

PATENT LICENSING AND SECONDARY MARKETS IN THE NINETEENTH CENTURY

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INTRODUCTION

The patent licensing business model has become a flashpoint of controversy in the patent policy debates. Individuals and firms that specialize in the licensing of patented innovation—and the companies that purchase patents for the purpose of licensing—have come under attack by congresspersons, the President, companies, lobbying groups, and others.¹ Whether called “nonpracticing entities” (“NPEs”) or “patent assertion entities” (“PAEs”), or the more fashionable and inflammatory term, “patent trolls,”² the patent licensing business model has taken center stage in the public policy debates in a way not seen since the late nineteenth century (when the popular rhetorical epithet was “patent shark”).³ This Essay contributes to

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¹ See, e.g., Brian Heater, *The Engadget Interview: EFF’s Julie Samuels Talks Patents, Podcasting and the SHIELD Act*, ENGADGET (Mar. 7, 2013, 9:13 PM), <http://www.engadget.com/2013/03/07/eff-interview/>; Ashby Jones, *Tech Firms Back Obama Patent Move*, WALL ST. J. (June 5, 2013), <http://online.wsj.com/news/articles/SB10001424127887323469804578525103995026598>; Patrick Leahy & Mike Lee, *America’s Patent Problem*, POLITICO (Sept. 15, 2013, 9:25 PM), <http://www.politico.com/story/2013/09/patrick-leahy-war-on-patent-trolls-96822.html>; Haydn Shaughnessy, *Patent Trolls Are Now Crushing Parts of the Developer Economy*, FORBES (July 4, 2013, 8:02 AM), <http://www.forbes.com/sites/haydnshaughnessy/2013/07/04/patent-trolls-are-now-crushing-parts-of-the-developer-economy/>.

² This term lacks an agreed-upon, objective definition, and thus it should not be used by lawyers, commentators, or scholars who care about precision and accuracy in patent law and policy. See Adam Mossoff, *The SHIELD Act: When Bad Economic Studies Make Bad Laws*, CPIP BLOG (Mar. 15, 2013), <http://cpip.gmu.edu/2013/03/15/the-shield-act-when-bad-economic-studies-make-bad-laws/> (“As I and other scholars have pointed out, the ‘patent troll’ moniker is really just a rhetorical epithet that lacks even an agreed-upon definition. The term is used loosely enough that it sometimes covers and sometimes excludes universities, Thomas Edison, Elias Howe (the inventor of the lockstitch in 1843), Charles Goodyear (the inventor of vulcanized rubber in 1839), and even companies like IBM.”).

³ See, e.g., Earl W. Hayter, *The Patent System and Agrarian Discontent, 1875-1888*, 34 MISS. VALLEY HIST. REV. 59, 59, 71 (1947); Earl W. Hayter, *The Western Farmers and the Drivewell Patent Controversy*, 16 AGRIC. HIST. 16, 16 (1942). This has been reported on in the modern press. Dan Mitchell, *When Patent Trolls Were Simply Sharks*, FORTUNE (June 7, 2013, 11:35 AM), <http://tech.fortune.cnn.com/2013/06/07/when-patent-trolls-were-simply-sharks/>.

this discussion by providing a brief overview of the history of patent licensing and secondary markets.

An historical review of patent licensing and secondary markets, even if brief and necessarily incomplete, is important because history is used to frame the patent policy debates today. Unfortunately, in addition to “the many flawed, unreliable, or incomplete studies about the American patent system that have been provided to members of Congress” in recent years,⁴ mistaken or misleading claims about past legal and commercial practices concerning patent innovation also dominate the patent policy debates. For instance, it is common to read in law journal articles that the “patent marketplace is a relatively new secondary market.”⁵ Many commentators simply assume that patent licensing is a new phenomenon, and thus they assert that the patent system should now adopt a manufacturing requirement for patent-owners in order to address alleged problems caused by the allegedly new patent licensing business model.⁶ Through rote repetition in scholarship, blogs, op-eds, and newspaper articles, such claims are solidifying into conventional wisdom among policy and legal elites.⁷

This conventional wisdom (like much conventional wisdom) is profoundly mistaken. As award-winning economist Zorina Khan has explained in her in-depth research into the history of the American patent system, licensing has long been an essential feature of the uniquely American patent system that secured property rights in innovation to both inventors and to

⁴ Letter by Forty Economists and Law Professors to House and Senate Judiciary Committees (Mar. 10, 2015), <http://cpip.gmu.edu/wp-content/uploads/2015/03/Economists-Law-Profes-Letter-re-Patent-Reform.pdf> (detailing extensive problems with many statistical claims today about the patent system and identifying in an appendix legitimate and properly done studies of patented innovation); see also Adam Mossoff, *GAO Report Confirms No “Patent Troll” Litigation Problem*, CPIP BLOG (Oct. 4, 2013), <http://cpip.gmu.edu/2013/10/04/gao-report-confirms-no-patent-troll-litigation-problem/> (reviewing earlier criticisms of popular and oft-cited studies as being “nonrandom” and “nongeneralizable”).

⁵ Anne Kelley, *Practicing in the Patent Marketplace*, 78 U. CHI. L. REV. 115, 117 (2011); see also David L. Schwartz, *The Rise of Contingent Fee Representation in Patent Litigation*, 64 ALA. L. REV. 335, 338-39 (2012) (“While historically there has been a small amount of buying and selling of freestanding patents, there is substantial evidence that the market for patents has recently grown.”).

⁶ E.g., Holly Finn, *A Patently Obvious Problem*, WALL ST. J. (Apr. 20, 2012), <http://online.wsj.com/article/SB10001424052702303513404577351723039568072.html> (demanding that we “[i]nsist that filers of patents be provably active, and productive, in an industry”); Andy Kessler, *Patent Trolls vs. Progress*, WALL ST. J. (Apr. 12, 2012), <http://www.wsj.com/articles/SB10001424052702303772904577336483746932506> (“It’s time to require patent holders to actually make or sell products before citing infringement.”).

⁷ Judge Richard A. Posner, who has heavily criticized the patent licensing business model, has called for the adoption of a legal rule “that barred enforcement of a patent that was not reduced to practice within a specified time after the patent was granted.” Richard Posner, *Patent-Trolls—Posner*, BECKER-POSNER BLOG (July 21, 2013, 5:12 PM), <http://www.becker-posner-blog.com/2013/07/patent-trollsposner.html>.

the marketplace actors who commercialized this innovation.⁸ Professor Khan's historical research is confirmed by independent research that has detailed how early American legislators and judges defined patents as civil rights securing fundamental property rights,⁹ which logically entailed the free alienation of patents in the marketplace.¹⁰ Professor Khan and other economists have recently extended their historical research to directly address today's hot-button policy debates concerning patent licensing and secondary markets.¹¹

This brief Essay reviews some of this scholarship and expands upon it with recently uncovered primary sources on the nineteenth-century commercialization of patented innovation through licensing and secondary markets. Part I explains how famous nineteenth-century American innovators wholeheartedly embraced patent licensing to commercialize their inventions. Part II describes the concurrent rise in the nineteenth century of a vibrant secondary market in patents. Of course, a brief Essay can neither reproduce all of the historical evidence nor prove any normative thesis about whether these commercial practices best promote innovation, but it can clear the ground for further study and analysis by establishing a simple descriptive point: the conventional wisdom that these commercial practices are novel is false.

I. THE PATENT LICENSING BUSINESS MODEL IN THE NINETEENTH CENTURY

The patent licensing business model is not a new phenomenon in the commercialization of patented innovation. A complete survey of all such individuals and firms who used the patent licensing business model to commercialize patented innovation is beyond the scope of a brief Essay, and so this Part focuses on several prominent examples of inventors who

⁸ B. ZORINA KHAN, *THE DEMOCRATIZATION OF INVENTION: PATENTS AND COPYRIGHTS IN AMERICAN ECONOMIC DEVELOPMENT, 1790-1920*, at 9-10 (2005) ("The analysis [in this book] emphasizes the role that patents and copyrights played in the securitization of ideas through the creation of tradeable assets: intellectual property rights facilitated market exchange, a process that assigned value, helped to mobilize capital, and improved the allocation of resources. . . . Extensive markets in patent rights allowed inventors to extract returns from their activities through licensing and assigning or selling their rights.").

⁹ Adam Mossoff, *Who Cares What Thomas Jefferson Thought About Patents? Reevaluating the Patent "Privilege" in Historical Context*, 92 *CORNELL L. REV.* 953, 974, 979-83 (2007).

¹⁰ See Adam Mossoff, *Exclusion and Exclusive Use in Patent Law*, 22 *HARV. J. L. & TECH.* 321, 349-52 (2009); Adam Mossoff, *A Simple Conveyance Rule for Complex Innovation*, 44 *TULSA L. REV.* 707, 712-14 (2009).

¹¹ See, e.g., B. Zorina Khan, *Trolls and Other Patent Inventions: Economic History and the Patent Controversy in the Twenty-First Century*, 21 *GEO. MASON L. REV.* 825, 837-39 (2014); Naomi R. Lamoreaux, Kenneth L. Sokoloff & Dhanoos Sutthiphisal, *Patent Alchemy: The Market for Technology in US History*, *BUS. HIST. REV.*, Spring 2013, at 3, 3-5, 34-36.

used the patent licensing business model throughout the nineteenth century: Thomas Edison, Charles Goodyear, and Elias Howe, Jr. In fact, Goodyear and Howe employed the patent licensing business model in the early nineteenth century before the Civil War (what historians call the Antebellum Era), revealing that this commercial practice in the innovation industries has very old historical antecedents indeed.

A. *Charles Goodyear*

Charles Goodyear invented the process for vulcanized rubber in 1839 and received a patent for it on June 15, 1844,¹² but he never manufactured or sold rubber products.¹³ Instead, Goodyear only transferred his rights in his patented innovation to other individuals and firms to commercialize it—conveying the rights to license, manufacture, sell, or use the process of vulcanizing rubber in making products.

The reason Goodyear embraced the patent licensing business model was that he was essentially crazy about rubber and about inventing and finding new uses for it.¹⁴ He was often seen testing rubber as patches on his clothes,¹⁵ and he even wrote a two-volume treatise detailing the history, invention, and uses of vulcanized rubber (*Gum-Elastic and Its Varieties*).¹⁶ True to form, Goodyear had several copies of his treatise printed with “hard rubber bindings and covers.”¹⁷ As one historian of technology recounts, “Page after page of *Gum-Elastic* is devoted to [listing] different kinds of boats, life preservers, buoyant travel bags and even frogman suits, but also . . . fire hose, escape rope and medical instruments” that could be made with rubber.¹⁸ As the archetypical obsessive inventor, Goodyear was not interested in manufacturing or selling his patented innovation.

Goodyear is a clear historical example of how early American inventors and capitalists embraced patent licensing, but there are further similarities with today’s disputes over the patent licensing business model. Some of Goodyear’s assignees and exclusive licensees, who were patent licensing

¹² See U.S. Patent No. 3633 (filed June 15, 1844).

¹³ Adam Mossoff, *Thomas Edison Was a “Patent Troll,”* SLATE (May 19, 2014, 5:45 AM), http://www.slate.com/articles/technology/history_of_innovation/2014/05/thomas_edison_charles_goodyear_and_elias_howe_jr_were_patent_trolls.single.html. This *Slate* essay was based on an earlier draft version of this Essay, which greatly expands on its thesis.

¹⁴ HAROLD EVANS WITH GAIL BUCKLAND & DAVID LEFER, *THEY MADE AMERICA: FROM THE STEAM ENGINE TO THE SEARCH ENGINE* 94, 100 (2004); CHARLES SLACK, *NOBLE OBSESSION: CHARLES GOODYEAR, THOMAS HANCOCK, AND THE RACE TO UNLOCK THE GREATEST INDUSTRIAL SECRET OF THE NINETEENTH CENTURY* 137-39, 143 (2002).

¹⁵ See SLACK, *supra* note 14, at 7-8.

¹⁶ *Id.* at 196-97, 200.

¹⁷ *Id.* at 197.

¹⁸ EVANS, *supra* note 14, at 100.

companies themselves, filed hundreds of lawsuits in the nineteenth century; they sued firms, individuals, and even many end-users, such as dentists, for patent infringement.¹⁹ Contrary to some claims today, end-user lawsuits even by patent licensing companies are nothing new in America's innovation economy.²⁰

Many people do not know about Goodyear and his licensees because they mistakenly associate the eponymously named manufacturing company, Goodyear Tire & Rubber Company, with the inventor. But this company is merely named after the famous inventor; it was formed in 1898 almost four decades after Goodyear's death in 1860.²¹ In sum, Goodyear and many of the individuals and companies to which he conveyed his patent rights represent early examples of the patent licensing business model.

B. *Elias Howe, Jr.*

Elias Howe, Jr.—the 1843 inventor of the lockstitch used in sewing machines²²—licensed his patented innovation for most of his life.²³ Similar to many patent licensing companies today, Howe often entered into royalty agreements after suing commercial firms and individuals for patent infringement.²⁴ One historian referred to Howe's litigation strategy of “suing

¹⁹ Professor Christopher Beauchamp, a legal historian, discussed his research into this issue in a teleforum panel. *End-User Lawsuits in Patent Litigation: A Bug or a Feature of Patent Law*, CENTER FOR PROTECTION INTELL. PROP. (Aug. 29, 2013), available at <http://cpip.gmu.edu/events/teleforum-panel-end-user-lawsuits-in-patent-litigation-a-bug-or-a-feature-of-patent-law/>. For a few examples of the extensive litigation surrounding Goodyear's patent, see the cases cited in Mossoff, *supra* note 9, at 991 n.183, 992 n.188, 993-94 nn.192-94; Mossoff, *A Simple Conveyance Rule for Complex Innovation*, *supra* note 10, at 714 n.50, 715 n.55.

²⁰ See Scott Shane, *How to Neuter Patent Trolls*, BUS. WEEK (Mar. 26, 2013), <http://www.businessweek.com/articles/2013-03-26/how-to-neuter-patent-trolls> (asserting that the filing of patent lawsuits by patent licensing companies against small businesses using patented technology is a new phenomenon).

²¹ *Historic Overview*, GOODYEAR, http://www.goodyear.com/corporate/history/history_overview.html (last visited Feb. 23, 2015) (“[T]he founding of The Goodyear Tire & Rubber Company in 1898 seems especially remarkable, for the beginning was anything but auspicious. The 38-year-old founder, Frank A. Seiberling, purchased the company's first plant with a \$3,500 down payment Even the man the company's name memorialized, Charles Goodyear, had died penniless 30 years earlier despite his discovery of vulcanization after a long and courageous search.”).

²² U.S. Patent No. 4750 (issued Sept. 10, 1846).

²³ A lockstitch is a type of sewing technique that involves using two spools of thread, one above the fabric, one below, with a shuttle to push the lower thread through the loop made by the upper [thread] as it is pushed through the fabric by an eye-pointed needle. The needle with the upper thread then retracts, and the shuttle returns to await the next stitch.

RUTH BRANDON, *A CAPITALIST ROMANCE: SINGER AND THE SEWING MACHINE* 58 (1977).

²⁴ Adam Mossoff, *The Rise and Fall of the First American Patent Thicket: The Sewing Machine War of the 1850s*, 53 ARIZ. L. REV. 165, 193-94 (2011).

the infringers of his patent for royalties” as his “main occupation” for “several years.”²⁵ In fact, Howe’s assertion of his patents against noncompliant infringers refusing his licensing offers precipitated the first “patent war” in the American patent system—called, at the time, the Sewing Machine War.²⁶

Howe’s litigation and licensing practices were innovative and the source of much controversy at the time. In his patent lawsuits, Howe employed practices that are alleged to be relatively novel today, such as third-party litigation financing.²⁷ Howe was destitute when he was rebuffed in his licensing demands in the early 1850s and thus he found an investor to finance his patent infringement lawsuits, receiving direct funding from as well as selling a one-half interest in his patent to George W. Bliss.²⁸ For years afterward, Howe’s licensing and litigation practices remained the source of much public scorn; in 1867, for instance, one magazine article acerbically stated that “the secret of Mr. Howe’s success” was that he “liti-gated himself into fortune and fame.”²⁹

Ultimately, after being a principal pugilist in the Sewing Machine War, Howe joined the Sewing Machine Combination of 1856, the first patent pool formed in American history.³⁰ He made almost the entirety of his fortune on the basis of the royalty stream from his license to this patent pool, which further licensed his patent rights to other companies.³¹ In sum, Howe was a pioneer in the 1850s in patent licensing, third-party litigation financing, and in joining a patent pool.

C. *Thomas Alva Edison*

Many people like to point to Thomas Edison as an early exemplar of the patent licensing business model, and Edison certainly meets the definition of an “NPE” employed in the patent policy debates today.³² Edison did

²⁵ BRANDON, *supra* note 22, at 71-72.

²⁶ See generally Mossoff, *supra* note 24, at 166-68.

²⁷ See, e.g., Joanna M. Shepherd, *Ideal Versus Reality in Third-Party Litigation Financing*, 8 J.L. ECON. & POL’Y 593, 593 (2012) (“Third-party litigation financing is not an entirely new phenomenon in the United States; indeed certain forms have been in practice since the 1980s.”).

²⁸ Mossoff, *supra* note 24, at 183.

²⁹ *Who Invented Sewing-Machines?*, 4 GALAXY 471, 479 (1867) (emphasis omitted).

³⁰ Mossoff, *supra* note 24, at 166.

³¹ *Id.* at 193 (“When his patent finally expired in 1867, as a result of his participation in the Sewing Machine Combination, [Howe’s] royalties totaled more than \$2 million.”).

³² See James Bessen & Michael J. Meurer, *The Direct Costs from NPE Disputes*, 99 CORNELL L. REV. 387, 395 (2014) (defining as an “NPE” all universities, individual inventors, patent aggregators, and start-up companies that have not yet begun to manufacture, and all manufacturing companies that license a patent “outside the area in which they make products”). For a criticism of this definition of “NPE” as unjustifiably over-inclusive, see Mossoff, *supra* note 2.

sell and license his patents, especially in his early invention-intensive career. For example, he conveyed at least twenty of his early patented inventions to third parties in order to fund his ongoing research and development of inventions.³³ He also sold outright some of his patents (“assigned” in official patent legalese); for example, he sold his patented innovation in incandescent light bulbs to the General Electric Company after he “yielded control of its management.”³⁴

As is clear from his transfer of his patents to General Electric, though, Edison is also a mixed historical example because he manufactured and sold some of his patented innovation to consumers, such as the electric light bulb and the phonograph. These business ventures, though, were lackluster at best and sometimes disastrous at worst.³⁵ Following Edison’s initially path-breaking inventions, the products that ultimately dominated the marketplace were produced oftentimes by his competitors, such as the Victrola record player.³⁶ As his close friend Henry Ford famously quipped, Edison was “the world’s greatest inventor and the world’s worst businessman.”³⁷ (Ford knew of which he spoke, because he provided Edison a total of \$1.2 million in business loans in the early twentieth century, and he was forced to forgive some of these loans.³⁸)

Edison thus employed the patent licensing business and easily meets today’s definition of an “NPE,” but he also serves as an important lesson given his spectacular failures in the business world. At the end of the day, Edison should have stuck to the patent licensing business model that brought him his justly earned fame as a young innovator at Menlo Park.

The patent licensing business model has existed since the early nineteenth century, serving one of the key policy functions of the patent system by commercializing patented innovation in the United States. In addition to Goodyear, Howe, and Edison, other famous early nineteenth-century inventors assigned or licensed their property rights to others: William Woodworth (planing machine), Thomas Blanchard (lathe), and Obed Hussey and Cyrus McCormick (mechanical reaper), among many others, sold or licensed their patent rights in addition to engaging in manufacturing and oth-

³³ Lamoreaux, Sokoloff & Sutthiphisal, *supra* note 11, at 6.

³⁴ RANDALL STROSS, *THE WIZARD OF MENLO PARK: HOW THOMAS ALVA EDISON INVENTED THE MODERN WORLD* 165 (2007).

³⁵ *Id.* (referring to the “dismal commercial beginnings of Edison’s phonograph business” and “the shaky start of electric light service”).

³⁶ *Id.* at 219-20 (describing Victor Talking Machine Company’s impressive commercial innovations vis-à-vis Edison). As a result, “‘Victrola’ soon replaced ‘phonograph’ as the generic term, a development that caused Edison considerable distress.” *Id.* at 225.

³⁷ *Id.* at 165.

³⁸ *Id.* at 253.

er commercial activities.³⁹ The licensing business model continued to be used into the twentieth century and up through today, as innovative firms such as Bell Labs,⁴⁰ IBM,⁴¹ Apple,⁴² Nokia,⁴³ and others have used licensing to bring patented innovation to the marketplace.

II. SECONDARY MARKETS IN PATENTS IN THE NINETEENTH CENTURY

Although Edison, Goodyear, Howe, and others sold or licensed their patents, commenters assert that until recently inventors largely did not profit by the sale or licensing of their patents to market actors. This type of business activity in which a commercial asset like a patent is bought or sold is known as a “secondary market,” and the oft-repeated claim today by many law professors, such as Colleen Chien and others, is that large-scale selling and licensing of patents in a secondary market is a recent phenomenon.⁴⁴ This is as profoundly mistaken as the related assertion that the patent licensing business model is novel. This Part details the existence of a nineteenth-century secondary market in patents both before and after the Civil War.

³⁹ Lamoreaux, Sokoloff & Sutthiphisal, *supra* note 11, at 8.

⁴⁰ JON GERTNER, *THE IDEA FACTORY: BELL LABS AND THE GREAT AGE OF AMERICAN INNOVATION* 111-12 (reprint 2013) (discussing how Bell Labs licensed the transistor to any individual or firm willing to pay the \$25,000 licensing rate).

⁴¹ See David Kirkpatrick, *The Future of IBM: Lou Gerstner Seems to Have Pulled Off a Miracle. Sam Palmisano Will Have to Be at Least as Good*, *FORTUNE* (Feb. 18, 2002), http://money.cnn.com/magazines/fortune/fortune_archive/2002/02/18/318158/index.htm (“Throughout the Gerstner years IBM has been the world leader in new patents; it earns well over \$1 billion a year licensing those patents.”).

⁴² See Tam Harbert, *The Troubled Life of Patent No. 6,456,841: Tracing the Tortured Legal Trail of a Simple Smartphone Patent*, *IEEE SPECTRUM* (Apr. 29, 2013, 6:00 PM), <http://spectrum.ieee.org/at-work/innovation/the-troubled-life-of-patent-no-6456841> (describing a patent purchased from Mitsubishi by Apple, which Apple subsequently sold to a “patent acquisition and licensing company” that brought infringement lawsuits against many high-tech companies (but not against Apple)).

⁴³ See Dan Levine, *Why Nokia Didn't Sell Its Patents to Microsoft*, *REUTERS* (Sept. 3, 2013), <http://www.reuters.com/article/2013/09/03/us-nokia-microsoft-patents-idUSBRE9820ZZ20130903>.

⁴⁴ Colleen V. Chien, *From Arms Race to Marketplace: The Complex Patent Ecosystem and Its Implications for the Patent System*, 62 *HASTINGS L.J.* 297, 297 (2010) (“Recently, a secondary market for patents has flourished, making it more likely that patents that would otherwise sit on the shelf will end up in the courtroom.”); Xuan-Thao Nguyen & Jeffrey A. Maine, *Acquiring Innovation*, 57 *AM. U. L. REV.* 775, 791 (2008) (“As a result of the offensive use of patents, there is an emerging secondary market for intellectual property acquired by holders who are not the original inventors or assignees.”); see also Kelley, *supra* note 5, at 117 (referring to the secondary market in patents as “relatively new”). Cf. Alan Devlin, *Improving Patent Notice and Remedies: A Critique of the FTC's 2011 Report*, 18 *MICH. TELECOMM. & TECH. L. REV.* 539, 544 (2012) (“[A] large secondary market for IT patents has developed in which specialized entities acquire patents not to obtain technology to include in marketed products, but simply to bring infringement actions against companies that sell goods to consumers.”).

A. *Secondary Markets in the Antebellum Era*

The historical record in the Antebellum Era is rife with evidence of a secondary market in patents. In the Sewing Machine War in the 1850s, for instance, the various patents obtained by different inventors on different components of the sewing machine were purchased or exchanged between a variety of individuals and firms. In fact, one of the most important inventions contributing to the development of the sewing machine was made by John Bachelder who neither manufactured sewing machines nor licensed his patent.⁴⁵ Bachelder sold his patent to others, such as Isaac Singer, and it was ultimately transferred to the Sewing Machine Combination, the patent pool formed in 1856 by Singer and other patent owners to resolve the hard-fought Sewing Machine War.⁴⁶

Even before the outbreak of the Sewing Machine War in the early 1850s, patent lawsuits were brought by secondary owners of patents. In 1849, one sewing machine inventor

had the unfortunate distinction of being the first sewing machine patentee threatened with litigation for infringing another sewing machine patent. After [Allen B.] Wilson invented a double-pointed shuttle in 1848, A.P. Kline and Edward Lee, the owners of the [John] Bradshaw patent, threatened Wilson with a lawsuit for infringing their patent. Lacking the funds to defend himself, Wilson sold his patent rights to this particular invention to Kline and Lee to settle the dispute.⁴⁷

In this early sewing machine patent skirmish, Bradshaw had obtained a patent on sewing machine technology in 1848 and assigned it to Kline and Lee,⁴⁸ who then sued Wilson for patent infringement. In exchange for settling their lawsuit against him, Wilson assigned his 1848 patent to Kline and Lee.⁴⁹ Regardless of what one thinks of the propriety of these patent infringement lawsuits, it is clear that in the 1840s, individuals were engaged in a secondary market in acquiring patents and in suing people in court for infringing these patents.

Beyond sewing machines, sales and transfers of patents were quite common in the nineteenth century. The classified ads in *Scientific American* provide a window into this vibrant and widespread secondary market. In an 1869 issue of *Scientific American*, among ads touting the value to purchasers of “Woodbury’s Patent Planing and Matching and Moulding Machines” and ads declaring “AGENTS WANTED—To sell H.V. Van Etten’s Patent

⁴⁵ U.S. Patent No. 6439 (issued May 8, 1849).

⁴⁶ Mossoff, *supra* note 24, at 177-78.

⁴⁷ *Id.* at 178 (footnote omitted).

⁴⁸ *See id.* at 177-78.

⁴⁹ Wilson was undaunted by this experience, as he proceeded to obtain three more patents on sewing machines. Some of these patents were for inventions designed around other patented inventions, such as the reciprocating bobbin. *See id.* at 178-79 & nn.84, 87.

Device for Catching and Holding Domestic Animals,”⁵⁰ one finds ads offering patents and rights in patents for sale:

<p>A PATENT ON A FARM GATE TO SELL or Exchange for a No. 1 3-horse power Portable Steam Engine. Address C. H. EMBREE, West Dresden, Yates Co., N. Y.</p>	<p>BENT, GOODNOW & CO., Boston, Mass., Agents for the sale of Patents. FOR SALE—A variety of very valuable “Rights.” Send stamp for THE PATENT STAR, Containing descriptions of each.</p>
<p>PATENT RIGHTS SOLD ON COMMISSION, and Valuable Inventions introduced by the most experienced Patent Salesmen in the Union. Can refer to over one hundred inventors for whom we have acted. E. R. ROBERTS & CO., Consulting Engineers, 15 Wall st., New York. 51</p>	

These were not an unusual set of ads. To take but one more example of an ever-present feature in each *Scientific American*, an August 1854 issue had the following ads for the sale of patents and patent rights, among others:

<p>FOR SALE, LOW.—The Patent of a Self-Unloading and Adjusting Hay Elevator. Patented May 30th, 1854. Address, Horsham, Pa. 43 7*</p>	<p>PATENT RIGHT FOR SALE—State Rights in a new and improved machine, designed for ship and boat spikes, patented July, 4th, 1854. This machine is entirely new, and comprises a new and patented method of pointing, whereby a great amount of labor in repairing is saved. Application should be made to F. HUMPHREY, Bounton, N. J. 47 3*</p>
<p>PATENT RIGHT FOR SALE.—We are ready to dispose of the Patent Right, (or any part of it) of the best Stone Drilling Machine now in use, or we are prepared to furnish working machines at very reasonable prices, these machines will drill from 1 to 7 inches in diameter, and 100 feet deep, and can be worked by Hand, Horse, or Steam Power, one machine performing the work of twenty-five men. For further particulars and circulars with cuts address JAS. T. WHITTEMORE, Agent American Manufacturing Co., 39 State street, Boston, 40 1f 52</p>	

These ubiquitous classified ads in the back of every *Scientific American* throughout the nineteenth century belie any assertions about the absence of such historical secondary markets by commentators today.

B. *Secondary Markets in the Late Nineteenth Century*

The secondary market in patents continued throughout the nineteenth century, as confirmed recently by the economists Naomi R. Lamoreaux, Kenneth Sokoloff, and Dhanoos Sutthiphisal.⁵³ Their research has revealed the fundamental and significant role performed by a group of market intermediaries in the late nineteenth century known at the time as “patent agents.”⁵⁴ The records of these patent agents is evidence of predecessors of

⁵⁰ *Advertisements*, 21 SCI. AM. 143, 143 (1869).

⁵¹ *Id.*

⁵² *Advertisements*, 9 SCI. AM. 383, 383 (1854).

⁵³ Lamoreaux, Sokoloff & Sutthiphisal, *supra* note 11, at 4-7.

⁵⁴ *Id.* at 33-34.

today's patent aggregators. The fact that, within the constraints of primitive, nineteenth-century corporate law and the limited financial capabilities of market actors at that time, one finds an abundance of patent agents and other advanced commercial activities with respect to patents is significant evidence by itself that today's secondary markets and patent licensing business models have well-established historical antecedents.

One such patent agent, according to Lamoreaux, Sokoloff, and Sutthiphisal, was a businessperson who "invested in patents for hat-frame formers, rails for high-speed railroads, electric railroad systems, and pliers."⁵⁵ Another's "investments spanned the technological gamut from envelopes to drills to arc lamps to sewing machines to railroad signaling systems."⁵⁶ Given the wide-ranging products invested in by these individuals, the record of their market activities "suggests they were not primarily manufacturers seeking to improve the efficiency of their production processes or expand their product lines."⁵⁷

Admittedly, these businesspersons were closer to what we would call today "angel investors or venture capitalists,"⁵⁸ but this is easily explained by legal, market, and transaction-cost factors that are exogenous to the patent system as such.⁵⁹ For instance, the twentieth century has witnessed incredible innovation in advanced forms of corporate structure, as well as equally innovative development of complex legal and financial mechanisms. Moreover, the technological advances wrought by the Digital Revolution and the products produced by the high-tech industry have reduced both information costs and transaction costs in the commercialization of patented innovation as well. These commercial, financial, and legal developments have made possible the commercialization of patented innovation in ways that would have been outright impossible or grossly inefficient in the nineteenth century, such as the large-scale aggregation of thousands of patents by a multi-national corporation like IBM or Intellectual Ventures.⁶⁰

⁵⁵ *Id.* at 20.

⁵⁶ *Id.*

⁵⁷ *Id.*

⁵⁸ *Id.*

⁵⁹ See *cf.* Mossoff, *supra* note 24, at 204-05 ("[T]he Sewing Machine War is significant . . . because it highlights an often-overlooked aspect of patent thickets: they are contextual, depending on such things as time, available technology, and even commercial or legal norms. . . . The Sewing Machine War makes clear that patent thickets are also defined by, among other things, the capabilities and costs of communication between the relevant parties and the means and costs in commercially exploiting the technology." (footnote omitted)).

⁶⁰ Such legal, market, and technological innovation always affects the commercialization of patented innovation itself, and this was as true in the nineteenth century as it is today. In brief, innovation in new inventions incentivizes innovation in new corporate forms and commercial practices, and vice-versa. For instance, the innovative creation of the Sewing Machine Combination of 1856, the very first patent pool, as well as the Singer Sewing Machine Company's radical commercial innovation in mass marketing and in developing the first rent-to-own and trade-in programs, is significant evidence of the dynamic and mutually reinforcing relationship between technological, legal, and commercial inno-

Given the constraints of antiquarian corporate law and the limited financial capabilities of businesspersons in the nineteenth century, the widespread existence of market intermediaries like patent agents is striking. It seems almost counterintuitive, at least to our modern sensibilities, and this perhaps explains the mistaken conventional wisdom today that the secondary market in patents did not exist at this time. But the truth is that it did. In fact, the existence of patent agents was apparently so well known at that time that Mark Twain even offered to be a patent agent for Nikola Tesla in selling or licensing Tesla's patent rights in Europe.⁶¹ Also, similar to Edison—Tesla's arch nemeses in the patent battle over electrical distribution systems—Tesla embraced the licensing business model as the way to fund his full-time work as an inventor.⁶²

One historian of technology recently noted, after detailing the problems for nineteenth-century inventors who usually lacked manufacturing and commercial finance skills, that “[g]iven the risks associated with manufacturing, many nineteenth-century inventors preferred to either sell or license their patents.”⁶³ Part I confirms the truth of this observation about licensing, and Part II confirms the truth of this observation about the sales of their patents. Even more important, there quickly arose market intermediaries in the nineteenth century who offered their services to inventors seeking to profit from their innovation in a secondary market of patents: patent agents. Today's secondary markets and the inventors and commercial intermediaries who use the patent licensing business models have well-established historical antecedents. In sum, it is simply false to assert that these commercial mechanisms for bringing patented innovation to market are a new phenomenon today.

CONCLUSION

Of course, innovation in the twenty-first century is incredibly different from innovation in the nineteenth century. The exogenous market and tech-

vation. See Mossoff, *supra* note 24, at 198-200. In sum, innovation breeds innovation, and thus this counsels caution about engaging in anachronistic judgments about the absence in the nineteenth century of today's aggregation of large-scale patent portfolios by multi-national, public corporations engaged in manufacturing, licensing, or both.

⁶¹ See W. BERNARD CARLSON, *TESLA: INVENTOR OF THE ELECTRICAL AGE* 231-32 (2013).

⁶² *Id.* at 102 (commenting that in the 1890s, Tesla's two business partners “framed their business strategy for Tesla's inventions, which can be summed up as patent-promote-sell. . . . Hence, the name of the game for Tesla and his backers was not manufacturing his inventions but rather selling or licensing them”).

⁶³ *Id.* at 101.

nological variables at work in these respective economies are different as well, such as the advanced corporate legal forms and complex financial transactions that underlie today's innovation economy. But this does not change the simple fact that it is wrong to assert that the patent licensing business model and secondary markets in patents are novel practices today. It is equally wrong to infer a negative policy judgment from this mistaken historical claim.⁶⁴ Whether the patent licensing business model benefits or harms innovation is an important empirical and policy question, but incorrect claims about historical practices, just like flawed statistical studies,⁶⁵ have no place in this debate.

In fact, the long history of the patent licensing business model and secondary markets in the American innovation economy is hardly surprising. These commercial activities reflect the basic economic principle of the division of labor that Adam Smith famously recognized as essential to a successful free market and flourishing economy.⁶⁶ The greatest American innovator, Edison, would have been better served to have applied this principle in his own inventive and commercial endeavors. For commentators and judges today to cast aspersions on this basic economic principle strikes at the very core of what it means to secure property rights in innovation through the patent system.

⁶⁴ See Lamoreaux, Sokoloff & Sutthisphisal, *supra* note 11, at 4 (“To many critics, there is something new and unethical about profiting from intellectual property by marketing the rights rather than using it in production . . .”).

⁶⁵ See *supra* note 4.

⁶⁶ See 1 ADAM SMITH, AN INQUIRY INTO THE NATURE AND CAUSES OF THE WEALTH OF NATIONS 7-15 (Edwin Cannan ed., Univ. Chi. Press 1976) (1776).