the compensation programs offered abroad,¹⁵³ are not close to true market value to be sufficient rewards, or are otherwise insufficient.¹⁵⁴ “[C]ourts do not recognize that [employer’s] trade secret claims are too often created after the fact . . . to trap a former employee, and [are] not so valuable that the [employer] had previously recorded them as company intellectual property and guarded them as secret before the employee departed.”¹⁵⁵ Restoring some balance to the competing interests of employers and employee–inventors is critical.

Despite the growth of trailer clauses¹⁵⁶ and noncompetition clauses,¹⁵⁷ there is no measure to indicate the true number of potential employment disputes. Employees frequently decline to litigate the validity of employment contracts.¹⁵⁸ Additionally, courts apply an unpredictable case by case balancing test—the test used within that jurisdiction to evaluate restrictive covenants.¹⁵⁹ More importantly, research demonstrates that when employers

152. However, a reputational cause of action may exist. See *infra* notes 167–68 and accompanying text.

153. See Ravid, *supra* note 29, at 154–55.

154. Dratler, *supra* note 122, at 178–83.

155. Graves & DiBoise, *supra* note 10, at 339.

156. Many corporations rely on trailer clauses. See Hershovitz, *supra* note 122, at 197 n.53 (“In an informal survey of several major corporations conducted by the author, every corporation contacted required the signing of an intellectual property agreement by employees *as a condition of employment.*” (emphasis added)).

157. Noncompetition and trade secret suits have been rising in recent years, and 2012 showed over 200% the number of cases as were reported in 2004. See Russell Beck, *Trade Secret and Noncompete Survey—National Case Graph 2014 [Preliminary Data]*, FAIR COMPETITION L. (Jan. 7, 2014), <https://www.faircompetitionlaw.com/2014/01/07/trade-secret-and-noncompete-survey-national-case-graph-2014-preliminary-data> (providing a graph with data on Trade Secret and Noncompetition suits).

158. According to the EEOC, fewer than 85,000 charges were filed in 2017. *Charge Statistics (Charges Filed with EEOC): FY 1997 Through FY 2017*, EEOC, <https://www.eeoc.gov/eeoc/statistics/enforcement/charges.cfm> (last visited July 24, 2018). Assignment disputes do not qualify as an EEOC claim, but the scarcity of charges brought by employees who are being discriminated against or harassed remains a valuable statistic. See *Laws & Guidance*, EEOC, <https://www.eeoc.gov/laws/index.cfm> (last visited July 24, 2018).

159. Peter Caldwell, *Employment Agreements for the Inventing Worker: A Proposal for Reforming Trailer Clause Enforceability Guidelines*, 13 J. INTELL. PROP. L. 279, 302–03 (2006) (“[T]he courts’ analysis of trailer clauses has become indistinguishable from its analysis of all other restrictive covenants. The courts have not paused to question whether the non-competition test is appropriate for invention assignment clauses. Instead, they have proceeded relentlessly to apply the test they are most familiar with and which, on the surface, appears most analogous.”); Lobel, *supra* note 62, at 825–28; Schaller, *supra* note 143, at 36–51. For a more complete overview of restrictive covenants, see generally Schaller, *supra* note 143.

threaten employees with potential litigation,¹⁶⁰ employee work ethic decreases,¹⁶¹ whereas when companies rely on incentives, innovation flourishes.¹⁶² States that have elected to narrow assignment contract provisions and restrict noncompetition contracts experience greater growth and innovation.¹⁶³ Long regarded as an iconic illustration of technological advancement and corporate growth in recent decades is, of course, Silicon Valley.¹⁶⁴ “From 2006 to 2016, the Valley saw a remarkable 33% growth rate in STEM jobs—roughly 3% per year.”¹⁶⁵ Much of this development may be attributed to the way California structured noncompetition statutes and its

160. As many contracts contain strict language that employees may not realize would not withstand court scrutiny, many employees often assume and fear potential litigation.

161. Specifically, employees “were less committed to stay on task and performed poorly.” Orly Lobel, *By Suppressing Mobility, Noncompete Pacts Suppress Innovation*, N.Y. TIMES (June 11, 2014, 4:46 PM), <https://www.nytimes.com/roomfordebate/2014/06/10/should-companies-be-allowed-to-make-workers-sign-noncompete-agreements/by-suppressing-mobility-noncompete-deals-suppresses-innovation>. See generally On Amir & Orly Lobel, *How Noncompetes Stifle Performance*, HARV. BUS. REV. (Jan.-Feb. 2014) (“Sixty-one percent of the subjects in the noncompete group gave up on their task (thus forgoing payment), compared with only 41% in the control group. Among the subjects who completed the matrix task, people with noncompete conditions were twice as likely to make mistakes as people in the control group. Those who were restricted also skipped more items and spent less time on the task—further indications of low motivation.”).

162. Lobel, *supra* note 161; see Jiang He & M. Hosein Fallah, *Is Inventor Network Structure a Predictor of Cluster Evolution?*, 76 TECH. FORECASTING & SOC. CHANGE 91, 103–04 (2009) (finding that regions where employee–inventors experience uninhibited mobility results in more innovation than regions where employee–inventors were unable to relocate freely).

163. See, e.g., Graves & DiBoise, *supra* note 10, at 326.

California’s statute had the probably unintended consequence of making job-hopping easier, and thus promoting a community of entrepreneurial technology start-up companies. Challenging the common belief that strong intellectual property laws are necessary to promote economic growth, Professor Gilson used the term ‘knowledge spillovers’ to describe the dissemination of information and experience that results from employee mobility and argued that such spillovers form a necessary constituent of Silicon Valley’s success. Some degree of information-sharing between companies spurs innovation, because innovation rarely takes place in a vacuum, apart from an infrastructure that promotes it.

Id. (footnotes omitted). Such states include California, Oregon, Colorado, and Massachusetts. CAL. LAB. CODE §§ 2870–72 (West 2018); DEL. CODE ANN. tit. 19, § 805 (West 2017); 765 ILL. COMP. STAT. ANN. 1060/2 (West 2018); KAN. STAT. ANN. § 44-130 (West 2018); MINN. STAT. ANN. § 181.78 (West 2018); N.C. GEN. STAT. ANN. §§ 66-57.1–57.2 (West 2018); WASH. REV. CODE ANN. §§ 49-44.140–44.150 (West 2018); see Graves & DiBoise, *supra* note 10, at 325–26 (listing states that have statutes that restrict the effect of assignment clauses); Parker A. Howell, *Whose Invention is it Anyway? Employee Invention-Assignment Agreements and Their Limits*, 8 WASH. J. L. TECH. & ARTS 79, 81 n.1 (2012) (listing states that have statutes that restrict the effect of assignment clauses); Merges, *supra* note 114, at 9 (listing states that have statutes that restrict the effect of assignment clauses).

164. California does not allow noncompetition contracts. LOBEL, *supra* note 109, at 64–67; Amir & Lobel, *supra* note 161; Schaller, *supra* note 143, at 31; Joel Kotkin, *Tech’s New Hotbeds: Cities with Fastest Growth in STEM Jobs are Far from Silicon Valley*, FORBES (Jan. 11, 2018, 7:30 AM), <https://www.forbes.com/sites/joelkotkin/2018/01/11/techs-new-hotbeds-cities-with-fastest-growth-in-stem-jobs-are-far-from-silicon-valley>.

165. Kotkin, *supra* note 164.

employment law practices.¹⁶⁶ Because employers have a wealth of legal causes of action available to them, they appear inherently more litigious, which intimidates their employee–inventors. The decisions that employers make to reduce their litigious appearance to their employees motivates employee–inventors to be more innovative and productive employees.

3. Reputational Concerns of Employee–Inventors Impact Their Productivity

In addition to the risk of litigation, many of these assignment clauses seem inequitable because humans often desire recognition. Failing to receive recognition and credit for their work, employee–inventors will be less motivated to produce new innovations.¹⁶⁷ This not only harms society, but also stunts the overarching goals of the patent incentive envisioned by the founders.¹⁶⁸ Being recognized as an inventor will also increase an employee–inventor’s marketability as a potential employee, both outside and within the company where he or she is currently employed.¹⁶⁹ Only recently did the Federal Circuit recognize that it is possible for employee–inventors to have a reputational cause of action when their employer fails to indicate that the employee–inventor has created an invention.¹⁷⁰ However, this specific case may be easy to distinguish in the future because the employer–assignee specifically stated that the company did not intend to pursue any patents on the inventions created by the employee–inventor; the employer later did pursue a patent on one of his inventions and did not place the name of the employee–inventor on the patent application.¹⁷¹

166. See Graves & DiBoise, *supra* note 10, at 325–26; Howell, *supra* note 163 at 81; Merges, *supra* note 114, at 9.

167. Lobel, *supra* note 62, at 840.

168. See *supra* Section II.A.

169. *Chou v. Univ. of Chicago*, 254 F.3d 1347, 1359 (Fed. Cir. 2001) (“[B]eing considered an inventor of important subject matter is a mark of success in one’s field, comparable to being an author of an important scientific paper.”).

170. See *Shukh v. Seagate Tech., LLC*, 803 F.3d 659, 663 (Fed. Cir. 2015) (“[W]e hold that concrete and particularized reputational injury can give rise to Article III standing.”).

171. *Id.* at 662–63. It is very important to note that Shukh brought a cause of action under 35 U.S.C. § 256 for correction of inventorship—not an ownership dispute. *Id.* at 662. Future litigation could potentially distinguish this holding because the Patent Office demands candor in applications. 37 C.F.R. § 1.56 (2017) (“Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability . . .”). Failure to comply with candor may result in invalidity of a patent. *Id.* The Patent Office needs to know who the inventor is when issuing patents because the employee–inventor could behave in a way that would bar the issuance of a patent under the novelty requirement. See 35 U.S.C. § 102 (2012). However, the AIA provides that “[a] patent shall not be invalid or unenforceable based upon the failure to comply with a requirement [to identify an inventor] if the failure is remedied as provided under paragraph (1).” 35 U.S.C. § 115(h)(3). Altering the facts so that the employee–inventor is disclosed to the United States Patent and Trademark Office could reduce the applicability of *Shukh*.

Perhaps the best approach to understanding the desire for recognition is to compare the plight of inventors to their close intellectual property cousin: creators under the copyright laws. Such creators recently approached Congress to lobby for more recognition and bargaining power when transferring the rights to their copyrighted works away. To illustrate this point, a brief comparison of the background of copyright law is necessary.

In the realm of copyrights, described in the Constitution as the “useful arts,” Congress organized the statutory framework differently than the framework governing patent law. Some of the recent major alterations to copyright law concerned restoring the balance of power between employers and employee-creators¹⁷²—a distinct parallel to the needs of the patent system at issue within this Note and thus a source for potential solutions. Because the protected articles within copyright differ so much, different exclusive rights exist based on the class of article.¹⁷³ Copyright law also grants authors a reputational right to identify themselves as the creator of that work—a right which cannot be transferred.¹⁷⁴ Congress limits infringement to protect “fair uses,” which include categories such as research, education, scholarship, news reporting, criticism, and teaching,¹⁷⁵ so long as those uses remain subject to a factored analysis.¹⁷⁶

Even though copyright law prioritizes rights of authorship more than patent law does, the ownership does not always initially vest in the person who labors for the work. Sometimes, the ownership belongs to the “person for whom the work was prepared.”¹⁷⁷ This is known as the work for hire doctrine.¹⁷⁸ Certain artistic members who hoped to maintain ownership of

172. H.R. REP. NO. 94-1476, at 121–25 (1976). For the purposes of this Note, “employee-creator” functions as the copyright parallel to “employee-inventor.”

173. Exclusive rights for copyrighted works vary across the class of work, but generally include the owner’s exclusive rights in reproductions, distributions, preparation of works that contain or modify the protected work (known as derivative works), public performance, and public display of the work. 17 U.S.C. § 106 (2012).

174. *Id.* § 106(A). One court applying patent law recently authorized a similar reputational right; however, its widespread application remains very questionable. *See supra* notes 170–71 and accompanying text.

175. 17 U.S.C. § 107. Further broad categories and technology-specific exceptions exist throughout the remainder of Chapter 1 of this statute.

176. A fair use defense relies on a four-factor test:

(1) the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes; (2) the nature of the copyrighted work; (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and (4) the effect of the use upon the potential market for or value of the copyrighted work.

Id.; *see* *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 576–77 (1994); *Stewart v. Abend*, 495 U.S. 207, 236–37 (1990); *Harper & Row, Publishers, Inc. v. Nation Enters.*, 471 U.S. 539, 560–61 (1985); *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 448 (1984).

177. 17 U.S.C. § 201(b).

178. *See id.*

their copyrightable works once sought for shop right¹⁷⁹ equivalent rights from Congress.¹⁸⁰ Employee–creators wanted the rights of their works to vest immediately in themselves, rather than in their employer; these employee–creators also advocated that the employers be able to use their work without fear of litigation, so long as the employee–creator’s work was used “to the extent needed for purposes of [the employer’s] regular business.”¹⁸¹ Though proponents argued this change would increase bargaining power for employee–creators, Congress thought this was not a guaranteed outcome because Congress believed the increase in bargaining power would not be enough to offset “the uncertainties of the shop right doctrine.”¹⁸² As exemplified here, Congress occasionally considers the principles of the rest of the intellectual property fields when amending the law.¹⁸³ Congress should once again consider the exploitation of intellectual property ownership like it did for copyright law when seeking workable solutions for the automatic assignment provisions prevalent in patent law.

Similar to patent rights, copyright ownership may be transferred. The statutory language provides, “[t]he ownership of a copyright may be transferred in whole or in part by any means of conveyance or by operation of law.”¹⁸⁴ The House Report documenting this statutory provision refines conveyance to “includ[e] assignments, mortgages, and exclusive licenses, but not [to] includ[e] nonexclusive licenses.”¹⁸⁵ Such transfers may be terminated under very strict time conditions provided adequate notice is given to the party holding those rights.¹⁸⁶ Congress limited termination of

179. For a definition of shop rights, see *supra* notes 95–103 and accompanying text.

180. H.R. REP. NO. 94-1476, at 121 (1976). Authors of copyright modeled their request for these rights after the patent shop right doctrine. *Id.*

181. *Id.*

182. *Id.* The shop right doctrine does not create definite rights because the rights are still divided between the employer and the employee–inventor, which means parties must litigate to determine the precise confines of the right. See *supra* notes 95–103 and accompanying text. Artists likely to have been impacted by such a change would have been screenwriters, composers, interior designers, graphic designers, and other artists who specifically work at the pleasure of an employer or for commission. Under the current statutory framework, such employees must request permission to add works they created to their own portfolios because copyright does not recognize them as the authors of their own works. As this Note focuses on patent intellectual property rights, this particular problem is beyond the scope of this Note. However, it is important to recognize the difficulty that all forms of intellectual property face in their statutory frameworks and that the vesting of intellectual property rights in an employer will never be without some difficulty.

183. H.R. REP. NO. 94-1476, at 121.

184. 17 U.S.C. § 201(d)(1) (2012).

185. H.R. REP. NO. 94-1476, at 123.

186. See 17 U.S.C. § 203(a). The copyright owner may terminate a grant of the copyright rights only after the grantee has held those rights for at least 35 years but before 40 years. *Id.* § 203(a)(3). The copyright owner may only terminate the grant of those rights within that five-year window. *Id.* However, the copyright owner must also provide written notice that rights will terminate and serve that notice no more than ten years before the specified termination date but no less than two years before the termination date. *Id.* § 203(a)(4).

transfers: “The scope of the right would extend not only to any ‘transfer of copyright ownership,’ as defined in section 101, but also to non-exclusive licenses. . . . [This] would not apply to ‘works made for hire’”¹⁸⁷ Another limitation to termination of transfers exists: The right to terminate only exists for transfers the author made while still alive.¹⁸⁸ The legislature recognized that some authors were unable to receive fair value for their works and authors could not be compensated at a later time for copyrights that were more successful than anticipated.¹⁸⁹ In light of this inability to adequately compensate creators, Congress viewed the section codifying termination terms as “needed because of the unequal bargaining position of authors, resulting in part from the impossibility of determining a work’s value until it has been exploited.”¹⁹⁰ Future amendments to the patent laws should reflect this principle Congress recognized in copyright, especially since many employee–inventors do not receive any compensation for their inventions.¹⁹¹

B. STATE LAW OFFERS EMPLOYERS PROTECTION AFTER THE TERMINATION OF EMPLOYMENT

While the previous part considered widespread economic realities that benefit employers over employee–inventors, employers receive additional benefits because state law favors employers over employee–inventors should disputes reach the courts as well. State courts favor employers when parties initiate litigation regarding intellectual property ownership. Often, state courts do this through contract law interpretation of trailer clauses as in Section B.1. Occasionally, and often most questionably, state courts may misapply principles of contract interpretation such as plain language when they should apply technical meaning. As a result, federal patent law terms of art like “conception” are instead read to mean a layman description of the term for inventions that are patented. This Note covers that phenomenon in Section B.2. Another extremely common tactic employers use to their advantage in intellectual property ownership disputes is state trade secret law, which Section B.3 chronicles. These tactics, especially when employed together, heavily favor employers over the employee–inventor.

1. Trailer Clauses Allow Employers to Acquire More Intellectual Property

Employers often implement trailer clauses to collect the intellectual property created after the termination of employment. Trailer clauses

187. H.R. REP. NO. 94-1476, at 125. For a discussion of works made for hire, see *supra* notes 55–60 and accompanying text.

188. H.R. REP. NO. 94-1476, at 125.

189. *Id.* at 124.

190. *Id.*

191. See *infra* Section IV.C (proposing Congress amend Title 35 of the U.S. Code to allow termination of patent assignments).

essentially function as noncompetition contracts,¹⁹² which have been traditionally disfavored by courts.¹⁹³ As a work-around, courts typically uphold trailer clauses—and other noncompetition clauses—provided they are limited in time and limited in scope.¹⁹⁴ “The result is a penalty on former employees and their new employers if they wish to compete with their former firm” because those inventions created within the term of the trailer clause belong to the former employer.¹⁹⁵

The scope of trailer clauses may vary based on the interests and risk-taking nature of an employer. Trailer clauses may be limited “to cover inventions relating to areas in which the employee worked or had contact.”¹⁹⁶ Employers may employ slightly broader clauses to include “all areas in which the employer operated its business at the time the employee left the employment relationship,” even if the employee–inventor did not specifically work in that industry area.¹⁹⁷ Finally, employers may attempt the broadest scope of trailer clause which would require assignment of any intellectual property relating to “all areas in which the employer does business and all areas in which the employer may have an interest in developing business.”¹⁹⁸

Should an employee–inventor later choose to use their invention that has been assigned to their former employer, the employee–inventor cannot raise a defense of patent invalidity in an infringement suit.¹⁹⁹ This also means that a future employer cannot raise the defense of patent invalidity, which “creates a powerful disincentive for competitors to hire.”²⁰⁰ This principle has become known as assignor estoppel.²⁰¹ As one court noted, broad trailer clauses may “effectively close the doors of employment to [an inventor].”²⁰² To resolve the harm that broad trailer clauses would have on the employee’s future employability, the court analyzed each invention and compared the scope of those inventions to the scope of the former employee–inventor’s work with the former employer.²⁰³ One of the disputed inventions was remanded to determine if it should be assigned, while the other did not need to be

192. Caldwell, *supra* note 159, at 288.

193. *Id.* (describing such provisions as “against public policy” (quoting *Fed. Screw Works v. Interface Sys., Inc.*, 569 F. Supp. 1562, 1564 (E.D. Mich. 1983))).

194. Schaller, *supra* note 143, at 70–84; *see also* Caldwell, *supra* note 159, at 288 (“[A] court must determine whether a clause is enforceable as a measure of its reasonableness with respect to three constraints: (1) time, (2) subject matter, and (3) territorial scope.”).

195. Lobel, *supra* note 62, at 819.

196. Hershovitz, *supra* note 122, at 200–01.

197. *Id.* at 201.

198. *Id.* (emphasis omitted).

199. *See* Lobel, *supra* note 62, at 821.

200. *Id.*

201. *Id.*

202. *Guth v. Minn. Mining & Mfg. Co.*, 72 F.2d 385, 388 (7th Cir. 1934).

203. *Id.* at 391–92.

compelled to be assigned.²⁰⁴ Being able to collect inventions after the termination of employment impacts an employee's mobility because other corporations will not want to hire them if their work product cannot be used by the new employer.

2. Courts Favor Employers When Determining Time of the Conception of the Invention

Contracts requiring assignment of intellectual property often reach back into the past. Should an employee wish to change the terms of the agreement once they have invented a patentable subject matter,²⁰⁵ the corporation may choose to terminate the contracts of their employee-inventor.²⁰⁶ Employee-inventors may wish to alter the agreement because many ideas originate long before the intellectual property becomes fully formed, and they may view the invention as theirs. Corporations may fire employee-inventors even if the contract does not assign any intellectual property that predates the employment in question and the contract only collects inventions conceived in the course of this most recent employment.²⁰⁷ The corporation will sue for the invention because the corporation believes it belongs to them, even though the employee-inventor has been fired. One highly publicized example was computer programmer Evan Brown.²⁰⁸ Evan Brown alleged that he initially began to envision his invention at issue long before his employment with his employer.²⁰⁹

Brown created a code to convert older code to work on newer systems.²¹⁰ Brown argued that he did not fully conceive the invention, and by the time his employer fired him, he only had an idea.²¹¹ The court held that the idea, which had not yet been written in code, was an invention solely based on a memo Brown wrote to his employer stating, "I have developed a method of

204. One of the inventions may have been invented by another. *Id.*

205. Patentable subject matters are "any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof." 35 U.S.C. § 101 (2012). There are three categories of exceptions that include natural laws, physical phenomena, and abstract ideas. *Alice Corp. Pty. Ltd. v. CLS Bank Int'l.*, 134 S. Ct. 2347, 2354 (2014).

206. *Merges*, *supra* note 114 (describing the facts and holding of *Cubic Corp. v. Marty*, 229 Cal. Rptr. 828 (Cal. Ct. App. 1986)).

207. *See Preston v. Marathon Oil Co.*, 684 F.3d 1276, 1282, 1285–87 (Fed. Cir. 2012); *see also supra* text accompanying notes 79–87 (analyzing *Preston*).

208. *See* Jeff Nachtigal, *We Own What You Think*, SALON (Aug. 18, 2004, 7:30 PM), https://www.salon.com/2004/08/18/evan_brown; Geanne Rosenberg, *An Idea Not Yet Born, But a Custody Fight*, N.Y. TIMES (Sept. 8, 1997), <http://www.nytimes.com/1997/09/08/business/an-idea-not-yet-born-but-a-custody-fight.html>.

209. *See Brown v. Alcatel USA, Inc.*, No. 05–02–01678–CV, 2004 WL 1434521, at *1–2 (Tex. Ct. App. June 28, 2004); Rosenberg, *supra* note 208 (reporting that Mr. Brown argued that he had about 80% of the idea for his computer code formed before he even began working for his employer).

210. *Brown*, 2004 WL 1434521, at *1, *3.

211. *See id.* at *2.

converting machine executable binary code.”²¹² Perhaps most frustrating for Brown, his employer “at one point offered him up to \$2 million for the rights to develop it,” but those negotiations later dissolved.²¹³ Brown recognized that “the single most critical word out of [the] whole lawsuit” was “‘solved’, instead of using ‘solving,’”²¹⁴ especially because the “purported solution ha[d] apparently never been articulated.”²¹⁵ Beyond that memo, there was no physical evidence indicated in the trial court’s opinion.²¹⁶

Before the passage of the America Invents Act in 2011, there existed statutory language that defined the point of invention.²¹⁷ Similar to Brown’s contract,²¹⁸ assigning ideas at conception seems to be the contractual standard. Defining conception within the patent law space means “the idea is so clearly defined in the inventor’s mind that only ordinary skill would be necessary to reduce the invention to practice, without extensive research or experimentation.”²¹⁹ Because the conception must be described in “particularity,” every part of the claimed invention must be determined and definite.²²⁰ The Federal Circuit held that “the test for conception is whether the inventor had an idea that was definite and permanent enough that one skilled in the art could understand the invention; the inventor must prove his conception by corroborating evidence.”²²¹ Conception is a “question[] of law predicated on subsidiary factual findings.”²²²

212. *Id.* (quoting Memorandum from Evan Brown to Brown’s Supervisor, DSC Commc’ns Corp. (April 19, 1996)).

213. Nachtigal, *supra* note 208.

214. *Id.*

215. Rosenberg, *supra* note 208.

216. *See id.* It is important to note that this development is at odds with the research conducted by proponent scholars of assignment clauses. *See Merges, supra* note 114, at 47–52 (“[I]n practice ex-employers rarely succeed in court when the former employees take nothing tangible with them.”). This change in judicial interpretation may have changed as a result of the shift in intellectual property becoming more cerebral than tangible in the wake of the digital revolution.

217. *Compare* 35 U.S.C. § 102(g)(1) (2012) (“[T]here shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.”), *with* 35 U.S.C. § 102 (2012) (showing that § 102(g) has been eliminated).

218. Which the court described as “pledging to provide the company with all information concerning any discoveries or inventions he made or *conceived* while in its employ which related to the nature of the company’s business.” *Brown v. Alcatel USA Inc.*, No. 05-02-01678-CV, 2004 WL 1434521, at *1 (Tex. Ct. App. June 28, 2004) (emphasis added).

219. *Burroughs Wellcome Co. v. Barr Labs., Inc.*, 40 F.3d 1223, 1228 (Fed. Cir. 1994) (citing *Sewall v. Walters*, 21 F.3d 411, 415 (Fed. Cir. 1994)).

220. *Brown v. Barbacid*, 276 F.3d 1327, 1335–36 (Fed. Cir. 2002) (“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 thereafter to be applied in practice.’ (alteration in original) (quoting *Singh v. Brake*, 222 F.3d 1362, 1367 (Fed. Cir. 2000)); *Burroughs*, 40 F.3d at 1228.

221. *Burroughs*, 40 F.3d at 1228.

222. *Barbacid*, 276 F.3d at 1332.

Contract interpretation is built upon many principles. The courts applied plain language meaning to the contract at issue in *Evan Brown*,²²³ as well as when interpreting the contract written by Marathon.²²⁴ However, another primary method of contract interpretation that should be applied when contracts are unambiguous²²⁵ is “[t]echnical terms or words of art will be given their technical meaning.”²²⁶ “Unless a different intention is manifested, . . . technical terms and words of art are given their technical meaning when used in a transaction within their technical field.”²²⁷ The reason technical meaning applies is to ensure that the contract reflects the intent of the parties, because “[i]t is the role of the courts to enforce the agreement made by the parties—not to add, excise or distort the meaning of the terms they chose to include.”²²⁸ If courts actually applied the technical meaning interpretation over the plain language interpretation as they should because the parties are intentionally discussing intellectual property as defined by federal law, then the employee–inventors would win more cases.²²⁹

Another contract interpretation principle will help employee–inventors if state law considers the contract ambiguous: *contra proferentem*.²³⁰ “Since the language is presumptively within the control of the party drafting the agreement, it is a generally accepted principle that any ambiguity in that language will be interpreted against the drafter.”²³¹ This becomes especially poignant when working with adhesion contracts, because the non-drafting party did not have an opportunity to negotiate the contract.²³² As described herein, employees face extreme pressure to accept automatic assignment provisions in initial employment contracts.²³³

When considering contract interpretation, state law frequently controls but not entirely. “When the subject matter of the contract between the parties lies in an area covered by federal law, they necessarily adopt, as a portion of their agreement the applicable provisions of the particular Act of

223. See *Brown*, 2004 WL 1434521, at *1.

224. *Preston v. Marathon Oil Co.*, 684 F.3d 1276, 1285–86 (Fed. Cir. 2012).

225. WILLISTON ON CONTRACTS, *supra* note 17, § 32:1.

226. *Id.* § 32:4.

227. RESTATEMENT (SECOND) OF CONTRACTS § 202(3) (AM. LAW INST. 1981); see *Hugo Boss Fashions, Inc. v. Fed. Ins. Co.*, 252 F.3d 608, 617 (2d Cir. 2001).

228. *Landmark Ventures, Inc. v. H5 Techs., Inc.*, 152 A.D.3d 657, 658 (N.Y. App. Div. 2017) (alteration in original) (quoting *NML Capital v. Republic of Argentina*, 952 N.E.2d 482, 489–90 (N.Y. 2011)).

229. The cases *Preston* and *Brown* most likely would have been held in favor of the employee–inventor had the courts applied federal patent law. See *Preston*, 684 F.3d at 1279; *Brown v. Alcatel USA, Inc.*, No. 05–02–01678–CV, 2004 WL 1434521, at *1 (Tex. Ct. App. June 28, 2004).

230. WILLISTON ON CONTRACTS, *supra* note 17, § 32:12.

231. *Id.*

232. *Id.*

233. See *supra* Section III.A.

Congress.”²³⁴ Federal courts have applied federal law as controlling over the interpretation of terms used in state law governed contracts.²³⁵

[W]here contracting parties use terms and concepts that are firmly rooted in federal law, and where there are no explicit signals to the contrary, we can presume that the prevailing federal definition controls. Moreover—and significantly, for purposes of this case and the *contra proferentem* rule—if the pertinent case law is ultimately read as defining the term with sufficient clarity, then the parties’ use of that term in an agreement will not be deemed to create an ambiguity.²³⁶

Very few areas are as completely in the control of federal law as that of patent law. Following not only these principles of contract interpretation but the application of case law by these higher courts, the assignment provisions of intellectual property ought to be interpreted in light of federal patent law definitions. Existing court precedent among lower courts needs to be reinterpreted to accurately reflect case law.

3. Corporations Reserve Rights to Maintaining Operational Secrecy

Beyond specifically hiring an employee–inventor for an inventive purpose, businesses also need to protect their trade secrets—a state regulated concern. A trade secret is

information, including a formula, pattern, compilation, program, device, method, technique, or process, that: (i) derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use, and (ii) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy.²³⁷

²³⁴ WILLISTON ON CONTRACTS, *supra* note 17, § 30:20.

²³⁵ *Webber v. Virginia*, 103 U.S. 344, 347 (1881); *DDB Techs., L.L.C. v. MLB Advanced Media, L.P.*, 517 F.3d 1284, 1290 (Fed. Cir. 2008) (“Although state law governs the interpretation of contracts generally, the question of whether a patent assignment clause creates an automatic assignment or merely an obligation to assign is . . . treated . . . as a matter of federal law.” (citation omitted)); *Hugo Boss Fashions, Inc. v. Fed. Ins. Co.*, 252 F.3d 608, 618 (2d Cir. 2001) (“For contracting parties operate against the backdrop not only of state law, but of *federal* law as well. And when federal law concepts, such as those relevant to trademark—paradigmatically a federal field—are employed, the parties may be read as having incorporated established meanings and definitions forged in the relevant federal cases.” (citing *Dolman v. U.S. Trust Co. of N.Y.*, 138 N.E.2d 784, 787 (N.Y. 1956))).

²³⁶ *Hugo Boss*, 252 F.3d at 618.

²³⁷ UNIF. TRADE SECRETS ACT § 1(4) (UNIF. LAW COMM’N 1979) (amended 1986). All but two states have adopted the Uniform Trade Secrets Act. RONALD T. COLEMAN, JR. ET AL., ABA LITIGATION SECTION, TRADE SECRETS—THE BASIC PRINCIPLES AND ISSUES 1 (2014),

A trade secret may be lost based upon public disclosure, and actions alleging misappropriation of trade secrets will not succeed if the secret could be determined by independent research or reverse engineering after its commercial use.²³⁸ “Because a commercial advantage can vanish once the competition learns of it, the law should protect the businessman’s efforts to keep his achievements secret.”²³⁹ Primarily, trade secret analysis “is an area of law in which simple fairness still plays a large role.”²⁴⁰

Public policy authorizing protection of a corporation’s trade secrets exist in tension with the mobility interests of employees. These primary competing interests are “the right of a businessman to be protected against unfair competition stemming from the usurpation of his trade secrets and the right of an individual to the unhampered pursuit of the occupations and livelihoods for which he is best suited.”²⁴¹ That court best identified the concern that “[t]he employee’s bargaining position is weakened because he is potentially shackled by the acquisition of alleged trade secrets; and thus, paradoxically, he is restrained, because of his increased expertise, from advancing further in the industry in which he is most productive.”²⁴² Courts frequently review noncompetition agreements favorably, but “[c]ourt[s] will carefully scrutinize the covenant for reasonableness,” where employees have agreed to future restrictions in mobility.²⁴³

Some courts will recognize the interests of the employer in light of the principle of “inevitable disclosure.”²⁴⁴ Inevitable disclosure refers to future misappropriation of trade secrets and is the idea that an employee cannot work in their new capacity under a new employer without necessarily relying on the trade secrets that were confidentially disclosed to the employee by the

https://www.americanbar.org/content/dam/aba/publications/litigation_committees/intellectual/trade-secrets-the-basic-principles-and-issues.authcheckdam.pdf.

238. COLEMAN ET AL., *supra* note 237, at 3. For more information, see generally *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141 (1989), which allows reverse engineering, and *Roboserve, Ltd. v. Tom’s Foods Inc.*, 940 F.2d 1441 (11th Cir. 1991), which holds “the sale of a product to a party not under any duty to maintain confidentiality generally will destroy any reasonable expectation of secrecy as to that product and may place that product or information about how it works in the public domain.” COLEMAN ET AL., *supra* note 237, at 7 (citing *Roboserve*, 940 F.2d at 1441).

239. *Metallurgical Indus., Inc. v. Fourtek, Inc.*, 790 F.2d 1195, 1201 (5th Cir. 1986).

240. *Id.*

241. *Wexler v. Greenberg*, 160 A.2d 430, 434 (Pa. 1960).

242. *Id.* at 435.

243. *Id.*

244. See, e.g., *PepsiCo, Inc. v. Redmond*, 54 F.3d 1262, 1268 (7th Cir. 1995); *Intl. Bus. Machines Corp. v. Papermaster*, No. 08–CV–9078, 2008 WL 4974508, at *10 (S.D.N.Y. Nov. 21, 2008). *But see* *Whyte v. Schlage Lock Co.*, 125 Cal. Rptr. 2d 277, 280 (Cal. Ct. App. 2002); *Holton v. Physician Oncology Servs., LP*, 742 S.E.2d 702, 706 (Ga. 2013). Inevitable disclosure is a trade secret principle and should not be confused with the patent law doctrine of disclosure described *supra* note 25 and accompanying text.

former employer.²⁴⁵ To prevent inevitable disclosure, employers may pursue injunctions, including up to enjoining an employee from working in that new capacity under a new employer.²⁴⁶

Despite these principles, trade secret law is not wholly ignorant of the needs of employees. An employer cannot bring successful actions against an employee who continues to use skills and knowledge obtained while in the employ of the employer or those obtained from other employers.²⁴⁷ As a result, important evidence issues occur when employers attempt to prove misappropriation without evidence of tangible items such as documents or electronic files because the employer instead relies on allegations that the employee remembered and thus took from their memory the misappropriated secrets.²⁴⁸

Based on current legal practice, employee-inventors may be harmed by trade secret law and patent law simultaneously because both protect the employer. Trade secret law and patent law operate concurrently and serve differing purposes in fostering development.²⁴⁹ Trade secret law works to improve the morality of businesses by “encourag[ing] invention and innovation” while maintaining “the public interest in having free and open competition in the manufacture and sale of unpatented goods.”²⁵⁰ Primarily, trade secret law offers less protection than the patent system, which incentivizes inventors with inventions meritorious of patent protection to seek patents.²⁵¹ As a result of these differing purposes and varying scopes of protection, federal patent laws and state trade secret law function together, and federal law does not preempt trade secret protections for patentable subject matter.²⁵² However, trade secret rights traditionally terminate once the patent is filed. How can something be protected for its worth as a secret once it has been disclosed? As the Supreme Court once favorably cited, “[i]t is a condition upon an inventor’s right to a patent that he shall not exploit his discovery competitively after it is ready for patenting; he must content himself

245. *PepsiCo*, 54 F.3d at 1268–69.

246. *See id.* at 1272 (holding that Redmond could not begin work at Quaker). Redmond previously worked at PepsiCo, and the court determined that Redmond could not lead distribution of a competing product when he had inside knowledge of PepsiCo’s production and marketing strategy. *Id.* at 1264–65, 1272.

247. *Servicetrends, Inc. v. Siemens Med. Sys., Inc.*, 870 F. Supp. 1042, 1073–74 (N.D. Ga. 1994).

248. *See Carpetmaster of Latham, Ltd. v. Dupont Flooring Sys., Inc.*, 12 F. Supp. 2d 257, 261–62 (N.D.N.Y. 1998).

249. *See Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 481–82 (1974) (describing patents as an incentive for developing innovation while trade secrets act as an incentive to invent and use nonpatentable subject matters).

250. *PepsiCo*, 54 F.3d at 1268 (quoting 2 MELVIN F. JAGER, TRADE SECRETS LAW § IL.01 (7)–(8) (1994)).

251. *Kewanee*, 416 U.S. at 480–82.

252. *Id.* at 491–92.

with either secrecy, or legal monopoly.”²⁵³ With all the protections available to employers to prevent the movement of employee–inventors, employers are stifling innovation, which not only harms society but also harms their bottom line.²⁵⁴

IV. PRIVATE BUSINESSES AND PUBLIC GOVERNMENT SHOULD WORK TOGETHER TO RESOLVE THE INEQUITABLE ASSIGNMENT OF EMPLOYMENT INTELLECTUAL PROPERTY

The ideal solution to restore balance to intellectual property assignment clauses would be for private actors, the judiciary, and the legislature to work together to implement these three proposals. Most important is the need for corporations to contract effectively without public mandate. Businesses deserve some of the intellectual property created by the inventors they employ. As such, employers should rely on contract provisions that authorize a right of preemption for the intellectual property created by the employee–inventors to ensure protection of their industry, resources, and trade secrets.²⁵⁵ Unfortunately, employers may not be inclined to restructure contracts that could disfavor them. One additional solution would be for courts to interpret trailer clauses restrictively by only forcing assignment of inventions that were conceived during the employment of the inventor—as defined by patent law, not state law.²⁵⁶ Finally, Congress should intervene to draft a statute for patents that reflects the termination of copyright transfers present in Title 17 of the United States Code.²⁵⁷ Combining these three proposals would restore balance to the employer–employee relationship, but should any of these three actors be hesitant to change, the individual proposals will still improve the current environment.

A. RIGHT OF PREEMPTION CONTRACT PROVISIONS

Employers have the ability to reduce the risks of litigation and loss of intellectual property if they incorporate a contract provision granting the employer the right of preemption. Employee–inventors typically must disclose their current projects to their employer. The employer then allows the inventor to research as necessary until the invention is created or the

253. *Pfaff v. Wells Elecs., Inc.*, 525 U.S. 55, 68 (1998) (quoting *Metallizing Eng'g Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516, 520 (2d Cir. 1946)).

254. See generally *LOBEL*, *supra* note 109 (arguing that corporate policies to prevent employee movement are counter-productive).

255. See *infra* Section IV.A (proposing that employers draft right of preemption provisions into initial employment contracts).

256. See *infra* Section IV.B (proposing that courts interpret patented inventions using patent law principles rather than trade secret law for hold-over clauses).

257. See *infra* Section IV.C (proposing that Congress draft a statutory provision allowing termination of assignment for Title 35 of the U.S. Code to mirror the equivalent provision in Title 17 of the U.S. Code).

employer decides not to pursue the ultimate product. Employers often need time to deliberate on whether or not the corporation or company wants to pursue the market possibilities of the research. For high risk inventions, the employer may not wish to pursue the market possibilities until the invention proves profitable.

The ideal solution for the imbalance of power between employee–inventors and their employers would be for employers to insert right of preemption provisions into their contracts. A “right of preemption” in contract law is “[a] potential buyer’s contractual right to have the first opportunity to buy, at a specified price, if the seller chooses to sell within the contracted period.”²⁵⁸ This proposal suggests a similar type of provision that would authorize the employer, thus the potential assignee, a contractual right to have the first opportunity to own the intellectual property created by their employee–inventors. A sale would be unnecessary because as existing case law demonstrates, continued employment is sufficient consideration.²⁵⁹

Based on the autonomy to contract, employers may be able to reserve shop rights in the invention later if they allowed the employee–inventor to use company resources or time to produce the invention.²⁶⁰ Providing a right of preemption will allow the employer the opportunity to examine the scope of their business plan before rights immediately assign. Then, should a company decide not to pursue the invention in the marketplace, the employee–inventor would be free to find another corporation that would be interested in bringing that invention to market. This will prevent the “potential[] [for] inflicting incalculable damage upon the employer” that the employee–inventor could harm the employer brought “by disseminating the invention, or even merely through applying for a patent, disclos[ing] the employer’s trade secrets.”²⁶¹

This solution best embodies the premise of the patent system. The Framers and courts have interpreted patent protection to promote innovation.²⁶² If an employee–inventor must give their invention away to their employer–assignee who has no intention to market or pursue the invention through their business model, then sharing that innovation and its teachings are delayed. This delay works counter to the intentions of the patent system, as the patent system primarily promotes disclosure of information.²⁶³ The U.S. government fosters innovation by providing the limited exclusive rights to

258. *Right of Preemption*, BLACK’S LAW DICTIONARY (10th ed. 2014).

259. See *Aronson v. Quick Point Pencil Co.*, 440 U.S. 257, 261–62 (1979); *Preston v. Marathon Oil Co.*, 684 F.3d 1276, 1284–85 (Fed. Cir. 2012); *Power Lift, Inc. v. Weatherford Nipple-Up Sys., Inc.*, 871 F.2d 1082, 1085 (Fed. Cir. 1989).

260. See *supra* Section II.B (describing how courts interpret and address assignment provisions in employment contracts).

261. Hershovitz, *supra* note 122, at 192.

262. See *supra* Section II.A.

263. See *supra* notes 20–29 and accompanying text.

recover innovation costs.²⁶⁴ If the employee–inventor wishes to pursue the invention even though their employer–assignee does not want it, they will be able to find another who is willing to make it and profit off the invention created by the employee.

An employer-directed right of preemption contract system will benefit mostly those employee–inventors who work in industries that enable working remotely. Fields that allow remote work are those that primarily rely on thought innovation rather than necessarily building inventions, such as patentable business models or the software industry. Employer requests that an employee–inventor not use time, resources, or equipment on inventions the employer never intends to acquire are entirely reasonable. The employer never intends to reap those costs, so they should not allow unnecessary experimentation during company time. However, the interpretation of many of these clauses do not end during work hours.²⁶⁵ “The notion of a 40-hour workweek may be a thing of the past for managers as approximately half (46%) are working 40-plus hour weeks” and this statistic increases to 58% in the United States.²⁶⁶ In addition to the raw data, there has also been a cultural shift. “In the US, a whopping 58% of managers said they worked over 40 hours a week. . . . Meanwhile, there’s evidence that some Americans see working around the clock as a kind of status symbol.”²⁶⁷ For those who innovate independently, like many coders, the employer is acquiring broad access to that which the employer does not deserve. By contracting to include this right of preemption, this allows the employer to determine if they desire certain intellectual property of the employee–inventor, gain the intellectual property if they desire it; and then if they do not desire the intellectual property, the employee–inventor will be able to pursue their rights in the invention.

Others that will receive benefit from this provision will be employee–inventors that choose to file a patent as the constructive reduction to practice.²⁶⁸ Using that method, if the employer requests they terminate their research, the employee–inventor may be able to obtain a patent so long as the disclosure the employee–inventor makes is sufficient to enable a person of ordinary skill in the art to make or use that invention without undue

264. See *supra* notes 24–29 and accompanying text.

265. See ERNST & YOUNG, *supra* note 137, at 6; Shana Lebowitz, *Here’s How the 40-hour Workweek Became the Standard in America*, BUS. INSIDER (Oct. 24, 2015, 1:57 PM), <https://www.businessinsider.com/history-of-the-40-hour-workweek-2015-10> [hereinafter Lebowitz, *Here’s How*]; Shana Lebowitz, *The 40-hour Workweek is on its Way Out*, BUS. INSIDER (May 5, 2015, 3:18 PM), <https://www.businessinsider.com/working-more-than-40-hours-a-week-2015-5>.

266. ERNST & YOUNG, *supra* note 137, at 6.

267. Lebowitz, *Here’s How*, *supra* note 265.

268. Constructive reduction to practice is the act of taking a step to prove the invention is workable. See USPTO, *supra* note 25, § 2138. It is accomplished by filing a patent application. *Id.*

experimentation.²⁶⁹ It is not a requirement that a prototype has been made in order for an invention to be patentable.²⁷⁰

By establishing this right of preemption, the employer–assignee can determine if the potential invention will expose any potential trade secrets. The notice will be provided, and the employer–assignee will accept the invention. Once the invention is accepted, they may choose to patent it. However, if the employer–assignee rejects the invention, that will act as a confirmation that the employer does not object to another company obtaining licensure or assignment rights to that invention. Additionally, the employer will still maintain a cause of action for misappropriation of trade secrets within the state court system.²⁷¹

Further, the employee–inventor will be able to obtain fair market value for the invention.²⁷² When an inventor chooses to assign or license their invention, they receive consideration in return. In the traditional assignment clause jurisprudence, continued employment constitutes adequate consideration for the assignment of intellectual property rights.²⁷³ One may argue that this incentivizes the breakdown of negotiations between employers and employee–inventors when they seek alternative arrangements for compensation in light of intellectual property. Realistically, this right of preemption protects the employer from bad faith negotiation on the part of the employee, while protecting the employee from continued indebtedness to the employer if the employer declines to pursue the intellectual property rights. All this solution requires of the corporation is partially rewriting the initial employment contract to alter the automatic assignment provision to grant the corporation the first opportunity to claim the assignment of the

269. See 35 U.S.C. § 112 (2012). Undue experimentation is “[a]n unreasonable amount of research and testing that would be required for a person skilled in the appropriate art to make and work an invention from the specification in the patent application.” *Undue Experimentation*, BLACK’S LAW DICTIONARY (10th ed. 2014). For enumeration of the factors used by courts to determine if undue experimentation may exist, see *In re Wands*, 858 F.2d 731, 737 (Fed. Cir. 1988).

270. See 37 C.F.R. § 41.201 (2017); *Pfaff v. Wells Elecs., Inc.*, 525 U.S. 55, 60–61 (1998); USPTO, *supra* note 25, § 2138.

271. Two states, New York and Massachusetts, still follow the Restatement definition. COLEMAN ET AL., *supra* note 237. “A trade secret is any information that can be used in the operation of a business or other enterprise and that is sufficiently valuable and secret to afford an actual or potential economic advantage over others.” RESTATEMENT (THIRD) OF UNFAIR COMPETITION § 39 (AM. LAW INST. 1995).

272. This would align the United States with other patent focused countries such as Germany, United Kingdom, France, and Japan. See generally Vai Io Lo, *Employee Inventions and Works for Hire in Japan: A Comparative Study Against the U.S., Chinese, and German Systems*, 16 TEMP. INT’L & COMP. L.J. 279 (2002) (describing the varying forms of compensation employees received from employers for their inventions); Morag Peberdy & Alain Stowel, *Employee’s Rights to Compensation for Inventions—A European Perspective*, in PLC CROSS-BORDER LIFE SCIENCES HANDBOOK 63 (2009–2010) (discussing employee rights to invention compensation in Europe).

273. See generally Lo, *supra* note 272 (contrasting employee compensation schemes from around the globe); Peberdy & Stowel, *supra* note 272 (focusing on how European compensation schemes differ from traditional American schemes).

intellectual property. If the corporation chooses not to accept the assignment, the employee–inventor may patent the invention in his or her own name or to assign the invention to another corporation or person. By allowing the inventor to bring the patent into the public, the true goal of the patent incentive conceptualized by the founders is met.

B. JUDICIAL INTERPRETATION OF CONTRACTS REDEFINED

While changing the employment contract will dramatically improve the situation for employee–inventors, it may not be sufficient to wholly correct the imbalance of power on its own. Courts should reconsider current jurisprudence of contract terms and should interpret the assignment of intellectual property clauses with the relevant legal definitions found in patent law. Courts frequently apply trade secret law when considering the applicability of hold-over clauses.²⁷⁴ However, trade secret rights traditionally terminate once the patent is filed. How can something be protected for its worth as a secret once it has been disclosed? Beyond applying trade secret law when it should have terminated, state courts also misapply principles of contract interpretation to all assignment provisions, which expands the scope of what employers may collect beyond what the patent incentive intends.

For suits that arise out of disputed ownership of a patent, the courts need to apply patent law rather than trade secret law when resolving trailer clauses. Determining which law to apply will not be a difficult task. By the time the dispute reaches the courts, the patent application will typically have already been filed.²⁷⁵ Courts should only enforce trailer clauses if the employee–inventor had truly conceived the invention during the prior employment. This definition of conception should conform to the definition of conception that has historically been used in patent law.²⁷⁶ Courts should also follow patent law definitions of “made” or reduced to practice.²⁷⁷ This will begin to eliminate overly broad reversions of patent ownership to

274. See *supra* Section III.B (describing the problems assignment clauses generate for employee–inventors).

275. This is the result of the new first-to-file system under the updated title 35, § 102 of the U.S. Code post-America Invents Act, passed in 2011. See 35 U.S.C. § 102 (2012). This new statute determines ownership of patents based on whomever filed a patent application first or whomever disclosed the patented invention first. *Id.* There is also a one-year period to file the patent to incentivize the earliest disclosure of new innovations as possible. *Id.*

276. See *supra* Section III.B.2 (describing judicial treatment of the patent law principle of conception). Conception means “the idea is so clearly defined in the inventor’s mind that only ordinary skill would be necessary to reduce the invention to practice, without extensive research or experimentation,” *Brown v. Barbacid*, 276 F.3d 1327, 1336 (Fed. Cir. 2002) (quoting *Burroughs Wellcome Co. v. Barr Labs, Inc.*, 40 F.3d 1223, 1228 (Fed. Cir. 1994), such that there is “a definite and permanent idea of the complete and operative invention . . . to be applied in practice.” *Id.* at 1335–36 (quoting *Singh v. Brake*, 222 F.3d 1362, 1367 (Fed. Cir. 2000)); *Burroughs Wellcome Co. v. Barr Labs, Inc.*, 40 F.3d 1223, 1228 (Fed. Cir. 1994) (citing *Sewall v. Walters*, 21 F.3d 411, 415 (Fed. Cir. 1994)).

277. See *supra* note 85 and accompanying text.

employers when their resources were not used and when the employer seeks a windfall through the application of trade secret law. Situations like computer coder Evan Brown's will be minimized.²⁷⁸

This may not be a perfect solution. Evidentiary issues will not be entirely solved by following this approach. Further, this approach will require courts to keep the principle of conception alive, despite it no longer being a codified principle.²⁷⁹ The issue of conception has yet to be discussed in an appellate court case post-passage of the America Invents Act.²⁸⁰ Under this approach, the courts would have to determine conception to still be a valid principle. Conception bears many similar elements to the existing specification requirement of patent applications,²⁸¹ including both disclosure²⁸² and the required claims.²⁸³ This should not be an insurmountable task as conception originated as an organic common law doctrine.²⁸⁴

C. CONGRESSIONAL ACTION

One of the primary problems with assignment of intellectual property at the initiation of employment is that because the intellectual property does not yet exist, neither the employee–inventor nor the employer–assignee will know the value of the created invention. Congress recognized this identical concern within the copyright space when it drafted provisions to terminate transfers of rights by the author.²⁸⁵ Crafting a similar proposal for the realm of patents would also “further the objectives of [patent] law while recognizing the problems and legitimate needs of all interests involved.”²⁸⁶

Congress ought to add to the assignment provision of Title 35 of the United States Code²⁸⁷ a section providing for potential termination of patent assignment rights to mirror the matching copyright provision:

278. Evan Brown solved a longstanding computer coding concern, and his employer ended up with the rights to the patent—before Brown had determined the specifics. *See supra* notes 208–16 and accompanying text.

279. *See supra* notes 219–22 and accompanying text.

280. *See* MERGES & DUFFY, *supra* note 23, at 470 (describing that the courts have not yet reviewed the issue of conception in a meaningful way).

281. 35 U.S.C. § 112 (2012).

282. *See supra* note 25 and accompanying text.

283. 37 C.F.R. § 1.75 (2017).

284. For more discussion on the potential longevity of the doctrine of conception, see MERGES & DUFFY, *supra* note 23, at 470.

285. H.R. REP. NO. 94-1476, at 124 (1976) (“[T]he unequal bargaining position of authors, result[s] in part from the impossibility of determining a work’s value until it has been exploited.”).

286. *Id.* This quoted reasoning originally read for copyright law, but the spirit of that reasoning will equally apply to patent law.

287. 35 U.S.C. § 261 (2012).

An assignment, grant or conveyance of a patent or application for patent may be terminated by the inventor or majority of joint inventors who executed the assignment provided:

(a) Termination of the grant may be effected at any time during a period of two years beginning at the end of ten years from the date of issuance of the patent by the Patent Office.

(b) The termination shall be effected by serving an advance notice in writing, signed by the number and proportion of owners of termination interests upon the grantee or the grantee's successor in title.

(1) The notice shall state the effective date of the termination, which shall fall within the two-year period specified by clause (a) of this subsection, and the notice shall be served not less than one or more than three years before that date. A copy of the notice shall be recorded in the Patent Office before the effective date of termination, as a condition to its taking effect.

(2) The notice shall comply, in form, content, and manner of service, with requirements that the Patent Office shall prescribe by regulation.

(c) Termination of the grant may be effected notwithstanding any agreement to the contrary, including an agreement to make a will or to make any future grant.

(d) Upon the effective date of termination, all rights under this title that were covered by the terminated grants revert to the inventor and joint inventors owning termination interests, including those owners who did not join in signing the notice of termination under clause (b).

(e) Unless and until termination is effected under this section, the grant, if it does not provide otherwise, continues in effect for the term of the issued patent provided by this title.²⁸⁸

The only consequential alteration this Author made between the drafting of the two provisions are time frames because copyright protection extends much longer than patent protection.²⁸⁹ Otherwise, this draft is identical to 17 U.S.C. § 203.²⁹⁰ In instances of joint inventors, inventors will have to reach a consensus, as required in copyrights²⁹¹ and in current patent assignment

288. This statutory language reflects the language contained within the parallel provision of the Copyright Title. *See* 17 U.S.C. § 203.

289. *Compare* the statute written in the text, *with* 17 U.S.C. § 203 (authorizing a period of time for termination of copyright assignment that exceeds the duration of the exclusive patent right).

290. 17 U.S.C. § 203.

291. H.R. REP. NO. 94-1476, at 125.

practice when granting an assignment.²⁹² Operation of this provision will empower inventors who remain or become dissatisfied with the way their employer–assignee makes or sells the invention. In light of this provision, employer–assignees will be more motivated to reward their inventive employees adequately for inventions with high market values. If employers do not provide some form of compensation to the inventor or joint inventors, the employee–inventors may choose an alternative company or may seek employment elsewhere.

By codifying this termination of rights, Congress will also increase the future mobility of employee–inventors. If an employee–inventor wishes to relocate, the inventor may be able to bargain the license or assignment of their earlier invention to the new corporation. This ability to bargain will allow an employee–inventor to relocate and continue to build upon their research within their field, without being forced to abandon any developments the employee–inventor seeks because the employee–inventor may no longer access that invention their employer–assignee patented. Patented inventions that are highly profitable in the market will make some employee–inventors more mobile than others; however, because future employers currently expect continued innovation from the employee–inventor, that expectation will allow the industry to self-regulate this practice. A company will not wish to pursue an employee–inventor who will not be able to produce new research and new products.

Congress provides another immensely important result by codifying termination of patent assignments. Occasionally, employers will build patent portfolios, but refrain from exercising their exclusive rights to make,²⁹³ use,²⁹⁴ produce,²⁹⁵ sell,²⁹⁶ or sue.²⁹⁷ “[T]he employer controls the ultimate fate of the employee’s invention.”²⁹⁸ These entities that choose not to act on their patents until someone attempts to infringe a patent are commonly referred to as “patent trolls.”²⁹⁹ While businesses may have good reason to avoid exercising the patent rights they acquire from employee–inventors, this act of withholding delays technological development and “the public necessarily loses access to valuable intellectual property goods.”³⁰⁰ Allowing the reversion of patent rights back to the original inventor may work to undermine the strength, power, and abuses patent trolls exercise in litigation and through the industry.

292. USPTO, *supra* note 25, § 301.

293. 35 U.S.C. § 154(a)(1).

294. *Id.*

295. *Id.*

296. *Id.*

297. 35 U.S.C. § 271.

298. Ravid, *supra* note 29, at 159.

299. *Id.*

300. *Id.* at 159–60.

With this alteration, the existing interests of employer–assignees are preserved which will still allow the employer to immediately receive the rights to make, use, and sell the invention as employers currently do. Further, this provision cannot withdraw any existing shop rights the original employer–assignee possesses. Under shop rights, the original company will keep the ability to maintain the existing products and market without any fear of infringement; basically, shop rights “leave[] *neither* party at the mercy of the other.”³⁰¹ The shop right doctrine will ensure that no highly useful patents will be completely withdrawn from the market. Primarily, the company will no longer draw revenue from licenses the employer–assignee may have granted. If the employer–assignee did not allow issuance of any licenses, then the employer–assignee may experience some market competition. Realistically, the so-called patent monopoly may not last the complete patent term,³⁰² as competing businesses invest in employee–inventors that will be able to advance the technology disclosed in other patents to make nonobvious and new inventions. This reality means employers will not be as harmed by this statutory provision as at first appearance.

V. CONCLUSION

As can be seen, the widespread, systematic use of intellectual property assignment clauses in initial employment contracts severely disadvantages employee–inventors. The inability to find additional employment when the employee–inventor wishes to end their job harms equitable principles. The refusal of many companies to provide market value reimbursement for inventors harms the natural rights of the employee–inventor. Failing to adequately compensate employee–inventors disadvantages the companies that employ them. Employee–inventors are less inspired to innovate, which makes them less productive. The limits placed on mobile employee–inventions that prevents them from advancing their field harms society as a whole.

Currently, as compared to the opportunities available to employee–inventors, the judicial standard offers employers massive advantages through litigation compared to the opportunities available to the employee. Courts allow employers to collect patented inventions under trade secret principles, contract law, state causes of action, and broad overuse of trailer clauses. Employees fear litigation if they act in their own interest and become less motivated to invent, which harms the reasonable and legitimate interests businesses have in innovation and that the United States has in promoting and advancing industry.

301. Merges, *supra* note 114, at 18.

302. A patent term is approximately twenty years, unless for some reason the United States Patent and Trademark Office determines an equitable adjustment must be made. *See* 35 U.S.C. § 154.

Corporations could seek to rectify these broad abuses by implementing right of preemption clauses in employment contracts. Companies would not need to substantially alter their business practices because they already monitor the work product of employee-inventors during work hours. This shift in contracting practice would give corporations a stronger right to collect inventions completed beyond the work of the employee-inventor. Corporations could equally grow their patent portfolios and control dissemination of any trade secrets. However, simply altering what type of provision is used in an initial employment contract will not be enough if courts do not interpret contracts with the correct principles. Courts could intervene to reinterpret the case law to focus on employee equity. By applying federal patent law terms to contracts, courts will preserve the interests of the state police powers and the carefully deliberated definitions and constraints of the federal patent system mandated by the Constitution and Congress. Lastly, Congress should intervene to allow the termination of assignment rights to give employee-inventors greater bargaining power, both when the invention is made and if they seek different employment. Any of these three options will restore balance to the existing system, but combinations thereof will restore fairness to the system.