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KATYA ASSAF-ZAKHAROV & LISA HERZOG*

The Importance of Being First: Economic and Non-economic Dimensions of Inventorship in American and German Law†

This Article examines the right to be acknowledged as the first inventor of a new technology in patent law. Technological inventions usually result from cumulative research and development, and several people sometimes arrive at the same invention almost simultaneously. However, only one person is usually considered to be the “inventor,” and receives all the credit and honor.

This Article focuses on the legal systems of Germany and the United States, comparing how they conceptualize the right to be seen as inventor. These systems have developed in substantially different philosophical and cultural climates: while the German legal system has been deeply influenced by Kantian and Hegelian thought, the American legal system has been inspired more strongly by liberal and utilitarian ideas. These two schools of philosophical thought have different perspectives on the relationship between personal identity and work; while the German tradition emphasizes the deeply personal relation between individuals and their work, the Anglo-Saxon approach is, in general, more instrumentalist and utilitarian with regard to work.

One way in which these differences express themselves is the different ways in which the right to be acknowledged as the first inventor is understood and regulated. The right to be acknowledged as the first inventor is deeply connected with one’s identity as a professional, whether an engineer, technician, or scientist. On the other hand, this right does not necessarily have pecuniary significance. Hence, the protection of the right to be considered as the first inventor allows a glimpse into the different visions of identity and work found in these legal systems.

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This Article examines to what extent German and American legal systems recognize and protect the right to be perceived as the first inventor. It demonstrates that the two legal systems differ profoundly in the ways they perceive and protect the right to be considered as the first inventor. True to its visions of professional dignity, German law carefully protects this right, independently from any pecuniary interests. In contrast, American law grants a remarkably weak protection to the right to be considered as the first inventor, focusing primarily on its monetary aspects. Hence, one can here discover different visions of the role of individuals in society, and specifically of the role of individuals as creators and not just consumers. What is at stake here is whether questions of honor, dignity, and symbolic property, above and beyond material benefits, are recognized as playing a role in the economic system.

Making you a pioneer only means one thing. You were around at the time.

—Red Buttons

INTRODUCTION

How important is it to be first? To get a sense of this, try to recall who Pete Conrad was. Most people have absolutely no idea who he was. But does the name Neil Armstrong ring a bell? For most people, it does: he was the first man to walk on the moon, followed by Buzz Aldrin. Armstrong and Aldrin belong to the most famous individuals in the history of mankind. Their spaceflight, Apollo 11, was the first to land on the moon, followed by Apollo 12 four months later. Pete Conrad was the commander of this latter flight, the person who performed the second landing on the moon in the history of mankind. This relatively small leap in time surely makes no difference to mankind, but it does make a giant difference to men: while the first landing on the moon is still remembered and celebrated, no comparable public attention surrounds the second moon mission. And even between Armstrong and Aldrin there is a huge difference with regard to fame, even though the time difference between their setting foot on the lunar surface was only twenty minutes. As far as history is concerned, nothing compares to being first, no matter how close the second might be. This holds for the first landing on the moon, but also for technological breakthroughs.

This phenomenon can be observed despite the fact that the *processes* that culminate in someone's "being first" are usually collective endeavors. Scientists and engineers build on the work of others, creatively combining earlier ideas, sometimes with several persons reaching the

ultimate stage almost at the same moment.¹ Yet, our historical perception has the tendency to single out a sole inventor (or in rare cases two), who will be remembered as the hero of the story and receives all the credit for the invention. The electric lightbulb? Thomas Edison! The telephone? Alexander Graham Bell! The airplane? The Wright Brothers!—this is how our narratives about technological breakthroughs function.

But is “being first” with new inventions only a question of glory, or does it have more mundane, financial consequences? Patent law shares the logic of heroic historiography, granting all the rights to a technology to the first applicant, while depriving all other contributors of any meaningful legal status. In other words, to gain an exclusive right to a technology, it is crucially important to be first, or, to be more precise, to be *perceived* as first in the eyes of the legal system. The importance of “being first” in patent law thus has a financial side, but it often also determines the distribution of glory. The individual who receives patent rights over an important technology will usually be remembered as “*the inventor*” of this technology. His² name will likely be the one to remain associated with this technology in public memory, while others fall into oblivion.

To come back to the example of Alexander Graham Bell, who is widely recognized as the father of the telephone: his claim to inventorship was in fact surrounded by controversy. The Italian engineer Antonio Meucci, whom many consider the true inventor of the telephone, filed a caveat announcing his invention of an equivalent device five years before Bell, but could not complete his patent application due to financial difficulties.³ Their dispute over inventorship has never been ultimately resolved by a judicial decision—it was discontinued because of Meucci’s death. Yet, in 2002, the U.S. House of Representatives passed a resolution acknowledging Meucci’s work in the invention of the telephone, his invention of a similar device before

1. See Mark A. Lemley, *The Myth of the Sole Inventor*, 110 MICH. L. REV. 709 (2012); Dan L. Burk, *Feminism and Dualism in Intellectual Property*, 15 AM. U. J. GENDER SOC. POL’Y & L. 183, 190 (2007) (discussing the figure of “heroic inventor”); Jessica Silbey, *The Mythical Beginnings of Intellectual Property*, 15 GEO. MASON L. REV. 319, 333 (2008); GAR ALPEROWITZ & LEW DALY, UNJUST DESERTS: HOW THE RICH ARE TAKING OUR COMMON INHERITANCE (2009).

2. We use here the male form because the individuals in our examples are indeed all men. In many cases, women simply did not have the opportunities to invest their time and energy in research, while their role in supporting their husbands or other male family members was taken for granted and not considered worthy of acknowledgment. However, for reasons of scope, we cannot discuss the issues of the gendered division of labor in the course of this Article. For an account of female invention in the nineteenth century, see, e.g., Deborah J. Merritt, *Hypatia in the Patent Office: Women Inventors and the Law, 1865–1900*, 35 AM. J. LEGAL HIST. 235, 245–46 (1991); for reflections, see, e.g., Kara W. Swanson, *Intellectual Property and Gender: Reflections on Accomplishments and Methodology*, 24 AM. U. J. GENDER SOC. POL’Y & L. 175 (2015).

3. Doug Harvey, *Reinventing the U.S. Patent System: A Discussion of Patent Reform Through an Analysis of the Proposed Patent Reform Act of 2005*, 38 TEX. TECH. L. REV. 1133, 1135–36 (2006).

Bell, as well as Bell's access to Meucci's materials.⁴ The resolution stated that had Meucci been able to pay the \$10 fee to maintain his caveat, no patent would have been granted to Bell.⁵ Notably, several other engineers, including Thomas Edison and Elisha Gray, had also convincingly claimed to have developed similar devices before Bell.⁶ Retrospectively, the singling out of specific individuals as the ones who "are first" may appear unfair. But the desire to reduce complexity, coupled with the apparent need for heroes and role models, means that this practice is likely to be here to stay.

In this Article, we accept the fact that public perception usually attributes an invention to a single individual, the one whose name appears on the patent documents (to this, we refer to as "the right to be first"). But what *kind* of right is the right to be first? Is it a right to be named, remembered, and admired? Or is it an economic right to draw profits from one's invention? This Article explores which of the two logics—glory or profit—characterizes the right to be first. Taking a historical perspective, it compares two legal systems—German and American—that have always held different views on this topic. These differences are reflected not only in the bottom-line outcomes of legal conflicts around this right, but also in the ways such conflicts are conceptualized, that is, in the basic understanding of what is actually at stake when a person claims her right to be first: glory or profit.

Having explained the importance of the right to be first, let us outline where the modest pioneership of our own research lies. As will be shown below, although patent law in both countries includes provisions granting the inventor the right to be *named* as such, this right has a greater importance in Germany. In the United States, in contrast, the importance of being first is conceived purely in economic terms, and the right to be named as inventor is practically absent outside the realm of economic rights. This result is surprising. So far, the legal literature has assumed as a matter of course that U.S. patent law protects the moral right of an inventor to be named as such, a right which is distinct from his economic rights in the invention.⁷ This Article proves this commonly accepted assumption wrong.

4. H.R. Res. 269, 107th Cong. (2002) (enacted).

5. *Id.* para. 11.

6. Brian J. Love, *Interring the Pioneer Invention Doctrine*, 90 N.C. L. REV. 379, 430–33 (2012) (noting that several other persons may rightly be regarded as the inventors of telephone). For litigation surrounding telephone patent rights, see *The Telephone Cases*, 126 U.S. 1 (1888); *United States v. Am. Bell Tel. Co.*, 128 U.S. 315, 353 (1888). See also John F. Duffy, *Rethinking the Prospect Theory of Patents*, 71 U. CHI. L. REV. 439, 461–62 (2004). For a detailed historical account, see also CHRISTOPHER BEAUCHAMP, *INVENTED BY LAW: ALEXANDER GRAHAM BELL AND THE PATENT THAT CHANGED AMERICA* (2015).

7. See, e.g., Steven Cherenksy, *A Penny for Their Thoughts: Employee-Inventors, Preinvention, Assignment Agreements, Property, and Personhood*, 81 CALIF. L. REV. 595, 653 (1993) ("[P]atent law already recognizes the personhood interests of inventors . . . by requiring the identification of the human creators responsible for the invention on

Thus, the Article has two main goals. The first is to compare how the right to be first is conceptualized in the German and U.S. legal systems. The second is to provide some explanations of the differences between the regulations by connecting them to the broader cultural and philosophical landscapes of the two countries and their respective understanding of individuals' contributions in markets. To the best of our knowledge, this Article is the first to offer such a comparative and philosophical analysis of the right to be first.

In what follows, we first offer brief considerations about some cultural differences that are potentially relevant for explaining the differences between U.S. and German law. We then discuss how U.S. and German patent law deals with the right to be perceived as first inventor, both in historical and contemporary perspective. As we will show, the logic of the two legal systems is radically different: while the German system embeds the legal regulation of inventorship in "ideal" personal rights, which have to do with human dignity, in U.S. law the general clause that only "injury in fact" can be legally pursued reduces the right to be first to its material dimensions. The Article concludes with some critical observations on these findings.

I. CULTURAL AND INSTITUTIONAL BACKGROUNDS: EMBEDDED OR DISEMBEDDED MARKETS?

Readers might ask why we have chosen the U.S. and German legal systems for our comparison. While any such choice is to some degree arbitrary, there are reasons for thinking that the differences between these two countries might be particularly interesting. Both the United States and Germany are relatively successful market economies, but they are organized in rather different ways: they are often cited as paradigm cases for "liberal" and "coordinated" market economies.⁸ While the former mostly rely on the market mechanisms in their economic realms, the latter draw much more heavily on personal networks and other mechanisms of coordination. "Coordinated"

the patent application. . . . This non-transferable, non-assignable, market-inalienable inventorship identification is a form of protection for a personhood interest—the association of the person with her invention."); Justin Hughes, *The Personality Interest of Artists and Inventors in Intellectual Property*, 16 CARDOZO ARTS & ENT. L.J. 81, 165 (1998) ("American patent law works better to protect [the] personality interest than does copyright law, requiring that the named inventor(s) on a patent application—and any patent issued—be natural persons who actually invented the invention."); Catherine L. Fisk, *Credit Where It's Due: The Law and Norms of Attribution*, 95 GEO. L.J. 49, 57 (2006) ("American patent law has always required the true and original inventor to be identified in the patent application. . . . Patent law confers an inalienable right to attribution because Congress and courts believed that attribution was a valuable reward for inventors even when the patent itself was assigned."); Ofer Tur-Sinai, *Beyond Incentives: Expanding the Theoretical Framework for Patent Law Analysis*, 45 AKRON L. REV. 243 (2012).

8. Peter A. Hall & David Soskice, *Introduction to Varieties of Capitalism: The Institutional Foundations of Comparative Advantage 1* (Peter A. Hall & David Soskice eds., 2001).

market economies are often described, in a terminology that goes back to Karl Polanyi, as a more “embedded” form of capitalism.⁹ In his 1944 book, *The Great Transformation*, Polanyi described how labor, land, and capital were turned from socially embedded objects that were “not for sale,” but regulated by mechanisms such as feudal redistribution or householding in autarchic family units, into “commodities,” exchanged in markets for money. The legal constitutions of these items as tradeable goods played a crucial role in the development of market economies. It was often met by opposition and struggles for a certain “re-embedding.”¹⁰

Of course, there is a broad spectrum that runs from “embedded” to “disembedded” market economies; moreover, markets can be more or less embedded along different *dimensions*.¹¹ Thus, our analysis of how the right to be first is regulated by law can be seen as one facet of this scale, or as one dimension of the differences between institutional frameworks with different degrees of “embeddedness” of markets. As we will show, the more “embedded” German system pays more attention to non-material rights, thus acknowledging the role of social recognition as an important dimension of life that lies beyond the logic of the market.

In terms of the intellectual traditions that have shaped U.S. and German thinking about the right to be first, it seems most interesting to turn to ideas about competition and markets. It is, after all, a matter of competition who gets to be first in filing a patent or conquering a market. One noteworthy difference lies in the different perceptions of markets in the “neoliberal” and the “ordoliberal” tradition, both of which build on earlier strands of thought and which mirror the differences between “liberal” and “coordinated” market economies.¹² Generally speaking, the “neoliberal” thought of the Chicago school, epitomized by Milton Friedman,¹³ sees free markets as the preferable mode of social organization. State intervention is criticized as lowering the overall efficiency of markets, which stems

9. KARL POLANYI, *THE GREAT TRANSFORMATION* (1944).

10. On Polanyi and intellectual property (IP), see also, recently, Alexander Peukert, *Fictitious Commodities: A Theory of Intellectual Property Inspired by Karl Polanyi's "Great Transformation,"* 29 *FORDHAM INTELL. PROP. MEDIA & ENT. L.J.* 1151 (2019).

11. See, e.g., LISA HERZOG, *INVENTING THE MARKET. SMITH, HEGEL, AND POLITICAL THEORY* ch. 4 (2013). Hall and Soskice's argument about “institutional complementarities” points out, however, that different areas—e.g., the way in which companies are financed and the way in which the education system is organized—need to be sufficiently coherent. See Hall & Soskice, *supra* note 8.

12. For a perceptive commentary on these two traditions, see, e.g., Mark Reiff, *Two Theories of Economic Liberalism*, 10 *ADAM SMITH REV.* 189 (2017); and on some their historical predecessors, see HERZOG, *supra* note 11. A collection of English translations of key texts together with commentaries can be found in *THE BIRTH OF AUSTERITY: GERMAN ORDOLIBERALISM AND CONTEMPORARY NEOLIBERALISM* (Thomas Biebricher & Frieder Vogelmann eds., 2017).

13. See, e.g., Milton Friedman, *The Social Responsibility of Business Is to Increase Its Profits*, *N.Y. TIMES MAG.* (Sept. 13, 1970), <https://nyti.ms/2IOpRDe>.

from individuals' pursuit of their own material interests. Ordoliberal thought, in contrast, emphasizes the role of the state in creating and maintaining markets, especially through antitrust legislation; generally speaking, the market is seen as *one* sphere in society, but not as a general principle of human behavior and its coordination.¹⁴ The willingness to acknowledge values other than the material interests of individuals, which they pursue in markets, is thus greater in the ordoliberal than in the neoliberal tradition.

Jeremy Rifkin points to a number of differences in the U.S. and German intellectual and imaginative landscapes that also seem relevant for our topic.¹⁵ Whereas European societies were traditionally organized around social hierarchies and functional positions that defined the cultural identities of individuals and gave them security,¹⁶ in the United States the notion of the open frontier had a long-lasting impact on the understanding of human beings and society.¹⁷ Unbound by history or social background, and living in a society characterized by great diversity, everyone could make himself or herself into the kind of person he or she wanted to be, pursuing material gains in what was perceived, at least potentially, as an unlimited realm of opportunities—or at least this was the self-understanding and the hope of the young American republic. An implication of this difference is the role of personal status: schematically speaking, whereas in Europe it is tied to one's *social* position within various communities, in the United States it is tied to one's *material* position as an indicator of one's commercial success. The latter point can also be explained by the strong Calvinist influence on U.S. society,¹⁸ whereas in Europe, Calvinism, while also leaving a mark on the cultural DNA, coexisted with strong Catholic and other Protestant traditions. For example, the Lutheran tradition strongly emphasizes the notion of a "calling" in which the point is *not* to maximize one's profits, but to serve God and one's fellow human beings from within one's social position.¹⁹ This approach to human work differs significantly from the idea that one acquires "human capital" that one tries to invest with an eye to maximum returns.²⁰ Human capital is something one *has*, which one can acquire and exploit, not something one *is*; the distance between the human being as a unique person and her skills that she sells on the market is built into this very conception. This coheres well with the idea that one's identity is not

14. See, e.g., WALTER EUCKEN, GRUNDSÄTZE DER WIRTSCHAFTSPOLITIK (1952).

15. JEREMY RIFKIN, THE EUROPEAN DREAM: HOW EUROPE'S VISION OF THE FUTURE IS QUIETLY ECLIPSING THE AMERICAN DREAM (2004).

16. *Id.* at 13.

17. *Id.* at 11, 13–14.

18. *Id.* at 112.

19. See, e.g., 3 WERNER DOSTAL ET AL., BERUF: AUFLÖSUNGSTENDENZEN UND ERNEUTE KONSOLIDIERUNG: MITTEILUNGEN ZUR ARBEITSMARKT—UND BERUFSFORSCHUNG 438–60 (1998).

20. On this contrast and its roots in the history of ideas, see, e.g., Lisa Herzog, *Wer sind wir, wenn wir arbeiten? Soziale Identität im Markt bei Smith und Hegel*, 59 DEUTSCHE ZEITSCHRIFT FÜR PHILOSOPHIE 835 (2013).

defined by a specific occupation, but that it is up to the individual to find her own place, or places, in society.

These remarks are, of course, not meant to offer a comprehensive overview of historical and cultural factors that might have influenced the ways in which U.S. and German legislators and courts have shaped the legal regulation of the right to be recognized as the inventor of a technology. Rather, they are meant to recall a few key differences that set the stage for the analysis of legal regulation that follows. In comparing the cultures of different countries, it is always difficult to avoid hanging on to clichés or overgeneralizing one's own impressions. The analysis of legal differences that follows can be understood as cashing out some of the legal background structures that show that certain differences are not only a matter of different cultural mentalities, but are actually hardwired in the legal systems of these countries.

II. THE RIGHT TO BE NAMED AS A PATENT INVENTOR

Both German and American law require that a patent application name the inventor of the respective technology.²¹ In both countries, the inventor can demand the inclusion of her name in the patent application before the patent is granted, the correction of the patent to include her name after it is granted, as well as the removal of names erroneously mentioned as patent inventors.²² Both systems recognize, in principle, that the question of inventorship is distinct from that of ownership. Only real persons, not companies, can be named as inventors.²³ Both legal systems perceive the inventor as the natural owner of a patent,²⁴ and both hold the view that this right may be assigned even before the patent is issued.²⁵ Thus, for instance, in both legal systems the corporate employer typically owns the inventions of its employees, and applies in its own name for patents in such inventions.²⁶ The fact that the inventor's name appears on the patent

21. For German law, see Patentgesetz [PatG] [Patent Act], Dec. 16, 1980, DAS BUNDESGESETZBLATT [BGBL.] I at 1, § 63; for U.S. law, see 35 U.S.C. §§ 115, 256 (2015).

22. See sources cited *supra* note 21.

23. For German law, see, e.g., Heinz Harmsen, *Anmerkung zu BGH—Motorzettensäge*, GEWERBLICHER RECHTSSCHUTZ UND URHEBERRECH [GRUR] 583 (1978); Alfons Schäfers in: Patentgesetz, 11th ed. 2015, § 130 recital 7 (Ger.); for U.S. law, see, e.g., *Beech Aircraft Corp. v. EDO Corp.*, 990 F.2d 1237, 1248 (Fed. Cir. 1993) (“only natural persons can be inventors”).

24. For German law, see Harmsen, *supra* note 23; Klaus-Jürgen Melullis in: Patentgesetz, *supra* note 23, § 6 recital 4; for U.S. law, see, e.g., *Teets v. Chromalloy Gas Turbine Corp.*, 83 F.3d 403, 407 (Fed. Cir. 1996) (“Ownership springs from invention. The patent laws reward individuals for contributing to the progress of science and the useful arts.”).

25. For German law, see Melullis, *supra* note 24, § 6 recital 4; for U.S. law, see, e.g., *Lamar v. Granger*, 99 F. Supp. 17, 36 (W.D. Pa. 1951) (“The law seems to be settled that an assignment of the patent is not invalidated because an invention is assigned before a patent issued.”).

26. For German law, see Gesetz über Arbeitnehmererfindungen [ArbnErfG] [Law of Employee's Inventions], July 25, 1957, BGBL III, at 422, § 6; for U.S. law, see, e.g., *McKernan Co. v. Gregory*, 623 N.E.2d 981, 1004 (Ill. App. Ct. 2d Dist. 1993)

application does not provide her with any claims of ownership in such cases. These similarities notwithstanding, the two legal systems conceptualize the right to be named as the inventor of a patent quite differently.

A. *Germany*

1. Historical Background

The right to be *named* as a patent inventor was not mentioned in the first German Patent Law of 1877. Moreover, this law did not even mention the inventor in its text, which might be explained by the fact that the industry had a strong lobby that could influence the legislator, while individual inventors were less able to do so.²⁷ Instead, it stipulated that the right to a patent would be given to the first person to file a patent application in the respective technology.²⁸ The background for this provision was an intensive debate as to whether patent protection was needed at all. Opponents of the idea of granting exclusive rights in inventions argued that such protection would hinder free market competition and bring more damage than benefit to the public. These voices grew somewhat weaker after the economic crisis of 1873, which put pressure on the proponents of completely unregulated markets; this allowed the introduction of a patent system, in line with the international trend at the time.²⁹ Yet, there was still a significant need to overcome the concerns raised against patent protection. Hence, the law was conceptualized as a regulation serving the public interest: a patent should be granted to the first applicant in order to stimulate inventors to disclose their inventions as quickly as possible, thus making them accessible to the public.³⁰

It is noteworthy that all previous drafts of the first patent law had granted the right in a patent to the inventor, rather than to the first applicant. Yet, scholars of that period perceived the difference between the two forms of protection as insignificant, since the inventor is usually in the best position to be the first to apply for a patent. This detail was regarded as negligible compared to the significant achievement of introducing a patent system to German law.³¹

Some German legal literature of that time justified patent protection by drawing on John Locke's labor theory of value: according to

("[I]nventions made by an employee 'employed to invent' are typically the property of the employer.")

27. See ARNDT FLEISCHER, *PATENTGESETZGEBUNG UND CHEMISCH-PHARAZEUTISCHE INDUSTRIE IM DEUTSCHEN KAISERREICH (1871–1918)*, at 41–96 (1984) (focusing in particular on the pharmaceutical and chemical industry).

28. Patentgesetz [PatG] [Patent Law], May 25, 1877, BGBL. I at 1, § 3.

29. ALEXANDER K. SCHMIDT, *ERFINDERPRINZIP UND ERFINDERPERSÖNLICHKEITSRECHT IM DEUTSCHEN PATENTRECHT VON 1877 BIS 1936*, at 11 (2009); FLEISCHER, *supra* note 27, at 82–85.

30. SCHMIDT, *supra* note 29, at 9–10.

31. *Id.* at 22–23.

this view, the inventor has a moral right to claim ownership over the fruits of his labor, because he mixes his body's work with matter, and the self-ownership of one's body translates into ownership in the goods one produces.³² This shows that the German and anglophone spheres of ideas were never separate universes. Others in Germany, however, drew on Immanuel Kant to argue that an invention is an expression of one's individuality, part of one's personality, and should therefore be protected as a primarily personal right with some economic aspects.³³ All legal scholars have acknowledged that the right of the inventor to be publicly recognized as such is a fundamental element of patent protection.³⁴

The legal literature perceived the legislator's choice to grant the patent to the first applicant as a procedural measure: while the substantial right in a patent belongs to its inventor, the applicant enjoys a presumption of inventorship.³⁵ This view was shared by the German Patent Office and the judicial practice.³⁶ And although the new Patent Law of 1891 again established that the patent right belongs to the first applicant, this did not bring about any change in the legal practice or literature, which both continued to ascribe the right to the inventor, and not to the first applicant.³⁷ Thus, although the letter of law proscribed a "first to file" system, in practice, the German Patent Office and the courts applied a "first to invent" rule.

Moreover, as early as 1882, the Supreme Court of the German Empire recognized the right of the inventor "to be recognized and protected in this capacity."³⁸ Consequent decisions confirmed that although this right was not mentioned in patent law, the "inventor's dignity" was protected by the general provisions of civil law.³⁹ The legal literature dealt extensively with the right to inventor's dignity and its legal significance, regarding it as an already recognized right

32. JOHN LOCKE, *THE SECOND TREATISE ON GOVERNMENT* (Richard Ashcraft ed., Routledge 1987) (1689). On Locke's reception in nineteenth-century Germany, see, e.g., Dieter Schwab, *Arbeit und Eigentum: Zur Theorie ökonomischer Grundrechte im 19. Jahrhundert*, in *GESCHICHTLICHES RECHT UND MODERNE ZEITEN* 509, 517–28 (Diethelm Kuppel ed., 1995); JOSEF KOHLER, *DEUTSCHES PATENTRECHT 7ff.* (Mannheim & Strasbourg, Vensheimer 1878); 1 RUDOLF KLOSTERMANN, *DAS GEISTIGE EIGENTUM AN SCHRIFTEN, KUNSTWERKEN UND ERFINDUNGEN* 8 (Berlin, Guttentag 1867). For a discussion, see SCHMIDT, *supra* note 29, at 18–19, 29–30.

33. See, e.g., OTTO GIERKE, *DEUTSCHES PRIVATRECHT* 702 (Leipzig, Duncker & Humblot 1895); Carl Gareis, *Das juristische Wesen der Autorrechte*, 35 *ARCHIV FÜR THEORIE UND PRAXIS DES ALLGEMEINEN DEUTSCHEN HANDELS- UND WECHSELRECHTS* 185, 187–89 (1877) For a discussion, see SCHMIDT, *supra* note 29, at 31–33.

34. SCHMIDT, *supra* note 29, at 37–38.

35. *Id.*

36. *Id.* at 38–43; Reichsgericht [RG] [Court of Justice] Oct. 23, 1880, 2 *ENTSCHEIDUNGEN DES REICHSGERICHTS IN ZIVILSACHEN* [RGZ] 137, 138–40 (1887).

37. SCHMIDT, *supra* note 29, at 47–55.

38. RG Apr. 25, 1882, 7 *RGZ* 52, 58, 60 (1882).

39. See, e.g., RG Jan. 30, 1886, *PATENTBLATT* 77, 87 (1887).

in German law.⁴⁰ It was suggested that this right protects inventors against attempts to cast doubt upon their inventorship or to illegitimately ascribe it to oneself.⁴¹ Yet, since patent documents identified only the applicant, many scholars and representatives of different industries repeatedly advocated amending the patent law so as to require explicitly naming the real inventor on patent applications.⁴² Interestingly, one of the arguments for the need to introduce such a rule was the right of later generations to remember and admire the real inventors of important technologies.⁴³ Another notable argument was that the recognition of inventorship would greatly stimulate inventive activity.⁴⁴

It is interesting to note that, notwithstanding this emphasis on inventorship, the Patent Law of 1877 recognized so-called corporate inventions (*Etablissementserfindungen*)—inventions that cannot be traced to any specific individual or group, but are achieved by the cumulative efforts of a company's employees.⁴⁵ In such cases, the company itself, rather than any particular individual or group of individuals, was regarded as “the inventor.” This is in contrast to American law, which has always demanded naming real persons as inventors, as will be discussed below. The recognition of “corporate inventions” in early German patent law might seem to run counter to the narrative of “inventor's dignity” described above.

Yet, in addition to being a result of industrial lobbying, as noted above, this might have to do with the more collectivist understanding of work in the German tradition, which envisions individuals as a part of a larger “whole,” in which they, ideally, find their right place and function in society.⁴⁶ The idea that an invention may sometimes be a collective rather than an individual endeavor can be understood along these lines. Early German law understood the notion of inventorship not necessarily in individualistic terms, as American law did, but rather assumed that invention can be made either by an individual or

40. See, e.g., Felix Dahn, *Reichspatentgesetz vom 25. Mai 1887 und seine Literatur*, KRITISCHE VIERTELJAHRESSCHRIFT FÜR GESETZGEBUNG UND RECHTSWISSENSCHAFT 345 (1878); Rudolf Klostermann, *Rezension von Josef Kohler, Deutsches Patentrecht*, JENAER LITERATURZEITUNG 397, 397–98 (1879); PAUL ALEXANDER-KATZ, *Das Recht des Erfinders*, POLYTECHNISCHES ZENTRALBLATT 211 (1896). For a discussion, see SCHMIDT, *supra* note 29, at 18–19, 29–30.

41. Oscar Schanze, *Der rechtliche Schutz der Erfinderehre*, 7 GEWERBLICHER RECHTSSCHUTZ UND URHEBERRECHT [GRUR] 65, 70ff. (1902). For a discussion, see SCHMIDT, *supra* note 29, at 65.

42. See SCHMIDT, *supra* note 29, at 60–73.

43. Friedrich Ruppert, *Technisches geistiges Eigentum, Erfindung und Patentierung*, 48 ZEITSCHRIFT DES VEREINS DEUTSCHER INGENIEURE 1686, 1688 (1904).

44. *Id.* See also SCHMIDT, *supra* note 29, at 62–63.

45. SCHMIDT, *supra* note 29, at 14, 41–42.

46. The paradigmatic expression of that picture can be found in Hegel's theory of the “corporations,” see G.W.F. HEGEL, *PHILOSOPHY OF RIGHT* §§ 250–256 (T.M. Knox trans. & ed., G. Bell 1942) (1820–1821). On the older guild tradition, see, e.g., ANTHONY BLACK, *GUILDS AND CIVIL SOCIETY IN EUROPEAN POLITICAL THOUGHT FROM THE TWELFTH CENTURY TO THE PRESENT* (1984).

by a collective body, such as a company. But in both cases, German law ascribed great importance to the right to be recognized as patent inventor.

Yet, when it came to *economic* rights, German jurisprudence showed much less willingness to protect inventors. Thus, as early as 1879, the German Patent Office held that, as a rule, an employee-inventor has no economic rights whatsoever in his invention; all such rights belong to the employer.⁴⁷ The Patent Office came to the conclusion that the employment contract in itself grants the employer rights in the invention, even if no contract clause addresses this issue. In 1883, the Supreme Court adopted this view, stating that even an invention made by an employee in his free time belongs to the employer.⁴⁸ Later decisions continued this line, holding that, in absence of a contractual clause stating otherwise, all economic rights in an employee's invention, including the right to register a patent, belong exclusively to the employer.⁴⁹ This judicial position slightly changed during the following years: courts started recognizing that economic rights to an invention initially belong to the inventor, but can be transferred to his or her employer by a contractual clause. Aware of this jurisprudence, employers usually made sure to include such provisions in labor contracts. Moreover, even in the absence of such provisions, courts readily assumed that employees implicitly consented to transfer the economic rights to their inventions to their employers. That is, the bottom line remained the same: all economic rights in inventions belonged to employers.⁵⁰

At the turn of the century, employees started to get organized into labor unions and other organizations. These organizations demanded that patents law be amended so that employee-inventors would receive economic compensation as well as recognition as inventors.⁵¹ These voices grew stronger over time. Naturally, industry spokespeople opposed the requirement of economic compensation to employee-inventors, arguing that it contradicted the freedom of contract and would be harmful to companies. By contrast, the need to introduce the right to be *named* and recognized as the inventor was univocally accepted.⁵² In 1913, the German government issued a new patent bill.⁵³ It granted patent rights to the inventor, while adding a procedural

47. Cited in SCHMIDT, *supra* note 29, at 42. On the ongoing struggles around the rejection of employee rights with regard to inventions, see also FLEISCHER, *supra* note 27, at 265–70 (discussing the phase of late empire).

48. Reichsgericht [RG] [Court of Justice], Oct. 29, 1883, PATENTBLATT 467, 468 (1883).

49. RG, Feb. 2, 1887, 4 PRAXIS DES REICHSGERICHTS IN CIVILSACHEN, no. 205, at 63 (1887). See also SCHMIDT, *supra* note 29, at 41–44.

50. SCHMIDT, *supra* note 29, at 68–69; FLEISCHER, *supra* note 27, at 257–59, 265–66.

51. SCHMIDT, *supra* note 29, at 69–76; FLEISCHER, *supra* note 27, at 267–74.

52. SCHMIDT, *supra* note 29, at 74–101.

53. Entwurf eines Patentgesetzes [Patent Law Bill], July 11, 1913, 162 ERSTE BEILAGE ZUM DEUTSCHEN REICHSANZEIGER UND KÖNIGLICH PREUSSISCHEN STAATSANZEIGER.

presumption that the applicant is the inventor.⁵⁴ Importantly, the bill introduced the right of the inventor to be named as such in patent documents.⁵⁵ By contrast, with regard to economic compensation of employee-inventors, the bill preserved freedom of contract, which practically meant that, as a rule, the inventions of an employee would belong to the employer.⁵⁶

Evaluating this bill, the Supreme Court expressed the view that granting the right to a patent to its inventor, the legislator only codified the existing legal rule: courts had consistently done so in their decisions. The Court noted that the public demand for introducing the right to be named as a patent inventor was so strong that the legislative decision to do so was unavoidable.⁵⁷ This bill never became a law, as the breakout of World War I, and then the German Revolution, undercut the legislative process.⁵⁸

The Revolution turned the German state from an empire to a republic. The new regime demanded many legislative changes, and a patent reform was not among the highest priorities. Yet, with growing demands from the public, in 1922, the German Patent Office changed its registration procedure so as to allow naming the inventor in patent applications.⁵⁹ In addition, the Revolution strengthened the position of labor unions, which managed to reach collective agreements with the employers, including agreements that granted employees a right to compensation for their inventions. However, employees' rights to their inventions were regarded as an aspect of labor law; hence, the collective agreements changed nothing with regard to patent rights.⁶⁰ Towards the end of the Weimar Republic, additional attempts to introduce a patent reform—with largely the same content as the bill of 1913—were made, but they failed because of the political instability of that time.⁶¹

Patent reform ultimately took place only in 1936, during the Nazi era. Indeed, protecting inventors was part of Hitler's agenda, which he had already mentioned in *Mein Kampf*,⁶² and repeatedly stated since then.⁶³ Hitler's idea was that inventions were the basis of mankind's cultural progress, and hence, that inventors were the benefactors of all people. For him, an invention was always the result of the creativity and skill of a single individual, never of the mass. Therefore,

54. *Id.* § 3.

55. *Id.* § 6.

56. SCHMIDT, *supra* note 29, at 114–16.

57. GUTACHTEN DES I. ZIVILSENATS DES REICHSGERICHTS ZUM ENTWURF EINES PATENTGESETZES (Alfred Hagens ed., 1914).

58. SCHMIDT, *supra* note 29, at 131–45.

59. *Id.* at 168–69.

60. *Id.* at 164–70.

61. *Id.* at 180–96.

62. 2 ADOLF HITLER, *MEIN KAMPF: DIE NATIONALSOZIALISTISCHE BEWEGUNG 195–96* (34th ed. 1935).

63. SCHMIDT, *supra* note 29, at 198–99.

inventors should be supported and promoted for the sake of nation as a whole.⁶⁴ At this point, the Nazi philosophy glorifying the individual over the masses interestingly echoed the Anglo-American individualistic approach, leading some historians to conclude that the German patent reform was influenced by the liberal Anglo-American model.⁶⁵ Either way, the idea of collective invention was perceived as a deeply anti-national-socialist and, accordingly, German patent law no longer protected “corporate inventions,” but only individual inventions.⁶⁶

It is worth noting that this glorification of the inventor as a hero was in line with a general cultural trend in the first decades of the twentieth century to celebrate “great men,” as opposed to “the masses.” It can be found in theories as diverse as José Ortega y Gasset’s gloomy predictions of *The Revolt of the Masses*,⁶⁷ Max Weber’s theory of “charismatic leadership,”⁶⁸ and Joseph Schumpeter’s account of entrepreneurship, which he saw as the driving force behind capitalist innovation.⁶⁹ To be sure, these figures play roles other than those of inventors; what these accounts have in common, however, is the assumption that history is moved forward by outstanding individuals who do not only happen to be in a certain time and place, but who have special gifts that others lack.

The objectives of the new patent law were written in a national-socialist spirit, emphasizing the importance of making inventors serve the German nation.⁷⁰ Many legal writers of that time argued that the inventor’s dignity rather than their economic benefits should now stand in the center of patent protection. Public recognition provides a greater stimulation than economic gain, they reasoned.⁷¹ As shown above, similar arguments have been expressed in legal literature since the times of the German Empire and cannot be attributed exclusively to Nazi influence. Yet, strangely enough, Nazi ideology did match the existing debate about inventor’s dignity and brought this issue to the foreground.

Notwithstanding its declared national-socialist objectives, the provisions of the Patent Law of 1936 did not significantly deviate from

64. HITLER, *supra* note 62, at 195–96.

65. See, e.g., KEEN GISPEN, POEMS IN STEEL: NATIONAL SOCIALISM AND THE POLITICS OF INVENTING FROM WEIMAR TO BONN 6 (2002).

66. *Id.* at 200; SCHMIDT, *supra* note 29, at 236–37.

67. JOSÉ ORTEGA Y GASSET, *THE REVOLT OF THE MASSES* (W.W. Norton 1994) (1930).

68. MAX WEBER, *THEORY OF SOCIAL AND ECONOMIC ORGANIZATION: AN OUTLINE OF INTERPRETIVE SOCIOLOGY* ch. 3 (Guenther Roth & Claus Wittich eds., Johannes Winkelmann trans., University of California Press 1952) (1922).

69. See in particular Joseph A. Schumpeter, *The Instability of Capitalism*, 38 *ECON. J.* 361 (1928).

70. Begründung zu den Gesetzen über den gewerblichen Rechtsschutz [Explanatory Memorandum to the Intellectual Property Laws], 42 *BLATT FÜR PATENT-, MUSTER- UND ZEICHENWESEN* 103 (1936).

71. GÜNTER HAUSTEIN, *DIE RECHTSSTELLUNG DES ERFINDERS NACH ALTEM UND NEUEM PATENTRECHT* 13 (1938); HANS MÖLLER, *KOMMENTAR ZUM PATENTGESETZ VOM 5. MAI 1936*, at 5 (1936); FRITZ LINDENMAIER, *DAS NEUE PATENTRECHT UND DIE RECHTSPRECHUNG* 215 (1938). See also SCHMIDT, *supra* note 29, at 232–33.

the previous bills—notably, the persons working on these provisions (rather than on the objectives, i.e., the declarative introductory part of the law) were largely the same individuals who worked on its previous versions. Importantly, the Patent Law of 1936 eventually codified the right of the inventor to receive patent rights and to be named as such in patent documents.⁷² This law is still in force and provides the basis for patent protection in Germany.

In addition to introducing the new patent law, the Nazi government also managed to put an end to the longstanding dispute about economic compensation for inventions made by employees. The dictatorial nature of the Third Reich allowed overcoming the persistent opposition by industry associations and enacting ordinances protecting inventors' economic rights.⁷³ Issued in 1942 and 1943, these ordinances established the inviolable right of employees to receive “appropriate compensation” for their inventions.⁷⁴ This regulation was rooted in the idea that the creative personality of an inventor must be protected against exploitation; providing a basic economic compensation, along with the right to be recognized as the inventor, would secure such a protection.⁷⁵ In 1957, the ordinances were replaced with the Act on Employees' Inventions, which provides the basis for an appropriate compensation of employee-inventors to this day.⁷⁶

2. The Current Legal Situation

In contemporary Germany, the right of a patent owner has a double nature: it is the property right to the economic benefits stemming from the invention and the personal right to the so-called inventor's honor (*Erfinderehre*), i.e., to a public recognition of one's inventorship.⁷⁷ The right to be named as a patent inventor is part of a more general “personality right” (*Persönlichkeitsrecht*), which has its basis in two basic human rights protected by German Basic Law⁷⁸: the right to human dignity and the right to free development of one's personality.⁷⁹ The

72. Patentgesetz [PatG] [Patent Law], May 5, 1936, RGBl II 1936 at 117, §§ 3, 36.

73. GISPEN, *supra* note 65, at 269–97.

74. *Id.* at 284ff.

75. SCHMIDT, *supra* note 29, at 200, 224–25.

76. Gesetz über Arbeitnehmererfindungen [ArbnErfG] [Law of Employee's Inventions], July 25, 1957, BGBL III at 422, §§ 6, 16. For a discussion, see GISPEN, *supra* note 65, at 287ff.

77. SCHMIDT, *supra* note 29, at 1.

78. The German Basic Law functions as the German Constitution; it had been named “Basic Law” during the era of the division into two German states, but was not renamed as “Constitution” at reunification. See GRUNDGESETZ [GG] [BASIC LAW], translation at www.gesetze-im-internet.de/englisch_gg/index.html.

79. GG arts. 1(1), 2(1); Bundesverfassungsgericht [BVerfG] [Federal Constitutional Court], Dec. 15, 1983, NEUE JURISTISCHE WOCHENSCHRIFT [NJW] 419 (1984); Bundesgerichtshof [BGH] [Federal Court of Justice], June 20, 1978, GEWERBLICHER RECHTSSCHUTZ UND URHEBERRECHT [GRUR] 583 (1978) (*Motorzettensäge*); BGH, Sept. 21, 1993, GRUR 104 (1994) (*Akteneinsicht XIII*); BGH, Dec. 9, 2003, GRUR 272 (2004) (*Rotierendes Schaftwerkzeug*); Landgericht Düsseldorf [LG Düsseldorf] [Düsseldorf Regional Court], Oct. 13, 2016, 4 a O 23/16, BECK-ONLINE RECHTSPRECHUNG [BECKRS] 122,224 (2016).

right to be named as the inventor is perceived as a natural right that emerges from the creative act of invention itself.⁸⁰ The *raison d'être* of this right is the protection of the *Erfinderehre*, her legitimate interest in the recognition of her creative achievement.⁸¹ Thus, the Supreme Court of Germany noted: “The inventor can demand to be named as such when the invention is published. In this way, the law acknowledges the legitimate interest of the inventor in recognition of his creative achievement.”⁸² German jurisprudence and legal literature perceive the right to be named as the inventor to be a right of a highly personal nature, a right that protects an “ideal,” rather than economic, interest.⁸³ This right is absolutely inalienable: it can never be sold, assigned, or given up.⁸⁴ A contractual clause attempting to transfer the right to be named as the inventor is void.⁸⁵ Inventorship is seen as a real act, not as a legal relationship. Hence, it cannot emerge or change by means of a contractual clause.⁸⁶

The right to be named as the inventor exists independently of property rights and other economic rights in a patent. Hence, even if the inventor has sold or otherwise lost all her economic rights in a patent, she may always demand to be named as the inventor of that patent.⁸⁷ Thus, for instance, an employee, whose inventions belong to her employer and who is not entitled to any economic benefits associated with a patent in her invention, may nevertheless demand to be named as the inventor of such a patent.⁸⁸ Similarly, an inventor can demand removing the names of people incorrectly named as co-inventors, even if such a move will bring her no economic gain. This is because the inventor's honor decreases with the increasing number of co-inventors.⁸⁹ Finally, the right to be named as the inventor persists even after the patent expires.⁹⁰

The right to be named as the inventor of a patented technology extends beyond the context of patent registration, into areas in which

80. *Motorzettensäge*, BGH, June 20, 1978, GRUR; BGH, Oct. 24, 1978, GRUR 145 (1979) (*Aufwärmvorrichtung*); *Akteneinsicht XIII*, BGH, Sept. 21, 1993, GRUR.

81. BGH, Apr. 30, 1968, GRUR 133 (1969) (*Luftfilter*); Bundespatentgericht [BPatG] [Federal Patent Court], Apr. 6, 1984, GRUR 646 (1984) (*Erfinder-Nachbenennung*); LG Düsseldorf, Oct. 13, 2016.

82. BGH, Dec. 9, 2003, GRUR 272 (2004) (*Rotierendes Schaftwerkzeug*).

83. Robert Schnekenbühl in: *Patentrecht*, 8th ed. 2018, § 63 recital 3 (Ger.); *Patentgesetz*, *supra* note 23, § 63 secs. 1–5; *Motorzettensäge*, BGH, June 20, 1978, GRUR.

84. *Patentgesetz* [PatG] [Patent Act], Dec. 16, 1980, DAS BUNDESGESETZBLATT [BGBL.] I at 1, § 63(1). For a discussion, see sources cited *supra* note 83.

85. See sources cited *supra* note 83.

86. Landgericht Nürnberg-Fürth [LG Nürnberg-Fürth] [Nürnberg-Fürth Regional Court], Oct. 25 1967, GRUR 252, 254 (1968) (*Soft-Eis*).

87. BGH, Dec. 9, 2003, GRUR 272 (2004) (*Rotierendes Schaftwerkzeug*). To be sure, non-financial rights can sometimes lead to indirect financial benefits, as discussed in the next subsection in the context of U.S. law.

88. *Id.*; *Soft-Eis*, LG Nürnberg-Fürth, Oct. 25 1967, GRUR at 253.

89. Bundespatentgericht [BPatG] [Federal Patent Court], Apr. 6, 1984, GRUR 646, 647 (1984) (*Erfinder-Nachbenennung*).

90. LG Düsseldorf, Oct. 13, 2016, *GEWERBLICHER RECHTSSCHUTZ UND URHEBERRECHT IN DER PRAXIS* [GRUR-PRAXIS] 306 (2017).

something like the “professional honor” or the status of individuals as eminent scientists and inventors might be at stake. Thus, in one case, an article in a professional journal described one person as “the first who, in the end of 1990s, modified the offset machine so as to allow applying cold foil.”⁹¹ The article described this technology as highly innovative and described the individual whom it credited with inventorship as “the pioneer of cold stamping.” In fact, however, this technology had been invented by another person, who had obtained a patent for this invention—a patent that had already expired by the time the article was published. The real inventor sued the journal, and the court held that the article infringed his personality right and his legitimate right to recognition of his inventorship. The fact that the patent had already expired was of no importance in this context.⁹² In another case, the court held that the question of whether the inventor should be named in the context of a technical exhibition displaying the invention depends on the customs in the specific field.⁹³ In other words, if it is common to name the inventor in this context, the personality right of the patent owner would secure the right to a credit at a technical exhibition.⁹⁴

Another indication of the highly personalized understanding of the right to be recognized as inventor can be deduced from the fact that in Germany, nobody but the inventor may file a suit to establish inventorship in a patent. An economic interest of a party to prove inventorship does not grant a right to sue, even if the inventor has authorized another person to do so. Because of the highly personal nature of this right, only the inventor herself may file such a suit, in her own name.⁹⁵

It should be noted that the right to be named as inventor does not stand alone in the German legal landscape. Like other continental European countries, Germany generally recognizes so-called moral rights in the context of intellectual property. These rights are distinct from economic rights in non-material assets; they are derived from a vision, which has roots in German idealism,⁹⁶ of work as a creative expression of one’s personality. These rights secure a certain control over

91. *Id.* at 306.

92. *Id.*

93. BGH, Mar. 17, 1961, GRUR 470 (1961) (*Mitarbeiter-Urkunde*).

94. For a discussion, see Kurt Ehlers, *Kann ein Erfinder die Nennung seines Namens auch bei anderen als den amtlichen Veröffentlichungen über die Erfindung verlangen?*, GRUR 359 (1950); Patentgesetz, *supra* note 23, § 63 recitals. 1–5.

95. BGH, June 20, 1978, GRUR 583 (1978) (*Motorzettensäge*).

96. See, e.g., Chintan Amin, *Keep Your Filthy Hands Off My Painting! The Visual Artists Rights Act of 1990 and the Fifth Amendment Takings Clause*, 10 FLA. J. INT’L L. 315, 317 (1995) (“Droit moral, or moral rights, derive from continental European notions of personality based on the writings of Georg Wilhelm Friedrich Hegel.”); Sarah Louise Rector, *A Training Ground for Contemporary Art: Massachusetts Museum of Contemporary Art v. Büchel’s Overly Broad Exclusion of Artistic Collaborations*, 81 U. COLO. L. REV. 579, 585 (2010) (“Immanuel Kant and George Wilhelm Friedrich Hegel created the foundation for moral rights by developing a ‘personhood theory’ about property.”).

one's creative work even if the economic rights in this work no longer belong to its creator. Moral rights find their most prominent expression in the field of copyright, or, to use the continental European term, "author's rights." Traditionally, the spiritual connection between an author and her creation is considered most intense and, therefore, as giving rise to comprehensive legal protection.⁹⁷ Accordingly, authors of creative works are entitled to a strong protection of their right to attribution (the right to be acknowledged as creators of their work) and the right to integrity (the right to object modifications of their creations).⁹⁸

Patent law does not provide inventors with comparably strong moral rights. Yet, the right to be named as the inventor, although much narrower in scope,⁹⁹ is based on the same rationale as the author's right to attribution.¹⁰⁰ In other words, in German law the right to be named as the inventor is part of a larger legal vision about the need to ensure that creators of intellectual assets are appropriately credited for their works. This coheres with notions of "calling" and "professional honor" that have a strong resonance in the German intellectual traditions and that make more sense in a "coordinated" than in a "liberal" market economy, because in the former individuals stay within their jobs for longer periods and hence tend to identify more with them.¹⁰¹ The inalienable right of employees to an appropriate economic compensation for their inventions—owned by the employers—complements the protection of professional dignity of the workers.¹⁰² In the United States, in contrast, the human individual is often less visible in market processes; what matters are the financial assets that individuals own.¹⁰³ Hence, what matters for the flexible individuals of "liberal" market economies is that they have portable assets, including ownership in patents, as is indeed the case in U.S. law, which we discuss below.

One can also draw a connection to the influential strand of German philosophical thinking, stemming from Hegel and represented, in recent years, by Axel Honneth and others, that focuses on "recognition" as a central category of social life.¹⁰⁴ A central theme in this tradition

97. This view has been challenged in literature: *see, e.g.*, John T. Cross, *An Attribution Right for Patented Inventions*, 37 U. DAYTON L. REV. 139 (2012).

98. *See, e.g.*, FRANCIS J. KASE, *COPYRIGHT THOUGHT IN CONTINENTAL EUROPE* 8 (1971).

99. Unlike copyright law, patent law does not provide a right to integrity, that is, protection against modifications of the invention. In addition, the right to attribution is narrower in scope, there are limited contexts that require naming the inventor while making use of his or her invention: *see* BGH, Mar. 17, 1961, GRUR 470 (1961) (*Mitarbeiter-Urkunde*).

100. *See* SCHMIDT, *supra* note 29, at 1 (explaining that the rationale of this right is protecting the inventor's dignity, her right to public recognition).

101. *See also* HERZOG, *supra* note 11, ch. 4.

102. SCHMIDT, *supra* note 29, at 200, 224–25.

103. *See also* Katya Assaf-Zahkarov & Lisa Herzog, *Work, Identity, and the Regulation of Markets: A Study of Trademark Law in the U.S. and Germany*, 44 LAW & SOC. INQUIRY 1083 (2019).

104. *See in particular* AXEL HONNETH, *THE STRUGGLE FOR RECOGNITION: THE MORAL GRAMMAR OF SOCIAL CONFLICTS* (1996).

is the challenge of creating the social—including legal—conditions in which the recognition that individuals are owed can be put on a secure footing. From the perspective of a logic of recognition, it appears completely natural that inventors would seek recognition for their contributions by having their names legally validated, and by being able to exclude others from unjustified recognition, if necessary, by legal means. The basic assumption here is that there are certain moral rights that a person can expect others to respect and which can be claimed by legal means, apart from any material considerations.

B. *United States*

1. Historical Background

The United States became an independent country during the Industrial Revolution, when the appreciation of the inventive genius was high. From early on, U.S. political leaders lauded inventorship and regarded it as one of the core values of the American culture. Thus, in 1790, in his State of the Union Address, George Washington stated:

The advancement of agriculture, commerce and manufactures by all proper means, will not, I trust, need recommendation; but I cannot forbear intimating to you the expediency of giving effectual encouragement as well to the introduction of new and useful inventions from abroad, as to the exertions of skill and genius in producing them at home.¹⁰⁵

The idea that inventive activity must be encouraged by economic incentives has deep roots in American political thought. In 1791, Alexander Hamilton wrote: “[t]he propriety of stimulating by rewards, the invention and introduction of useful improvements, is admitted without difficulty.”¹⁰⁶ Reflecting this insight, the U.S. Constitution explicitly empowers the Congress to “promote the Progress of . . . useful Arts, by securing for limited Times to . . . Inventors the exclusive Right to their respective . . . Discoveries.”¹⁰⁷ The inclusion of this provision in the country’s Constitution is compelling evidence of the great importance the founding fathers of the United States ascribed to inventive activity and, importantly, to the need to provide *economic* incentives for this activity.¹⁰⁸

105. George Washington, President, State of the Union Address (Jan. 8, 1790) (transcript available at www.presidency.ucsb.edu/ws/index.php?pid=29431).

106. Alexander Hamilton, *Report on Manufactures*, in 3 THE FOUNDERS’ CONSTITUTION 41 (Philip B. Kurland & Ralph Lerner eds., 1987).

107. U.S. CONST. art. I, § 8, cl. 8. For a discussion, see Edward C. Walterscheid, *To Promote the Progress of Science and Useful Arts: The Background and Origin of the Intellectual Property Clause of the United States Constitution*, 2 J. INTELL. PROP. L. 1, 2 (1994).

108. At least this holds if this activity was carried out by individuals who were considered citizens—not if they were slaves in the Antebellum South. In 1858, the

American views on patents have always tended to utilitarian thought, which focuses on the public interest in technological development, rather than on the interests of particular inventors, as the main *raison d'être* of patent protection.¹⁰⁹ In fact, during the nineteenth and early twentieth century, intellectual property rights were still quite controversial, because it was not clear whether they would benefit an economy that was trying to catch up with Europe.¹¹⁰ The orientation towards public interest was prominent among those who saw patent rights as justified. Thomas Jefferson described patent right as “given not of natural right, but for the benefit of society.”¹¹¹

The ethos of invention is deeply ingrained in American culture and in its self-image as a technologically progressive and innovating nation. For instance, in his 1896 travel book *The Innocents Abroad*, Mark Twain described the immense satisfaction of giving “birth to an idea—to discover a great thought,” and calls this delight “noble,” hinting to the inventor’s responsibility towards society.¹¹² Similarly, in his famous “Lecture on Discoveries and Inventions” in 1858, Abraham Lincoln remarked:

The human family originated as is thought, somewhere in Asia, and have worked their way principally Westward. Just now, in civilization, and the arts, the people of Asia are entirely behind those of Europe; those of the East of Europe behind those of the West of it; while we, here in America, think we discover, and invent, and improve, faster than any of them.

...

[T]he Patent laws . . . began in . . . this country with the adoption of our constitution. Before then, any man might instantly

infamous “Invention of a Slave” opinion was published by Attorney General Jeremiah S. Black, banning enslaved African Americans from the patent system. For the historical details and the history of the reception of this opinion, especially among scholars of color, see Kara W. Swanson, *Race and Selective Legal Memory: Reflections on Invention of a Slave*, 120 COLUM. L. REV. 1077 (2020).

109. Alongside this tendency, there has always been dissenting views: see, e.g., Adam Mossoff, *Who Cares What Thomas Jefferson Thought About Patents? Reevaluating the Patent “Privilege” in Historical Context*, 92 CORNELL L. REV. 953 (2007); Jeremy N. Sheff, *Jefferson’s Taper*, 73 SMU L. REV. 299 (2020). The situation of copyright is similar: utilitarian arguments overshadow considerations of creativity or intrinsic motivation. For a discussion, see, e.g., Roberta Rosenthal Kwall, *Inspiration and Innovation: The Intrinsic Dimension of the Artistic Soul*, 81 NOTRE DAME L. REV. 81 (2006).

110. KATHARINA PISTOR, *THE CODE OF CAPITAL: HOW THE LAW CREATES WEALTH AND INEQUALITY* 121 (2019).

111. Letter from Thomas Jefferson to Isaac McPherson (Aug. 13, 1813) (transcript available at <https://founders.archives.gov/documents/Jefferson/03-06-02-0322>). For discussion of Jefferson’s influence on the U.S. patent system, see Edward C. Walterscheid, *Patents and the Jeffersonian Mythology*, 29 J. MARSHALL L. REV. 269 (1995). *But see* Mossoff, *supra* note 109; Sheff, *supra* note 109 (both pointing out non-utilitarian elements in Jefferson’s views on patents).

112. MARK TWAIN, *THE INNOCENTS ABROAD* ch. 26 (Connecticut, Am. Publ’g Co. 1869).

use what another had invented; so that the inventor had no special advantage from his own invention. The patent system changed this; secured to the inventor, for a limited time, the exclusive use of his invention; and thereby added the fuel of interest to the fire of genius, in the discovery and production of new and useful things.”¹¹³

This shows the high regard for inventors as benefactors of society. Reflecting this view, U.S. law, unlike its German counterpart, has given patent rights to the inventor right from the start, stipulating that if the patentee turns out not to be “the first and true inventor or discoverer,” the patent should be rendered invalid.¹¹⁴ True to its individualistic spirit, U.S. law has never recognized “corporate inventions,” and always demanded that each invention be attributed to a specific individual or individuals. The earliest reported cases that dealt with the question of inventorship date back to the 1840s.¹¹⁵ The figure of the inventor as a heroic genius was prevalent in the legal practice of that time.¹¹⁶ Courts regarded the question of inventorship as naturally synonymous with the question of ownership. Thus, in the context of employment relations, in a sharp contrast to Germany, the employers were not entitled to property rights in patents invented by their employees. An employer could claim patent rights only when he could prove that notwithstanding the employee’s involvement in research, he was, as a matter of fact, the first and true inventor.¹¹⁷

The only rights employers could receive in the invention of their employees were based on the equity doctrine of estoppel: if the inventor had already allowed his employer to use the invention, the inventor was estopped from suing him for patent infringement.¹¹⁸ This position gradually changed towards the end of the nineteenth century. As technologies became increasingly complex and inventions required considerable financial investments, courts started recognizing the right of the employer to use the invention of his employee based on the employer’s financial and material support during the invention

113. Abraham Lincoln, Lecture on Discoveries and Inventions (Apr. 6, 1858) (transcript available at www.abrahamlincolnonline.org/lincoln/speeches/discoveries.htm). It goes without saying that we do not endorse the racist dimension of this quote.

114. Patent Act of 1790, 1 Stat. 109, § 5 (Apr. 10, 1790).

115. Catherine Fisk, *Removing the “Fuel of Interest” from the “Fire of Genius”: Law and the Employee-Inventor, 1830–1930*, 65 U. CHI. L. REV. 1127, 1137–38 (1998).

116. *Id.* at 1137–38; Mark D. Janis, *Patent Abolitionism*, 17 BERKELEY TECH. L.J. 899, 910–22 (2002).

117. *See, e.g.*, *Teese v. Phelps*, 23 F. Cases 832, 834 (Cir. Ct. N.D. Cal. 1855); *Alden v. Dewey*, 1 F. Cases 329, 330 (Cir. Ct. D. Mass. 1840). *See also* Fisk, *supra* note 115, at 1140–41.

118. *See, e.g.*, *McClurg v. Kingsland*, 42 U.S. (1 How) 202 (1843); *Chabot v. American Button-Hole & Overseaming Co.*, 5 F. Cases 389 (Cir. Ct. E.D. Pa. 1872); *Wilkins v. Spafford*, 29 F. Cases 1242 (Cir. Ct. D. Mass. 1878). *See also* Fisk, *supra* note 115, at 1143–50.

process, rather than the employee's consent.¹¹⁹ Yet, employers could claim no more than a right to a license to use the technology, but by no means an ownership right to a patent.¹²⁰ At times, employers attempted to claim ownership rights to patents, arguing that the employees were specifically hired to invent the technologies in question. Courts routinely dismissed such claims, unless they found the employers, rather than the employees, to be the real inventors.¹²¹

Moreover, judicial decisions of that period were averse to the idea of an employee contractually assigning property rights in his future inventions to the employer. Thus, one court noted: "A naked assignment or agreement to assign,—in other words, a mortgage on a man's brain, to bind all its future products,—does not address itself favorably to our consideration."¹²² Accordingly, courts refused to recognize such an assignment in the absence of a clear written contractual clause; and even if such a clause existed, they interpreted it remarkably narrowly.¹²³ The reason for this hostility was the firm judicial conviction that patent rights should belong to the inventor. As one court explained, "the law inclines so strongly to the rule that the invention shall be the property of its inventor, that nothing short of a clear and specific contract to that effect will vest the property of the invention in the employer, to the exclusion of the inventor."¹²⁴ It is interesting to note that, unlike German law, which established the inalienability of the *personal* right to be named as the inventor, early American cases tended to limit the alienability of the *economic* property rights in future inventions. Apparently, the idea that financial incentives were crucial for fueling inventiveness was central to the judges' thinking in the United States, whereas questions about non-material rights did not play any role. Notably, at this stage, such non-material issues were also rather unlikely to arise. Conflicts around the question of inventorship recognition usually arise when patent does not belong to the inventor of the technology. Hence, as long as patents were mostly granted to their inventors, there was no practical need to deal separately with the question of inventorship and recognition.

During the first half of the twentieth century, the judicial position on employees' inventions underwent a gradual change. The growing

119. See, e.g., *Dempsey v. Dobson*, 174 Pa. 122, 34 A 459 (1896); *Dempsey v. Dobson*, 184 Pa. 588, 39 A 493 (1898). See also *Fisk*, *supra* note 115, at 1151–64.

120. *Fisk*, *supra* note 115, at 1151–64.

121. See, e.g., *Solomons v. United States*, 137 U.S. 342 (1890); *Barber v. Nat'l Carbon Co.*, 129 F. 370 (6th Cir. 1904); *Am. Circular Loom Co. v. Wilson*, 198 Mass. 182, 84 NE 133 (1908). See also *Fisk*, *supra* note 115, at 1163–74.

122. E.g., *Aspinwall Mfg. Co. v. Gill*, 32 F. 697, 700 (Cir. Ct. D. N.J. 1887). See also *Fisk*, *supra* note 115, at 1185–91.

123. See, e.g., *Hopedale Mach. Co. v. Entwistle*, 133 Mass. 443 (1882); *Hale & Kilburn Mfg. Co. v. Norcross*, 199 Pa. 283, 49 A 80 (1901). See also *Fisk*, *supra* note 115, at 1185–91.

124. *Joliet Mfg. Co. v. Dice* 105 Ill. 649, 651–52 (1883). See also *Fisk*, *supra* note 115, at 1190.

systematization of work ultimately weakened the dominance of the sole genius-inventor figure on the legal scene, giving way to a new notion of invention as a corporate activity. Courts increasingly recognized and enforced agreements assigning rights in the employee's future inventions to the employer.¹²⁵ They started acknowledging that employees are sometimes hired to engage in inventive activity, in which case they should assign their patent rights to the employing firm.¹²⁶ Judges closely examined employment relations to decide whether the inventing activity in question was an integral part of the employee's duties.¹²⁷ Embracing the new commercial reality, they explained that the corporation gives individuals the opportunity to invent, and that without corporate investment, many inventions would be impossible. Hence, public interest in technological progress would be best served by protecting the corporate investment by granting the corporate employer ownership in patents.¹²⁸

This judicial tendency grew stronger over time, along with the commercial practice to draft employment contracts in ways that ascribe all the rights in employee's inventions to employers.¹²⁹ Even in the absence of a specific clause, today's courts sometimes conclude that the labor contract includes an implied consent to transfer the rights in an employee's inventions to the employer.¹³⁰ Yet, without such an implied or explicit consent, the general rule remains that a "patented invention vests first in the inventor"—that is, the inventor, even an employee, is the first owner of the invention.¹³¹ At this point, U.S. law seems to protect inventors more generously than German law does, demanding greater evidence of intention to assign economic rights to the employer before concluding that an employee has waived such rights. On the other hand, German law recognized inventors' inalienable right to an appropriate compensation *even if they did not own the patent*, something American law never did.

All in all, the American discourse of inventor's rights predominantly revolves around the economic right to *own* patents. Indeed, the historical admiration of inventors resulted in a long period of unequivocal recognition of the inventors' property rights in patents.

125. See, e.g., *Miss. Glass Co. v. Franzen*, 143 F. 501 (3d. Cir. 1906); *Nat'l Wire Bound Box Co. v. Healy*, 189 F. 49 (7th Cir. 1911); *Brown Perfection Tube Co. v. Brown*, 233 F. 676 (2d. Cir. 1916). See also Fisk, *supra* note 115, at 1191–97.

126. See, e.g., *Wireless Specialty Apparatus Co. v. Mica Condenser Co.*, 239 Mass. 158 (1921); *Dowse v. Fed. Rubber Co.*, 254 F. 308 (N.D. Ill. 1918). Fisk, *supra* note 115, at 1174–80.

127. See sources cited *supra* note 126. See also *Detroit Testing Lab'y v. Robison*, 221 Mich. 442 (1922).

128. See, e.g., *Hulse v. Bonsack Mach. Co.*, 65 F. 864 (4th Cir. 1895). See also Fisk, *supra* note 115, at 1192–93.

129. Fisk, *supra* note 115, at 1192–94.

130. See, e.g., *Keller v. Clark Equip. Co.*, 1981 WL 40526 (D.N.D. Mar. 30, 1981), *aff'd*, 715 F.2d 1280 (8th Cir. 1983); *Teets v. Chromalloy Gas Turbine Corp.*, 38 U.S.P.Q.2d 1695 (Fed. Cir. 1996).

131. *Stan. Univ. v. Roche Molecular Sys., Inc.*, 563 U.S. 776 (2011).

Hence, for quite a long time, the issue of being named as patent inventor did not arise. The U.S. experience is thus very different from the German one, since in Germany the question of patent ownership and the right to be named as a patent inventor were discussed separately from the very beginning, and great significance was ascribed to the right to be recognized as the inventor. One possible explanation is that German law might be driven by an implicit assumption that non-material recognition has, in the end, material implications, for example because the social standing as inventor leads to indirect benefits. Another explanation is that there is a background assumption that issues such as patent protection simply have two dimensions, material and non-material, *both* of which deserve attention and legal protection. The importance of non-material personal rights, which we have discussed earlier, points in the latter direction.

2. Contemporary Legal Situation

In today's U.S. law, the right to be named as a patent inventor might, in theory, have great relevance, since most of the patents are owned by corporations rather than inventors.¹³² Yet, it was not until the 1990s that cases involving individuals who did not have any economic rights in the patents in question, but wished to be appropriately credited as their inventors, came before courts.¹³³ The almost complete lack of a notion of moral rights in U.S. intellectual property law, combined with the constitutional doctrine that legal proceedings need to turn around an "injury in fact" led American courts to conceive the right to be named as inventor in a very different way than it is regulated in Germany.

Famously, the issue of moral rights is a major point on which American law fundamentally differs from its continental European counterparts. Traditionally, American law recognizes no moral rights in the field of intellectual property.¹³⁴ U.S. intellectual property law does not share the vision of creation as an expression of one's personality. Rather, it is based on a utilitarian logic that imagines intellectual property as a bargain, whereas the authors and inventors receive short-term exclusive rights in their creations in exchange for the

132. See U.S. Patent & Trademarks Off., Patenting by Organizations (Utility Patents) (2015), www.uspto.gov/web/offices/ac/ido/oeip/taf/topo_15.htm (93.4% of the patents granted in 2015 belong to corporations).

133. The first cases we were able to trace date to the late 1990s: *Fina Oil & Chem. Co. v. Ewen*, 123 F.3d 1466, 1471 (Fed. Cir. 1997); *Univ. of Colorado Found., Inc. v. Am. Cyanamid Co.*, 196 F.3d 1366 (Fed. Cir. 1999); *Kucharczyk v. Regents of Univ. of Cal.*, 48 F. Supp. 2d 964 (N.D. Cal. 1999).

134. See, e.g., Brian T. McCartney, *Creepings and Glimmers of the Moral Rights of Artists in American Copyright Law*, 6 UCLA ENT. L. REV. 35, 35–37 (1998). For a discussion, see Thomas F. Cotter, *Pragmatism, Economics, and the Droit Moral*, 76 N.C. L. REV. 1 (1997).

long-term contribution these creations make to the public domain.¹³⁵ These exclusive rights provide an economic incentive to create and invent, thereby enriching society as a whole.¹³⁶ The traditional U.S. legal view holds that, as far as the interests protected by moral rights are important to a particular author, she would be able to secure them by contractual terms.¹³⁷ The European idea of inalienable author's rights that cannot be sold at any price is strongly dissonant with the U.S. utilitarian vision of intellectual property.¹³⁸ Describing this difference, James Boyle notes: "In the United States, the framers of the Constitution, the legislature, and the courts have chosen to arrange things otherwise. In copyright, patent, and trademark law—despite occasional deviations—they have embraced the utilitarian view instead."¹³⁹

This discrepancy in legal perceptions was one of the reasons why the United States refused to join the most important international copyright treaty—the Berne Convention¹⁴⁰—for more than a century.¹⁴¹ Only after joining Berne, in 1988, did the United States provide authors with moral rights, but only in the field of visual arts, according to Berne's imperative.¹⁴² Yet, no similar international obligation exists in the field of patents. And, as the history of moral rights for authors demonstrates, an inventor's moral right to credit would be inconsistent with the American philosophy of intellectual property, which recognizes moral rights only where it could not avoid doing so in order to join the Berne Convention.

Today's U.S. patent law, similarly to its first patent law and to its German counterpart, requires to name the "original and the first"

135. See, e.g., *Dastar Corp. v. 20th Century Fox Film Corp.*, 539 U.S. 23, 33–34 (2003) ("The rights of a patentee or copyright holder are part of a 'carefully crafted bargain' under which, once the patent or copyright monopoly has expired, the public may use the invention or work at will and without attribution."). In contrast, moral rights are based on the Hegelian or personality theory of creation, which underlies European copyright law, in contrast to the utilitarian bargain set out in the United States Constitution: see, e.g., Cotter, *supra* note 134; Rector, *supra* note 96, at 586–87.

136. See, e.g., David Fagundes & Jonathan S. Masur, *Costly Intellectual Property*, 65 *VAND. L. REV.* 677, 678 (2012).

137. Indeed, even the limited moral rights that U.S. law recognizes today are entirely transferrable: 17 U.S.C. § 106A (1990).

138. Katharina Pistor sees intellectual property rights, understood along U.S. lines, as one of the ways in which legal code turns (material or immaterial) assets into capital in order to earn profit. As she argues, there has been a tendency in recent years to try to expand the scope of intellectual property rights protection, in order to earn money over a longer period of time. This upsets the balance that the original idea of intellectual property rights—an exclusive right to usage in exchange for disclosure of new ideas—attempted to struck (see PISTOR, *supra* note 110, esp. ch. 5).

139. JAMES BOYLE, *THE PUBLIC DOMAIN: ENCLOSING THE COMMONS OF THE MIND* 27 (2008). For dissenting views, see Mossoff, *supra* note 109; Sheff, *supra* note 109; Kwall, *supra* note 109.

140. Berne Convention for the Protection of Literary and Artistic Works, Sept. 9, 1886, 331 U.N.T.S. 217.

141. Instead, it joined Universal Copyright Convention, Sept. 6, 1952, 25 U.S.T. 1341, T.I.A.S. No. 7868. This convention did not require the protection of moral rights.

142. Visual Artists Rights Act of 1990, 17 U.S.C. §§ 101*f*.

inventor.¹⁴³ This might lead to the conclusion that, in spite of the different legal philosophies, American inventors enjoy a similar right to credit as their German counterparts do. Indeed, several scholars have expressed the view that U.S. patent law protects the inventor's moral right to be named as such.¹⁴⁴ Yet, as described above, the historical background of the U.S. provision is the idea that a patent should belong to its inventor, rather than a notion that inventors deserve recognition. Indeed, a closer look reveals the vastly different nature of the right to be named as a patent inventor in the two countries.

The nature of the American right to be named a patent inventor can best be understood from cases dealing with the right of standing. While in Germany a person seeking to establish her status as a patent inventor has never been denied standing, in the United States, standing requirements present a massive hurdle for inventors pursuing recognition.

Article III of the U.S. Constitution grants the courts judicial power over "controversies." Legal practice has interpreted this as a requirement of a conflict involving a (potential) "injury in fact," which may be redressed by a favorable judicial decision. Without such an injury, there is no actual "controversy" in the sense of Article III and, consequently, no judicial power to decide the case.¹⁴⁵ Put differently, in all fields of U.S. law, a party seeking judicial relief must show a (potential) "injury in fact" that may be prevented or redressed by the court. Otherwise, the party does not have standing to sue.¹⁴⁶

Thus, although U.S. law has detailed rules and extensive legal practice on correcting inventorship,¹⁴⁷ the right of standing can bar an unnamed inventor from bringing an action if she fails to point out an injury that she would suffer should she not be named. Importantly, and in contrast to their German counterparts, U.S. courts understand such an injury purely in terms of economic loss. They consistently deny standing to inventors seeking to correct patent documents that fail to name them when the inventors have no ownership or other

143. 35 U.S.C. § 115 ("The applicant shall make oath that he believes himself to be the original and the first inventor of the process, machine, manufacture, or composition of matter, or improvement thereof, for which he solicits a patent.")

144. See *supra* note 7.

145. See, e.g., *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560–61 (1992) ("Over the years, our cases have established that the irreducible constitutional minimum of standing contains three elements. First, the plaintiff must have suffered an 'injury in fact'—an invasion of a legally protected interest which is (a) concrete and particularized . . ."); *Nat. Res. Def. Council, Inc. v. U.S. E.P.A.*, 25 F.3d 1063, 1067 (D.C. Cir. 1994); *Maryland Rt. to Life State Pol. Action Comm. v. Weathersbee*, 975 F. Supp. 791, 794 (D. Md. 1997).

146. See sources cited *supra* note 145.

147. See, e.g., *Canon Comput. Sys., Inc. v. Nu-Kote Intern., Inc.*, 134 F.3d 1085, 1089 (Fed. Cir. 1998); *Trovan, Ltd. v. Sokymat SA, Irori*, 299 F.3d 1292, 1301 (Fed. Cir. 2002).

economic rights in the respective patents.¹⁴⁸ An inventor who does not have property rights in a patent will be typically unable to claim her right to be named as the inventor before a court.¹⁴⁹ Conversely, the owner of a patent, and even a licensee, always has standing to demand adding or removing inventors, since these changes typically affect economic interests.¹⁵⁰ Similarly, in a case of bankruptcy, only the trustee has standing to claim a patent inventorship of the bankrupt inventor, whereas the inventor herself lacks such standing.¹⁵¹

The case may be different if a contractual agreement grants the inventor economic benefits, such as a share of patent royalties, even though she is not the patent owner. Since forgoing such benefits means suffering an economic loss, in such cases the inventor does have standing to demand being named.¹⁵² Similarly, if the inventor has a prospect of proving some property rights in a patent, standing will be granted.¹⁵³ Yet, assigning *all* the economic rights in a patent typically means giving up the possibility to claim one's right to be named as its inventor altogether. A consistent body of case law denies inventors the right of standing because not being named causes them "no cognizable injury."¹⁵⁴ Thus, in one case, the court held: "[T]he fact that [the inventor] has assigned his entire interest in [the patent] is fatal to his claim. Having relinquished all rights in the invention, [the plaintiff] no longer has standing to challenge the named inventors because he has no cognizable injury."¹⁵⁵ Another court noted: "Because [the plaintiff] lacks an ownership interest, and because being declared the sole inventor will not generate any other direct financial rewards, [he] has no constitutional standing to sue for correction of inventorship in federal court."¹⁵⁶

148. See, e.g., *Kucharczyk v. Regents Univ. Cal.*, 48 F. Supp. 2d 964 (N.D. Cal. 1999); *E.I. Du Pont de Nemours & Co. v. Okuley*, No. C2-97-1205, 2000 WL 1911430 (S.D. Ohio Dec. 21, 2000); *Larson v. Correct Craft, Inc.*, 569 F.3d 1319, 1327 (Fed. Cir. 2009); *Informatics Applications Grp., Inc. v. Shkolnikov*, 836 F. Supp. 2d 400, 411 (E.D. Va. 2011); *Shukh v. Seagate Tech., LLC*, 803 F.3d 659, 663 (Fed. Cir. 2015); *Pedersen v. Geschwind*, 141 F. Supp. 3d 405, 413 (D. Md. 2015); *Trireme Med., LLC v. AngioScore, Inc.*, 812 F.3d 1050 (Fed. Cir. 2016).

149. See sources cited *supra* note 148.

150. See, e.g., *Okuley*, 2000 WL 1911430, at *9 ("Du Pont, as the assignee, is the only party that can now challenge Lightner's inclusion as a co-inventor."); *Fina Oil & Chem. Co. v. Ewen*, 123 F.3d 1466, 1471 (Fed. Cir. 1997); *Memorylink Corp. v. Motorola, Inc.*, No. 08C3301, 2009 WL 464338, at *11 (N.D. Ill. Feb. 23, 2009); *Blue Gentian, LLC v. Tristar Prods., Inc.*, No. 1:13-cv-1758, 2018 WL 631897, at *1-5 (D.N.J. Jan. 30, 2018).

151. *Perrie v. Perrie*, No. 17-1087, 2018 WL 1836003, at *2 (Fed. Cir. Apr. 18, 2018).

152. See, e.g., *Chou v. Univ. Chi.*, 254 F.3d 1347, 1353 (Fed. Cir. 2001); *Pro Mktg. Sales, Inc. v. Cyber Sols. Int'l, LLC*, No. 2:17-CV-00038-RWS 03/29/2018, 2018 WL 1702674, at *7-8 (N.D. Ga. 2018).

153. See, e.g., *Schwindt v. Hologic, Inc.*, No. 1:11-cv-00110-JMS-MJD, WL 3806511, at *4-6 (S.D. Ind. Aug. 26, 2011); *James v. J2 Cloud Servs., LLC*, 887 F.3d 1368, 1372-75 (Fed. Cir. 2018).

154. See sources cited *supra* note 148.

155. *Okuley*, 2000 WL 1911430.

156. *Larson*, 569 F.3d at 1327.

The difference in the nature of the right to be named as the inventor in the United States and Germany is striking. Consistent with its utilitarian philosophy, U.S. law conceptualizes the right to be named as inventor as a purely economic one. This right exists only so far as it can bring monetary benefits—individuals' pursuit of financial interests is considered worthy of protection, but nothing beyond it. Unlike in Germany, the right to be named as a patent inventor has no "moral" or "personal" dimension in the United States, and thus can be assigned entirely.¹⁵⁷ Moreover, the U.S. right to be named as inventor hinges on economic rights in the patent and has no independent existence whatsoever. Hence, once all the economic rights are transferred, the right to be named as the inventor vanishes. As one court noted: "[T]he fact that [the alleged inventor] has assigned his entire interest in [his invention] to [his employer] is fatal to his claim. Having relinquished all rights in the invention, he no longer has standing to challenge the named inventors because he has no cognizable injury."¹⁵⁸

In contrast to German law, U.S. law does not recognize the inventor's honor or dignity as an *independent*, legally protectable interest. American courts consistently dismiss claims to recognize such interests. Thus, in one case, the court found that the plaintiffs did not prove that they suffered any loss of prestige from the fact of not being named as patent inventors.¹⁵⁹ In 2001, the Federal Circuit left open the question whether reputational interest alone may satisfy the standing requirement. It reasoned that being considered an inventor of an important subject matter is a mark of success, which may well bring pecuniary consequences.¹⁶⁰ Fourteen years later, the Federal Circuit decided affirmatively that "concrete and particularized reputational injury can give rise to Article III standing"¹⁶¹—a decision that may seem to contradict our earlier claims. But the details of the specific case reveal that it in fact confirms our reading.

The case dealt with Dr. Shukh, a successful scientist and multiple inventor who worked for Seagate. This employment was tumultuous, since Dr. Shukh had trouble working with others, and often accused his co-workers of "stealing his work." Seagate ultimately fired him, and he could not find new employment, allegedly because of reputational

157. In fact, in recent years most patents filed in the United States did not go to individual inventors, see U.S. Patent & Trademarks Off., *supra* note 132. See also PISTOR, *supra* note 110, at 115.

158. *Okuley*, 2000 WL 1911430, at *12.

159. *Id.*

160. *Chou v. Univ. Chi.*, 254 F.3d 1347, 1359 (2001) ("The assertion that a reputational interest alone is enough to satisfy the requirements of Article III standing is not implausible. After all, being 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. Pecuniary consequences may well flow from being designated as an inventor. However, the Court need not decide that issue because the party has alleged a concrete financial interest in the patent, albeit an interest less than ownership.")

161. *Shukh v. Seagate Tech., LLC*, 803 F.3d 659, 663 (Fed. Cir. 2015).

problems. Dr. Shukh argued before the court that his name had wrongfully been omitted by Seagate from six patents and four pending applications. Recognizing his standing to sue, the court stated:

Dr. Shukh has been unemployed since 2009, and he seeks a job in the field of technology covered by the disputed patents. A trier of fact could infer that the stronger Dr. Shukh's reputation as an inventor, the more likely he is to be hired. This is particularly true in light of his difficult personality. Furthermore, there is evidence tying Dr. Shukh's negative reputation at Seagate—including, one presumes, his reputation for seeking credit for his own inventions—to his unemployment. Thus, a trier of fact could conclude that Dr. Shukh's employment prospects have been harmed by the impact of his alleged omission from the disputed patents on his reputation as an inventor and his reputation for seeking credit for his own ideas. Moreover, a trier of fact could infer that Dr. Shukh's employment prospects would improve if the inventorship of the disputed patents was corrected. Dr. Shukh's inability to obtain employment is a concrete and particularized financial harm that suffices to create Article III standing.¹⁶²

This statement makes clear that the court perceived the notion of professional reputation in purely economic terms, as an asset whose loss must be measured and proven. As several other cases also make clear, it is not enough to claim that an inventor's omission from patent documents causes her reputational injury: the inventor should prove having suffered specific economic harm and show a "cognizable reputational interest" in obtaining inventorship status.¹⁶³ Specifically, the status of a named patent inventor *as such*, in spite of being a mark of success in one's field, does not constitute a concrete and particularized interest that could suffice to obtain standing.¹⁶⁴

This attitude coheres with the notion of "human capital": individuals invest in certain skills, acquire reputation for them, and use this reputation for making further profits based on their skills. What matters about one's occupational or professional skills is not that they are tied to one's identity, or matter to one's social standing in the eyes of others, but that they create an income—all that the law intends to protect are the ensuing financial interests. Non-monetary interests

162. *Id.* at 667.

163. *See, e.g.*, *Larson v. Correct Craft, Inc.* 569 F.3d 1319, 1327–28 (Fed. Cir. 2009); *Huster v. J2 Glob. Comm'ns, Inc.*, No. 1:14-cv-03304, 2015 WL 11622478, at *3–5 (N.D. Ga. Mon. D, 2015), *aff'd in relevant part*, No. 2016-1639, 2017 WL 1160979, at *3–5 (Fed. Cir. Mar. 29, 2017). For discussion of inventors' reputational interest, see Jason Rantanen & Sarah E. Jack, *Patents as Credentials*, 76 WASH. & LEE L. REV. 311, 371–72 (2019).

164. *Pedersen v. Geschwind*, 141 F. Supp. 3d 405, 413 (D. Md. 2015).

are, in that perspective, a purely private issue; they are understood along psychological lines, not as rights worthy of legal consideration.

A case that dealt directly with the question of the non-monetary interests of an inventor is *Kucharczyk v. Regents of University of California*.¹⁶⁵ In this case, two university professors claimed to be the sole inventors of a patent, and argued that a third person was mistakenly named as an additional inventor. The university was the undisputed owner of the patent, but the two inventors explained that they were nevertheless injured by the presence of the non-inventor's name on the patent, since they were proud of their invention and wished to be correctly listed as its sole inventors.¹⁶⁶ The court held:

These assertions suggest that plaintiffs are seeking the kind of psychic satisfaction that is not an acceptable Article III remedy because it does not redress a cognizable Article III injury. If plaintiffs were correct that [the right to be named as inventors] grants them standing on the grounds that they are proud of their invention, then the statute would be in grave danger of running afoul of Article III.¹⁶⁷

This passage illustrates a crucial difference between U.S. and German law: claims that would fall under notions of human dignity in German law are reduced to a matter of individual preference, on a level with any other kind of preference, whether the flavor of ice cream, love interest, or fame. Pride, status, reputation, recognition—all these notions, which might have featured in a description of the case, are subsumed under the notion of “psychic satisfaction.”

This point is confirmed by cases in which the right to be named as inventor is evoked outside the strict context of patent law, for example in contexts in which someone's honor as a scientist or inventor is at stake. While in Germany the right to be named as a patent inventor can be enforced against anyone trying to cast a doubt upon one's inventorship, in the United States this right is confined to the context of patent registration. In contrast to Germany, it cannot provide a relief in contexts such as a scientific article falsely naming another person as the inventor or a presentation at a technical exhibition failing to name the inventor of a technology.

To sum up, notwithstanding the legal requirement to name the real inventor in a patent application, as a matter of fact, the U.S. legal system does not protect any moral rights of inventors, but only their economic interests. Hence, unlike in Germany, in the United States the right to be named as the patent inventor has no legal basis beyond the protection of an economic interest. This leads to a very different classification of the discourse around this right in both countries. In

165. 48 F. Supp. 2d 964 (N.D. Cal. 1999).

166. *Id.* at 975.

167. *Id.*, overruled on other grounds, *Chou*, 254 F.3d at 1358.

both systems, the right to be named as patent inventor, which we have here dubbed “the right to be first,” involves constitutional discourse. Yet, in Germany, this is a discourse about human dignity and the right to the free development of one’s personality—values which are central to German constitutional thinking. By contrast, in the United States, this is a discourse about the question whether the inventor who has not been named as such has any economic rights that could base a legally cognizable claim.

CONCLUSION

In this Article, we have compared the way in which the right to be first is conceptualized in U.S. and German law. The differences that appeared between them are striking. While both systems have always recognized the importance of invention, their appreciation of inventors took very different forms. The history of U.S. patent law shows that protecting the inventor in that country is synonymous with granting him or her strong property rights in the invention. By contrast, in Germany, the emphasis has historically been on the moral right to be recognized as the inventor, rather than on economic rights. Today, both countries grant economic rights to the inventor, while both acknowledge the possibility to assign them altogether, *inter alia*, in the framework of an employment contract. In Germany, this possibility is somewhat limited by the legal requirement to remunerate the employee with an appropriate compensation, which is regarded as part of the protection of the inventor’s creative personality against exploitation.

In today’s market reality, this means that, for the most part, an employee’s inventions belong to the employer. That is, there is often a discrepancy between the identity of the inventor and the identity of the patent owner. The legal system in Germany recognizes non-material dimensions of patent right, such as the “honor of the inventor” (*Erfinderehre*). This means that the inventor always has the right to be recognized as such—even if she has no economic rights in the patent. By contrast, U.S. law does not recognize any such personal rights and grants the possibility to claim one’s right to be named as the inventor only if one can demonstrate a material interest that is being violated. That is, an inventor without economic rights in her invention cannot demand to be named as the inventor if the patent mistakenly mentions another person as such.

These differences in the legal regulation substantiate certain suspicions one might have had about cultural differences between Germany and the United States. In the more “embedded” German market economy non-material dimensions of the economic system are granted some weight, whereas in the more “disembedded” U.S. market economy, the courts focus on material interests only. The German system may appear old-fashioned, a remnant of its historical structures

in which economic life was shaped by guilds and crafts (some of which are still alive and kicking, and important forces in organizing certain occupations and professions). On the other hand, the U.S. system, with its aim to enhance efficiency and its focus on monetary outcomes, may seem impersonal and indifferent to human concerns. Wendy Brown has recently argued that the hegemony of neoliberal ideology makes the political subject disappear and only leaves the economic subject alive.¹⁶⁸ In the U.S. court decisions we have discussed, there is no mention of the political subject, but even the economic subject is stripped of all notions such as honor or recognition, by being denied any non-pecuniary rights, so that only property rights and other financial interests remain worthy of legal protection.

These cultural differences are interesting in and of themselves, but they are also potentially relevant for thinking about possible reforms of intellectual property rights. Many critics argue that the legal system gives patent owners, especially corporations, too much power to extract profits from inventions.¹⁶⁹ At the same time, the basic principle of creating incentives for inventiveness seems laudable. But would these incentives have to take monetary form? One suggestion would be to strengthen *nonmonetary* incentives; in fact, several scholars have made the point that non-monetary rewards can strongly incentivize innovation.¹⁷⁰ For instance, William Hubbard has argued that personal satisfaction and esteem from family, friends and peers should be understood as part of framework of social norms that surround patents.¹⁷¹

Another aspect that makes non-monetary incentives especially forceful is the fact that the patent inventor will usually be remembered as *the* first and the true inventor of the respective technology. Hence, if the technology in question is an important one, what is at stake here is actually the “right to be first”—the right to be recognized and later remembered as *the* inventor. It seems that putting a strong emphasis on economic rights, the U.S. law unjustly overlooks the importance of this right—both as an incentive for invention and as a matter of justice to the true inventor, as well as to further generations. The latter would associate each technology with the name appearing in the patent documents. Given its strong ethos of invention, it seems essential and consistent that the U.S. law recognizes the inventor’s right to be recognized and remembered as such; or, in other words, that it recognizes the importance of “being first.”

These non-monetary elements can have a strong motivational force, and they could be strengthened by assigning personal rights,

168. WENDY BROWN, *UNDOING THE DEMOS: NEOLIBERALISM’S STEALTH REVOLUTION* (2015).

169. *See, e.g.*, BOYLE, *supra* note 139, chs. 3, 10; PISTOR, *supra* note 110, ch. 9.

170. *See, e.g.*, CROSS, *supra* note 97; Jeanne C. Fromer, *Expressive Incentives in Intellectual Property*, 98 VA. L. REV. 1745 (2012).

171. William Hubbard, *Inventing Norms*, 44 CONN. L. REV. 369, 403ff. (2011).

as is done in German law. This would keep the motivational situation for individual inventors stable, while allowing reforms with regard to the financial payoffs of patents. Such reforms would, of course, have to take into account other factors as well, such as the material outcomes of these different systems, the popular attitudes towards the non-material values at stake, and the interdependences between these features of the U.S. and German legal systems and their broader institutional and cultural frameworks. What we hope to have shown, however, is that while both legal systems strive to spark inventiveness, they differ considerably with regard to the protection of inventors. What the importance of “being first” means is, to a great degree, a philosophical question.