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Keynote at the Cleveland State University College of Law IP+ Conference

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**KEYNOTE AT THE CLEVELAND STATE
UNIVERSITY COLLEGE OF LAW IP+
CONFERENCE**

KATHLEEN O'MALLEY*

ABSTRACT

Thank you for your kind introduction, Lee. Thank you too for your mentorship, support, and friendship over the years. I would not be where I am today but for having you in my life. And I want to thank both you and Professor Laser for inviting me to join you today—and for providing a soap box to champion the importance of a robust intellectual property system.

* This Article originated as a Keynote at the Cleveland State University College of Law IP+ Conference on October 29, 2021.

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I. INTRODUCTION

Twenty years ago, when I first started participating in international conferences regarding the world’s varying patent systems, there was no doubt that the United States system was considered preeminent. Other countries sought to emulate and learn from us to encourage the fast-paced innovation in engineering and technology that we had experienced. This was not by happenstance.

Our IP system traces its roots to our Founding Fathers. Our history with the patent system for our first 200-plus years focused on providing balanced IP protection to innovators and adjusting the system when that balance was lost.¹ The collective goal was to ensure that those who invest their time and creativity into making our society a better place would know that they are assured the benefits meaningful patent protection provides. We believed that a balanced and robust patent system was a powerful force for economic growth and social good.

In the last twenty years, we have lost sight of these values and seem to have forgotten our history. The result is that our IP system is not only not the preeminent one in the world anymore, but it is considered ineffectual by many.² To paraphrase some of my judicial colleagues from around the world,³ we have gone from a country that encouraged innovation in all forms and from all sources to one that drives much of it away.⁴

Today I will describe some of our history and earlier experiences with patent reform in the United States, point out where I think we have gone astray, and end with a plea for a return to a robust system that assures balanced and meaningful IP rights. I do so with a caveat, though: this is a speech, not a law review article. Much of what I will say is drawn from historical sources or has been said before by others. That means I am just the current vehicle for a lot of collective wisdom—I do not claim original

¹ See generally Brink Lindsey, *Why Intellectual Property and Pandemics Don’t Mix*, BROOKINGS (June 3, 2021), <https://www.brookings.edu/blog/up-front/2021/06/03/why-intellectual-property-and-pandemics-dont-mix/>; see also Robin Feldman, *Our Patent System is Broken. And it Could be Stifling Innovation.*, WASH. POST (Aug. 8, 2021, 6:00 AM), <https://www.washingtonpost.com/outlook/2021/08/08/our-patent-system-is-broken-it-could-be-stifling-innovation/>.

² See Feldman, *supra* note 1.

³ Since delivery of this lecture, I have stepped down from the bench and am now Of Counsel at Irell & Manella LLP.

⁴ See Feldman, *supra* note 1.

ownership of it. Indeed, I know of many like-minded souls who feel as I do on this topic.

II. ORIGINS OF PATENT PROTECTION

Let me start with history. Patent rights in the United States began, as with many rights in our Constitution, with what the colonists saw as abuses by the King of England.⁵ In particular, it was the King's prerogative to issue patents and he used that authority as a means to control innovation, economic development, and, thus, economic independence.⁶

When our Founding Fathers drafted the Constitution, they ended this practice by allowing Congress "[t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries."⁷ This phrase—"the exclusive Right to their respective Writings and Discoveries"—is the only place in the original Constitution where the word "right" is used. According to our Founding Fathers, that "right" belonged not to the King or the President but to the inventor.⁸

This reflected a more democratic view of invention than had prevailed in England; a belief that the best ideas can come from ordinary people—even those who could not commercialize their own ideas. Indeed, a century before she would have the right to vote, Mary Kies⁹ received a patent in 1809.¹⁰

The Founders believed *these* inventors would drive and grow our then nascent economy and, in turn, protect our democratic form of government from intrusions. And it was *these* inventors whose creativity the Founders hoped patent protection would spark. Writing to Thomas Jefferson after the new Constitution was unveiled, James Madison—the father of the Constitution—called IP rights simply "too valuable" to be ignored when creating our government.¹¹

⁵ See generally Oren Bracha, *Owning Ideas: A History of Anglo-American Intellectual Property* (June 2005) (S.J.D. Dissertation, Harvard Law School).

⁶ See LEWIS H. EDMUNDS, *THE LAW AND PRACTICE OF LETTERS PATENT FOR INVENTIONS* 5-6 (Thomas M. Stevens ed., 1897) (citing *Rorke v. Dayrell* 4 T.R. 410 (K.B. 1791)) (describing the early history of letters patents in England).

⁷ U.S. CONST. art. 1, § 8, cl. 8.

⁸ See Makan Delrahim, *The "New Madison" Approach to Antitrust and Intellectual Property Law*, 1 J. L. & INNOVATION 1, 1 (2021).

⁹ See Erin Blakemore, *Meet Mary Kies, America's First Woman to Become a Patent Holder*, SMITHSONIAN (May 5, 2016), <https://www.smithsonianmag.com/smart-news/meet-mary-kies-americas-first-woman-become-patent-holder-180959008/>.

¹⁰ See Payton Hoff, *The Future of Female Inventors in the United States: A Comparative Analysis to the Republic of Korea*, 10 IP THEORY 1, 10 (2021) (discussing a history of inventions by women despite that women at the time lacked the property rights to exploit them); Patricia C. Ives, *Patent and Trademark Innovation of Black Americans and Women*, 62 J. PAT. OFF. SOC'Y 108, 114 (1980).

¹¹ See Letter from James Madison to Thomas Jefferson (Oct. 17, 1788) (available at <http://founders.archives.gov/documents/Madison/01-11-02-0218>).

After ratification, Washington's first State of the Union—roughly only 1,000 words in total—emphasized the importance of encouraging and protecting “new and useful inventions.”¹² Congress responded to this call to action by passing the Patent Act of 1790—one of the first statutes enacted by the new Congress.¹³

Notably, under the 1790 Act, inventors were entitled to patents on their inventions, whether or not they made products based on those patents.¹⁴ They were expressly given the right to license and sell their patent rights.¹⁵ Both of these were benefits not available to inventors in England.¹⁶ By adding these rights, the United States deliberately and quite consciously created what we now call non-practicing entities. These entities expanded the pool of inventors to include ordinary citizens who lacked the wealth or resources to commercialize their own inventions.¹⁷ Unlike the English system, inventing in the United States was intended to be a viable career path for our creative, but poor, citizens.

Put simply, the first chapter of American patent law began with Madison, who enshrined a democratic view of invention into the Constitution, was followed by George Washington, who made protecting inventions a central focus of the Executive branch, and was implemented by Congress through the first Patent Act.¹⁸ Once these protections were preserved in law, granting patents fell to Thomas Jefferson.¹⁹

Jefferson had been skeptical of patent rights before he became a member of the three-person board assigned to review patent applications.²⁰ He came to realize, however, as he wrote to a friend in 1790, that “issuing patents . . . has given a spring to invention beyond my conception.”²¹ But Jefferson and the other two members of the small patent board soon found that analyzing patent applications was difficult

¹² See George Washington, State of the Union Address (Jan. 8, 1790) (available at <https://www.mountvernon.org/education/primary-sources/state-of-the-union-address/#->).

¹³ See Pasquale J. Federico, *The First Patent Act*, 14 J. PAT. OFF. SOC'Y 237, 238 (1932).

¹⁴ See Patent Act of Apr. 10, 1790, ch. 7, 1 Stat. 109 (establishing the United States Patent Act) (repealed 1793).

¹⁵ See *id.*

¹⁶ See EDMUNDS, *supra* note 6.

¹⁷ See generally Bracha, *supra* note 5, at 104.

¹⁸ See generally Jessie Kratz, *Inventing in Congress: Patent Law Since 1790*, NAT'L ARCHIVES (Mar. 11, 2015), <https://prologue.blogs.archives.gov/2015/03/11/inventing-in-congress-patent-law-since-1790/>.

¹⁹ See Wm. I. Wyman, *Thomas Jefferson and the Patent System*, 85 J. PAT. & TRADEMARK OFF. SOC'Y 46, 52 (2003) (“It was also said that [Jefferson] examined personally every application filed during the existence of that act, and he may thus be credited with being the first Commissioner of Patents and the earliest patent examiner.”).

²⁰ See Russel L. Martin, *Patents*, MONTICELLO (Apr. 1989), <https://www.monticello.org/research-education/thomas-jefferson-encyclopedia/patents/>.

²¹ See *id.*

work.²² As applications piled up, IP protection faltered.²³ Between 1790 and 1793, only fifty-seven patents were granted.²⁴

Inventors began to express concern that it was too difficult to obtain a patent.²⁵ The balance of IP protections was out of equilibrium, and patent protection became no more than an empty promise.²⁶ The innovation our Founders sought to encourage stalled.

Congress responded by amending the Patent Act in 1793.²⁷ Remarkably, these amendments removed *any* review by the patent board.²⁸ Instead, every applicant received a patent as long as they filled out the paperwork and paid a modest fee.²⁹

As one would expect, this new patent system was a disaster.³⁰ Excess patents flooded the economy leading to undeserved monopolies, fraudulent applications were filed copying the creations of others, and patent litigation increased at an alarming speed.³¹ Inventors discovered that their patent monopoly was barely worth the paper on which it was written. A Senate Report from 1836 later called these 1793 amendments “onerous to the [c]ourts, ruinous to the parties, and injurious to society.”³² In short, the pendulum of IP protection had swung so far in the other direction that, in the words of that Senate Report, the objective of patent law—promoting invention—had been “in a great measure defeated” by, of all things, patent law itself.³³

Having failed by granting no patents, and having failed by granting too many patents, Congress amended the Patent Act again in 1836.³⁴ This new amendment reflected Congress’ continuing view, as one Senate Report put it, “that the evil of the temporary [patent] monopoly is greatly overbalanced by the good the community

²² *See id.*

²³ *See id.*

²⁴ *See* Karl Fenning, *Growth of American Patents*, 8 J. PAT. OFF. SOC’Y 52, 53 (1925).

²⁵ *See id.*

²⁶ *Id.*

²⁷ *Id.*; *see also* Patent Act of 1793, ch. 11, § 1, 1 Stat. 318 (Feb. 21, 1793).

²⁸ *See* Herbert J. Hovenkamp, *The Emergence of Classical American Patent Law*, 58 ARIZ. L. REV. 263, 268 (2016).

²⁹ *See id.*

³⁰ *See id.* at 269.

³¹ *See id.*

³² *See 1836 Senate Committee Report*, 18 J. PAT. OFF. SOC’Y 853, 857 (1836).

³³ *See id.* at 858.

³⁴ *See* Patent Act of 1836, Ch. 357, 5 Stat. 117 (July 4, 1836).

ultimately derives from its toleration.”³⁵ To realize the good Congress believed could be derived from properly balanced patent rights, the 1836 Act established a Patent Office headed by a dedicated Commissioner to systematically review patent applications to ensure they claimed a new, original, and useful invention.³⁶

III. PATENTS AND THE INDUSTRIAL REVOLUTION

The recalibrated patent system flourished as the Industrial Revolution came to the Americas. We saw patents issued for things as complicated as the incandescent light bulb, the rotary telephone, an internal combustion engine, a remote control for moving vehicles, the Ferris wheel, and even an airplane.³⁷ We also saw patents for mundane but useful things such as the mousetrap, the zipper, a dishwashing machine, the teabag, and, my personal favorite, peanut butter.³⁸

Not only did we see an explosion of inventions, but we saw inventions coming from all corners of society—farmers and factory workers, those without wealth or formal education, and immigrants looking for opportunity in America. One study of the most important inventions from this period found that most came from those without formal education beyond primary school.³⁹ As the author of that study put it: “The ability to obtain patents provided a means for individuals whose chief asset was technological creativity, or accumulated human capital that was conducive to inventive activity, to extract a return from their talents by focusing on invention.”⁴⁰ As our Founders hoped, the ability to invent—the *right* to invent, and to protect that invention—once again belonged to anyone with a good idea.

Many of these patents were issued to inventors and then licensed to others.⁴¹ These non-practicing inventors included the likes of Thomas Edison, Charles Goodyear, and Nikola Tesla, to name just a few.⁴² These new patents, and our recalibrated patent system, were a central part of America’s economic success during the Industrial

³⁵ See 1836 Senate Committee Report, *supra* note 32.

³⁶ See Kratz, *supra* note 18.

³⁷ See BRITANNICA, THE 100 MOST INFLUENTIAL INVENTORS OF ALL TIME 135–36, 145, 151, 170 (Robert Curley ed. 2010).

³⁸ See Kat Eschner, *This Time-Saving Patent Paved the Way for the Modern Dishwasher*, SMITHSONIAN MAG. (Dec. 28, 2017), <https://www.smithsonianmag.com/smart-news/time-saving-patent-paved-way-modern-dishwasher-180967656/>; see also Nicholas Jackson, *Mousetraps: A Symbol of the American Entrepreneurial Spirit*, THE ATLANTIC (Mar. 28, 2011), <https://www.theatlantic.com/technology/archive/2011/03/mousetraps-a-symbol-of-the-american-entrepreneurial-spirit/70573/>.

³⁹ See CECILIA GARCIA-PENALOSA & THEO S. EICHER, INSTITUTIONS, DEVELOPMENT, AND ECONOMIC GROWTH 140 (2006).

⁴⁰ See *id.* at 139.

⁴¹ See Sean Bottomley, *Patents and the First Industrial Revolution in the U.S., France and Britain, 1780-1850* 19 (Inst. for Advanced Study in Toulouse, Working Paper 14-14, 2014).

⁴² See BRITANNICA, *supra* note 37, at 90, 140–41, 151–53.

Revolution and the nineteenth century.⁴³ Even Abraham Lincoln—the only U.S. President with his own patent—recognized that our patent system had “added the fuel of *interest* to the *fire* of genius, in the discovery and production of new and useful things.”⁴⁴

This newly balanced patent system and the innovation it unleashed quickly became the world’s envy.⁴⁵ While attending the 1876 Centennial Exhibition in Philadelphia, Sir William Thomson, the president of the Mathematical and Physical Section of the British Association, stated that, “[i]f Europe does not amend its patent laws, America will speedily become the nursery of useful inventions for the world.”⁴⁶

Sir Henry Sumner Maine, a British jurist and legal historian, called the federal grant of patent rights the “provision[] of the Constitution of the United States which has most influenced the destinies of the American people.”⁴⁷ This patent system, he declared, made the United States “the first in the world for the number and ingenuity of the inventions by which it has promoted the ‘useful arts.’”⁴⁸

When Japan’s Assistant Secretary of State visited the United States in the late nineteenth century to—in his words—discover “[w]hat it is that makes the United States such a great nation,” he toured the Patent Office.⁴⁹ He left with a simple answer to his question: patents.⁵⁰

The lesson we should take from this history is that the patent system can, as Lincoln said, fuel the fire of genius.⁵¹ But it can only achieve this goal when IP protection is awarded for any novel innovation—no matter its source—and is then secured by a measure of certainty that allows inventors to protect those inventions. This is the *balanced* system of IP rights—not too many patents, but also not too few, not too broad a level of protection but not too narrow either. While we may not have fully understood why this Goldilocks-like balance was necessary, we had learned from our mishaps to appreciate its importance and idiosyncrasies.

As our post-World War II economy boomed, some began to question the continuing need for patent protection. Federal courts began to invalidate patents at break-neck speed, inconsistently applying what came to be known as the “invention

⁴³ See Bottomley, *supra* note 41, at 18.

⁴⁴ See Abraham Lincoln, Second Lecture on Discoveries and Inventions, in 3 THE COLLECTED WORKS OF ABRAHAM LINCOLN 356, 363 (Roy P. Basler ed., 1953) (emphasis added).

⁴⁵ See Bottomley, *supra* note 41, at 19.

⁴⁶ See David Kline, *Do Patents Truly Promote Innovation?*, IPWATCHDOG (April 15, 2014), <https://www.ipwatchdog.com/2014/04/15/do-patents-truly-promote-innovation/id=48768/>.

⁴⁷ See HENRY S. MAINE, POPULAR GOVERNMENT: FOUR ESSAYS 246 (H. Holt, 1886).

⁴⁸ See *id.* at 247.

⁴⁹ See Kline, *supra* note 46.

⁵⁰ See *id.*

⁵¹ See Lincoln, *supra* note 44, at 363.

requirement”—itself invented in a Supreme Court case,⁵² rather than by Congress or the Constitution.⁵³ Courts were instructed to invalidate patents if the invention did not actually involve “invention”—whatever that meant.⁵⁴ The distinguished jurist Learned Hand called the invention requirement “the most baffling concept” in all of patent law.⁵⁵ And Justice Robert Jackson wrote—dissenting in yet another case where a patent was invalidated under this ill-defined requirement—that it seemed the only valid patent was “one which [the Supreme Court] ha[d] not been able to get its hands on.”⁵⁶

IV. MODERN PATENT JURISPRUDENCE

As it had in the middle of the nineteenth century, Congress tried again in the middle of the twentieth century to bring balance back to patent law and to strengthen the protections it offered to inventors, especially smaller ones.⁵⁷ It set its sights on the “invention” requirement and passed the Patent Act of 1952, which replaced the judge-made invention requirement with Section 103—covering obviousness.⁵⁸ With this new measure of certainty, innovation again began to flourish.

But our country became more geographically diverse. And larger, well-established companies—especially automobile companies—became less dependent on patent rights as they became more able to flourish by relying on their size, vertical integration, and large economies of scale.⁵⁹ Forgetting that they built their companies on their early patents, these large companies began disparaging the patent system.⁶⁰ As attitudes about patents started to change, and to vary from one industry to the next,

⁵² See *Parker v. Flook*, 437 U.S. 584, 594 (1978); see also J. Giles S. Rich & J. Paul R. Michel, *Laying the Ghost of the Invention Requirement*, 41 AIPLA Q. J. 1, 7 (2013) (explaining the origins of the “invention requirement”).

⁵³ See Lawrence Baum, *The Federal Courts and Patent Validity: An Analysis of the Record*, 56 J. PAT. OFF. SOC'Y 758, 760 tbl. 1 (1974) (showing that federal appellate courts, on average, invalidated patents at a rate of 77% between 1941–1945); *id.* at 777 tbl. 5 (showing that the Supreme Court invalidated patents at a rate higher than 81% from 1921–1973, except during 1953–1964 when the Court did not issue any decisions on patent validity); see also Rich & Michel, *supra* note 52.

⁵⁴ See Rich & Michel, *supra* note 52.

⁵⁵ See *Lyon v. Bausch & Lomb Optical Co.*, 224 F.2d 530, 536 (2d Cir. 1955).

⁵⁶ See *Jungersen v. Ostby & Barton Co.*, 335 U.S. 560, 572 (1949) (Jackson, J., dissenting).

⁵⁷ See *generally* Patents, 35 U.S.C. § 1–14 (1953).

⁵⁸ See Patent Act of 1952 (Patent Law Codification and Revision Act), Pub. L. No. 82-593, § 103, 66 Stat. 792, 798 (1952).

⁵⁹ See Richard N. Langlois & Paul L. Robertson, *Explaining Vertical Integration: Lessons from the American Automobile Industry*, 49 J. ECON. HIST. 361, 372–73 (1989).

⁶⁰ See *A Brief History of the Patent Law of the United States*, LADAS & PARRY (May 7, 2014), <https://ladas.com/education-center/a-brief-history-of-the-patent-law-of-the-united-states-2/>.

results in patent cases began to differ from one judicial circuit to the next.⁶¹ The uncertainty these shifts engendered made it increasingly difficult to rely upon patent rights. This uncertainty plagued both innovators and those businesses interested in operating on a nation-wide basis without fear of infringement challenges.⁶²

Congress responded once more—this time by creating the Court of Appeals for the Federal Circuit in 1982.⁶³ In the words of the Carter Administration, the creation of the Federal Circuit was intended to “expand the Federal judicial system’s capacity for definitive adjudication of national law and thereby,” “encourage industrial innovation.”⁶⁴

By its very existence, the Federal Circuit went a long way toward achieving the process-related goals that led to its creation. Once declared not invalid by a Federal Circuit judgment, absent Supreme Court intervention, a patent retained that status on a nation-wide basis.⁶⁵ And, if a given product infringed a patent claim in one judicial district, it infringed in them all.⁶⁶

During its early years, moreover, the Federal Circuit generally was more protective of patent rights than many regional circuits had been.⁶⁷ It also hued more closely to the terms of the Patent Act.⁶⁸ My predecessors on the court also prioritized giving patent owners and those seeking to design around those patents some certainty about how those patents would be measured.⁶⁹ This led inventors and investors to embrace the patent system once again.⁷⁰

⁶¹ *See id.*

⁶² *See* EXEC. OFF. OF THE PRESIDENT, PAT. ASSERTION AND U.S. INNOVATION 2 (June 2013).

⁶³ *See* Federal Courts Improvement Act of 1982, Pub. L. No. 97-164, 96 Stat. 25 (codified at 28 U.S.C. § 1295).

⁶⁴ *Court of Appeals for the Hearing on H.R. 2405 Before the Subcomm. on Cts., Civ. Liberties & the Admin. of J. of the H. Comm. on the Judiciary*, 97th Cong. 334–35 (1981).

⁶⁵ *See About the Court*, U.S. FED. CIR. (2022), <https://cafc.uscourts.gov/home/the-court/about-the-court/>; *see also Court Jurisdiction*, U.S. FED. CIR. (2022), <https://cafc.uscourts.gov/home/the-court/about-the-court/court-jurisdiction/>.

⁶⁶ *See* Howard I. Shin & Christopher T. Stidvent, *The Evolution of Nationwide Venue in Patent Infringement Suits*, 9 LANDSLIDE 2, 11 (2016).

⁶⁷ *See* Paul R. Gugliuzza, *Saving the Federal Circuit*, 13 CHI.-KENT J. INTELL. PROP. 350, 371 (2014).

⁶⁸ *See* Melissa F. Wasserman, *The Changing Guard of Patent Law: Chevron Deference for the PTO*, 54 WM. & MARY L. REV. 1959, 1974 (2013).

⁶⁹ *See generally* Maria L. Palmese, *Patent Litigation in the United States: Overview*, THOMPSON REUTERS PRAC. L. (July 1, 2018).

⁷⁰ *See* LAWRENCE M. FRIEDMAN, *AMERICAN LAW IN THE 20TH CENTURY* 427–28 (Yale Univ. Press, 2002).

At about the same time, the Bayh-Dole Act, and the public-private partnerships it authorized gave rise to an explosion of patented medical advancements.⁷¹ Though, sadly, ill-conceived proposals to use provisions of the Bayh-Dole Act to control drug prices rather than encourage medical innovation have recently emerged.⁷²

Other countries again looked to the United States as a model against which they measured their own patent systems. Citations to United States patent cases and principles began to appear globally. Other courts in other countries tried to learn from our experiences and rulings. These experiences taught us that careful recalibration of the patent system in response to changing circumstances is both possible and sometimes necessary.

Unfortunately, that trend did not last. As technology began moving rapidly in the late 1990s, the Patent Office was flooded with applications for patents on increasingly complex and sophisticated inventions.⁷³ Meaningful examination suffered.⁷⁴ And patent quality suffered.⁷⁵ As the Patent Office was pressured to move its backlog, patents were issued that should never have been authorized.

And, as patents and strategies for monetizing those patents multiplied, litigation surged.⁷⁶ Patent litigation came to be viewed as a deterrent to the very innovation the Founders and Congress had sought to encourage.⁷⁷ Many also became skeptical of the value of patent monetization to our economy.⁷⁸

Attacks emerged, both on the Patent Office and on the patent system as a whole.⁷⁹ A cadre of very vocal critics said the patent system was hindering rather than fueling innovation.⁸⁰ Non-practicing patent owners were painted as the primary culprit and

⁷¹ See Howard Markel, *Patents, Profits, and the American People – The Bayh–Dole Act of 1980*, 369 NEW ENG. J. MED. 794, 796 (2013).

⁷² See Natalie Goldberg, *The Bayh-Dole Act: Is It the Proper Treatment for the Big Pharma Price-Gouging Epidemic?*, 29 FED. CIR. BAR J. 387, 388 (2020).

⁷³ See U.S. PATENT AND TRADEMARK OFFICE, *U.S. Patent Statistics Chart Calendar Years 1963-2020* (May, 2021), https://www.uspto.gov/web/offices/ac/ido/oeip/taf/us_stat.htm.

⁷⁴ See Nancy T. Gallini, *The Economics of Patents: Lessons from Recent U.S. Patent Reform*, 16 J. ECON. PERSP. 131, 131 (2002).

⁷⁵ See R. Polk Wagner, *Understanding Patent-Quality Mechanisms*, 157 UNIV. PA. L. REV. 2135, 2159 (2009).

⁷⁶ See *id.* at 2138.

⁷⁷ See *id.* at 2140–41, 2143.

⁷⁸ See Jonathan Barnett, *Patent Tigers: Study Challenges ‘Pat. Skeptics’ on the Benefits of Patents for Developing Economies*, IPWATCHDOG (June 21, 2020), <https://www.ipwatchdog.com/2020/06/21/patent-tigers-study-challenges-patent-skeptics-benefits-patents-developing-economies/id=122657/>.

⁷⁹ See Electronic Frontier Foundation, *Infographic: How Patents Hinder Innovation*, OPENSOURCE (Mar. 6, 2012), <https://opensource.com/law/12/3/how-patents-hinder-innovation>.

⁸⁰ See generally *id.*

given the unsavory moniker “Patent Troll.”⁸¹ The outcry against them, and the litigation abuses their activities allegedly engendered, became deafening.

Rather than address some of these precise problems with balanced fixes as it had in 1952 and 1982, Congress dramatically revamped the patent system with the America Invents Act of 2011 (“AIA”).⁸² The AIA created new ways to reassess, reexamine, and ultimately invalidate patents as a supposed alternative to litigation.⁸³ While Congress once again said it was hoping to promote innovation with the AIA, the new means for reexamining patents became known as places where patents—even good ones—went to die, and as a roadblock to smaller innovators.⁸⁴ The early implementation of the AIA stretched its charge far beyond that intended by the drafters. Rather than target only weak patents and strengthen and refine the parameters of good ones, the early Patent Trial and Appeal Board rules and rulings focused on getting rid of as many patents as possible, even via serial challenges to the same claims.⁸⁵

At the same time, members of the Executive Branch began to endorse policies designed to limit the enforcement of clearly valid patents.⁸⁶ They took the view, for example, that *any* attempt to enforce a standard essential patent should be viewed as anti-competitive.⁸⁷ They seemed to forget that patent grants were intended to confer a limited monopoly and that attempts to enforce patents are not illegally anti-competitive.⁸⁸ While this view happily waned during the Trump administration, it is once more rearing its head.

The Supreme Court aggressively joined the other two branches in this broad scale attack on the patent system.⁸⁹ First, despite Congress’ and the Federal Circuit’s attempts to provide patent owners with some measure of certainty, the Supreme Court

⁸¹ Raymond P. Niro, *Who Is Really Undermining the Patent System – “Patent Trolls” or Congress?*, 6 J. MARSHALL REV. INTELL. PROP. L., 185, 192 (2007); see Robyn Ast-Gmoser, *Non-Practicing Entities Target Electronic Health Records Apps in Patent. Litigation*, THOMPSON COBURN LLP (May 26, 2021), <https://www.jdsupra.com/legalnews/non-practicing-entities-target-1159116/>.

⁸² See Leahy-Smith America Invents Act, Pub. L. No. 112–29, 125 Stat. 284 (2011).

⁸³ See Rebecca Gentili, Note, *A Free Bite at the Apple: How Flawed Statutory Drafting Has Undermined the Purpose of the Patent Trial & Appeal Board*, 67 DUKE L. J. 1580, 1587 (2018).

⁸⁴ See generally Wasserman, *supra* note 68.

⁸⁵ See Steve Brachmann & Gene Quinn, *Are More Than 90 Percent of Patents Challenged at the PTAB Defective?*, IPWATCHDOG (June 14, 2017, 10:00 AM), <https://www.ipwatchdog.com/2017/06/14/90-percent-patents-challenged-ptab-defective/id=84343/>.

⁸⁶ See, e.g., Matthew Bultman, *Biden Signals Shift Toward Tech on Standard Essential Patents*, BLOOMBERG (July 26, 2021, 5:02 AM), <https://news.bloomberglaw.com/tech-and-telecom-law/biden-signals-shift-toward-tech-on-standard-essential-patents>.

⁸⁷ See *id.*

⁸⁸ See generally U.S. CONST. art. I, § 8, cl. 8.

⁸⁹ See, e.g., *Mayo Collaborative Servs. v. Prometheus Lab’ys, Inc.*, 566 U.S. 66 (2012).

continues to prefer flexible tests and fluid standards.⁹⁰ But this approach can foster uncertainty, for patent owners, would-be inventors, and businesses trying to understand the legitimate limits on their activities. And it forces both sides to resort to litigation to understand the true boundaries of patent protection. It also discourages settlement of patent disputes.⁹¹

Second, although Congress has repeatedly recognized that limited patent monopolies are good for our economy,⁹² the Supreme Court seems skeptical about anything resembling a monopoly, interpreting the legitimate monopolies that patents convey narrowly at every opportunity.⁹³ Among other things, the Supreme Court has limited a patent owner's ability to obtain an injunction, despite the reference to exclusive rights in the Constitution. It also has expanded how patent owners may inadvertently exhaust their rights, permitted patent owners to lose those rights entirely without a jury trial and declared, despite repeated historical case law to the contrary, that patents do not confer true property rights.⁹⁴ And, perhaps most frustratingly, the Court has declared a whole host of inventions, regardless of "whether they are new, non-obvious and useful," to be unpatentable under Section 101 of the Patent Act, including major medical diagnostic breakthroughs.⁹⁵ Some believe the Supreme Court's 35 U.S.C. § 101 jurisprudence—predicated once more on judicially created exceptions to the right to patent one's inventions—is just as "baffling" as the now-defunct "invention" requirement.⁹⁶

Finally, the Supreme Court seems to have bought into the view that all non-practicing entities impose a burden on the economy, seemingly believing that they are a newly emerging defect of the patent system, rather than an intended feature of it.⁹⁷ And, the Court seems to believe that invalidating patents is the only way to combat litigation abuses.

⁹⁰ See Samuel F. Ernst, *A Patent Reformist Supreme Court and Its Unearthed Precedent*, 29 FORDHAM INTELL. PROP. MEDIA & ENT. L. J. 1, 1 (2018).

⁹¹ See Wagner, *supra* note 75, at 2138, 2143.

⁹² See Zia Qureshi, *Intellectual Property, Not Intellectual Monopoly*, BROOKINGS (July 11, 2018), <https://www.brookings.edu/opinions/intellectual-property-not-intellectual-monopoly/>.

⁹³ See, e.g., *Ill. Tool Works Inc. et. al. v. Indep. Ink, Inc.*, 547 U.S. 28, 33–34 (2006).

⁹⁴ See Emma Barraclough, *US Supreme Court Rewrites the Rules on Patent Exhaustion*, WIPO (Aug. 2017), https://www.wipo.int/wipo_magazine/en/2017/04/article_0008.html (last visited Sept. 12, 2022).

⁹⁵ See Shahrokh Falati, *Patent Eligibility of Disease Diagnosis*, 21 N.C. J.L. & TECH. 63, 63 (2020); Patent Act of 1952 (Patent Law Codification and Revision Act), Pub. L. No. 82-593, § 101, 66 Stat. 792 (1952).

⁹⁶ *Petition for Writ of Certiorari, Am. Axle & Mfg., Inc. v. Neapco Holdings L.L.C. & Neapco Drivelines L.L.C.*, 977 F.3d 1379 (Fed. Cir. 2020), *cert. denied*, 2019 WL 11611081 (June 20, 2022) (citing *Athena Diagnostics, Inc. v. Mayo Collaborative Servs., L.L.C.*, 927 F.3d 1333, 1372 (Fed. Cir. 2019)).

⁹⁷ See generally Gene Quinn, *In Search of a Definition for the Term "Patent Troll,"* IPWATCHDOG (July 18, 2020, 11:46 PM), <https://www.ipwatchdog.com/2010/07/18/definition-patent-troll/id=11700/>.

V. THE PATENT SYSTEM MOVING FORWARD

So where are we now? It seems apparent that the Supreme Court's jurisprudence, the AIA, the PTO's early implementation of the AIA, the Federal Circuit's application of all three, and the drumbeat of criticisms of the patent system have dramatically altered the landscape. In the United States, we seem to have thrown the baby of good intentions out with the bath water of undeserving patents.

In doing so, we have reduced the incentive to innovate—particularly in areas with high research and development dollars—and shipped innovation overseas.⁹⁸ Put simply, we once again have a patent system that is out of balance, one that fails to provide patent protection robust enough to foster innovation.

This observation is not just an opinion. U.S. patents have become less valuable.⁹⁹ According to one estimate, the value of patent portfolios dropped sixty-one percent from 2012 to 2014 and has continued to decline ever since.¹⁰⁰ These consequences are felt across all IP-intensive industries, like software development and pharmaceutical research—fields that generate tens of millions of high-paying jobs and account for nearly forty percent of our gross domestic product.¹⁰¹

These consequences are felt *most* acutely by smaller companies and startups.¹⁰² For these companies, some of their most valuable assets—perhaps their only—are patents.¹⁰³ Patent protection may also be the only way startups can compete with established players. The established players have other ways to deter competition—their market presence, infrastructures, and economies of scale.¹⁰⁴ This is why studies and surveys show that investors value patents, and that startups with patents have an easier time securing funding.¹⁰⁵ Indeed, on the TV show “Shark Tank” the “sharks”

⁹⁸ See Daniel F. Spulber, *How Do Competitive Pressures Affect Incentives to Innovate When There Is a Market for Inventions?*, 121 J. POL. ECON. 1007, 1040 (2013).

⁹⁹ See Stephen Key, *In Today's Market, Do Patents Even Matter?*, FORBES (Nov. 13, 2017, 4:45 PM), <https://www.forbes.com/sites/stephenkey/2017/11/13/in-todays-market-do-patents-even-matter/?sh=6d8d579d56f3>.

¹⁰⁰ See Michael Shore, *How Google and Big Tech Killed the U.S. Patent System*, IPWATCHDOG (Mar. 21, 2018), <https://www.ipwatchdog.com/2018/03/21/how-google-and-big-tech-killed-the-u-s-patent-system/id=95080/>.

¹⁰¹ See U.S. Patent and Trademarks Office and Economics and Statistics Administration Joint Report, *Intell. Prop. and the U.S. Econ.*, 2016 Update, 1, 1 (2016).

¹⁰² See *id.* at 5.

¹⁰³ See *id.*

¹⁰⁴ See, e.g., *Facebook is a Social Network Monopoly that Buys, Copies, or Kills Competitors, Antitrust Committee Finds*, CNBC (Oct. 6, 2020, 10:35 PM), <https://www.cnbc.com/2020/10/06/house-antitrust-committee-facebook-monopoly-buys-kills-competitors.html>.

¹⁰⁵ See Stjepko Tokic, *The Interplay Between User Innovation, the Patent System and Product Liability Law: Policy Implications*, 99 J. PAT. & TRADEMARK OFF. SOC'Y 20, 30–31 (2017).

regularly quiz inventors about whether their patents protect their ideas.¹⁰⁶ And the “sharks” are much more likely to invest in entrepreneurs with patent protection.¹⁰⁷

But investment in high-tech startups that depend on patents to discover new drugs or to develop new wireless communication standards has cratered. In 2004, these startups accounted for 21 percent of venture capital investment.¹⁰⁸ By 2017, that number had fallen to 3 percent.¹⁰⁹ Our venture capital dollars are being put into social media, food sales, and clothing—not into technology that will secure our economic prominence over the long term.

Investors are also increasingly looking overseas. In the field of artificial intelligence, for example, where patents might play a critical role in protecting algorithms if not for the Supreme Court’s decision in *Alice*,¹¹⁰ the United States now lags behind China, which attracted 48 percent of all venture capital investment into AI in 2017.¹¹¹ China now issues more patents than the United States.¹¹²

Would-be innovators in the United States do not see value in STEM education and spending time developing new technologies because that is not where one can make money with any assurance.¹¹³ As a result, China has surpassed us in the number of PhD’s earned and the volume of technological publications its scientists generate.¹¹⁴

Again, this recent experience suggests that our patent system is out of balance. We have diluted what our Founders sought to ensure for the country: a strong national economy driven by innovation.¹¹⁵ We have lost sight of the lessons history has taught us. Rather than recalibrate the patent system to address criticisms of it, we have detonated it.

Why should anyone care about all of this? Some feel that innovation has become organic, that clever innovations will be rewarded in the marketplace and do not need

¹⁰⁶ *See id.* at 31.

¹⁰⁷ *See id.*

¹⁰⁸ *See Innovation Nation: How Small Businesses in the Digital Technology Industry Use Intellectual Property: Hearing Before the H. Comm. on Small Business*, 115th Cong. 10 (2018).

¹⁰⁹ *See id.*

¹¹⁰ *Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208 (2014).

¹¹¹ *See Jackie Snow, China’s AI Startups Scored More Funding Than America’s Last Year*, MIT TECH. REV. (Feb. 14, 2018), <https://www.technologyreview.com/2018/02/14/145616/chinas-ai-startups-scored-more-funding-than-americas-last-year/>.

¹¹² *See World Intellectual Property Indicators 2021*, WORLD INTELL. PROP. ORG., 2021, at 1, 7.

¹¹³ *See Gabrielle Athanasia & Jillian Cota, The U.S. Should Strengthen STEM Education to Remain Globally Competitive*, CTR. FOR STRATEGIC & INT’L STUD. (Apr. 1, 2022), <https://www.csis.org/blogs/perspectives-innovation/us-should-strengthen-stem-education-remain-globally-competitive>.

¹¹⁴ *See id.*

¹¹⁵ *See* U.S. CONST. art. I, § 8, cl. 8.

the mantle of IP protection.¹¹⁶ Indeed, some argue that strong patent protection actually harms innovation by making it difficult to quickly build on the work of others and imposing undue litigation burdens on businesses.¹¹⁷ I could not disagree more. We do not need to abandon the patent system. We need a new national patent policy to restore balance to it.

If the pandemic has taught us anything, it is that a balanced patent system can help spur innovation to address complex problems that we all face, like climate change, and—yes—intractable diseases. The COVID mRNA vaccines are the product of over thirty years of dedicated scientific study, protected in many aspects by patents.¹¹⁸ The collaborations among pharmaceutical competitors that have made a vaccine supply available were only possible because each entity knew that patents protected its own inventions.¹¹⁹

As our Founding Fathers recognized, ensuring that innovation remains democratic is critical.¹²⁰ Otherwise, economic independence will belong to only those who already possess power and privilege and the nature of innovation will stagnate. As Jonathan Barnett explains in his new book, weak patent protection discourages innovation in new fields, as large, established firms turn to other vehicles to discourage or thwart competition.¹²¹ Yes, we want fancier cellphones, but that is not all we want. We want a new Thomas Edison, a new Nikola Tesla, a new Bill Gates, and a new Steve Jobs who will innovate in spaces none of us have yet to imagine.

Balanced patent protection provides certainty to innovators.¹²² I do not mean certainty that they will be granted patents. As we learned in 1793, too many low-quality and duplicative patents can make all patents less valuable.¹²³ Certainty means

¹¹⁶ See Tim Kastle, *Innovation Without Intellectual Property Protection*, TIM KASTELLE BLOG (June 4, 2010), <https://timkastle.org/blog/2010/06/innovating-without-intellectual-property-protection/> (discussing Johanna's opinions on not needing intellectual property to succeed).

¹¹⁷ See Gregory Day & Steven Udick, *Patent Law and the Emigration of Innovation*, 94 WASH. L. REV. 119, 121 (2019).

¹¹⁸ See Elie Dolgin, *The Tangled History of mRNA Vaccines*, NATURE (Oct. 22, 2021), <https://www.nature.com/articles/d41586-021-02483-w>.

¹¹⁹ See Miriam Marcowitz-Bitton & Yotam Kaplan, *Recalibrating Patent Protection For COVID-19 Vaccines: A Path to Affordable Access and Equitable Distribution*, 12 U.C. IRVINE L. REV. 423, 428–429 (2022).

¹²⁰ See Joshua L. Friedman & Gary C. Norman, *The Norman/Friedman Principle: Equal Rights to Information and Technology Access*, 18 TEX. J. ON CIV. L. & C.R. 47, 72 (2012).

¹²¹ JONATHAN M. BARNETT, *INNOVATORS, FIRMS, AND MARKETS: THE ORGANIZATION LOGIC OF INTELLECTUAL PROPERTY 1* (2021).

¹²² See FED. TRADE COMM'N, *TO PROMOTE INNOVATION: THE PROPER BALANCE OF COMPETITION AND PATENT LAW AND POLICY* (Oct. 2003), <https://www.ftc.gov/sites/default/files/documents/reports/promote-innovation-proper-balance-competition-and-patent-law-and-policy/innovationrpt.pdf>.

¹²³ See James P. Hughes, *Patent Law Through Patent Administration: The First Patent Superintendent's Creation of Reissue Practice and Law*, 18 FED. CIR. BAR J. 451, 453 (2009).

that having a patent is meaningful, that inventors' patent rights will be judged under clear standards, applied fairly and consistently, and that investment in inventions protected by those patents will not be deemed too risky.

We need to focus less on stripping patent rights away from those who have already built their businesses in reliance on those rights. We should strive instead to improve the front end, by: (1) educating the public about the importance of IP protection; (2) encouraging individual innovators from all walks of life to seek IP protection; (3) teaching individual and small entity innovators how to avoid asking for patent claims that will not withstand invalidity challenges; and (4) investing in a better examination process. Why focus all the new talent in the U.S. Patent and Trademark Office on the back end—invalidating patents that have issued—rather than the examination and patent-granting process?

We must also resist the temptation to address nuanced issues, like the litigation abuses many rightly complain about, with one-size-fits-all solutions. This means acknowledging that non-practicing entities, like research universities and independent inventors, who license their ideas to others, play an important role in the patent system. If we punish all those who do not commercialize their ideas, we run the risk of making patent rights accessible to only those who can afford to practice them, and of destroying what Madison carefully crafted. We need to revise our view of what it means to be a “Patent Troll.”

A balanced view of patent enforcement must also acknowledge that patent owners need to have meaningful rights, including the right to exclude others in appropriate circumstances. While, after the Supreme Court's *eBay v. MercExchange* decision,¹²⁴ injunctions in the United States are the exception rather than the norm, that is not true everywhere.¹²⁵ In China, injunctions are granted in ninety percent of cases where infringement is found.¹²⁶ Injunctive relief in the face of infringement is also the norm throughout Europe.¹²⁷ And most countries have recognized that this right should extend, in appropriate cases, to those who hold standard essential patents.¹²⁸ Many of my counterparts around the world believe the Supreme Court's *eBay* decision in 2006 is what started our slide away from preeminence.¹²⁹

We need to use patent policy to regain our place on the world stage. We must treat patent law with care. When we get it right, a properly calibrated patent system can unlock desperately needed innovation—innovation needed not just for our economy but for our society—in medical care, cyber security, energy, and environmental

¹²⁴ See C. J. Paul Michel, *To Promote Innovation, Congress Should Lessen Restrictions on Injunctive Relief for Patent Owners*, 10 NAT'L L. REV. 1, 2 (2020); see also *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 395 (2006).

¹²⁵ See Renjun Bian, *Patent Litigation in China: Challenging Conventional Wisdom*, 33 BERKELEY TECH. L. J. 413, 437 (2018).

¹²⁶ See *id.* at 436.

¹²⁷ See Michel, *supra* note 124, at 3.

¹²⁸ See generally *id.* at 4.

¹²⁹ See generally James J. Lisak, *An Analysis of eBay, Inc. v. MercExchange, L.L.C.: Patenting Gone Awry*, 19 LOY. CONSUMER L. REV. 70, 70 (2006).

science, to name just a few. That potential can be unlocked from anyone with a good idea.

It is time to ensure our patent dialogue is a positive one—one aimed at making our IP systems more robust, rather than tearing them down. Our steps going forward must be informed by the lessons of history. We must strive for a patent system that—in the words of Lincoln—continues to “add[] the fuel of interest to the fire of genius” for all innovators.

Thank you for indulging me.¹³⁰

¹³⁰ Much has occurred since this lecture was delivered. Unfortunately, those new developments have only made the landscape for future innovation more bleak by further weakening our patent system. Those changes deserve separate discussions outside the scope of this Article, however.