

THE EMERGENCE OF CLASSICAL AMERICAN PATENT LAW

Herbert Hovenkamp^{*}

Prior to the mid-nineteenth century, American legislatures and courts conceived of the patent as an active tool of economic growth. Patents were issued to both inventors and “promoters” who promised to deploy technology that had already been invented. In the 1830s a much more classical conception of the patent emerged, as a property right pure and simple. Questions about whether and how to employ patents were lodged almost entirely with their owners, who even acquired the power to keep patented technology off the market, precisely contrary to what the original Framers had in mind. An essential part of this development was the rise of federal patent exclusivity—a result that was not mandated by the text of the Constitution’s IP Clause. Only federal exclusivity could limit the power of the states to grant unwarranted exclusive rights to favored grantees. The result was a regime in which Congress acquired the exclusive power to award patents for inventions, while state law largely controlled post-issuance commerce in patents. Changes in U.S. patent law under the 1836 Patent Act and later were driven by the classical belief that monopoly undermines economic growth, with invention as a narrow exception. This entailed two requirements: (1) the conditions for obtaining a patent be narrow, limited to actual inventions within the applicant’s possession, and adequately disclosed; and (2) patent issuance had to be made a nonpolitical, administrative action. Together these requirements led both Congress and the courts away from relatively open ended policy concerns, and toward technical specification and boundary clarity. The result was a patent system increasingly detached from questions about economic development.

^{*} Ben V. & Dorothy Willie Professor of Law and History, University of Iowa. Thanks to Jason Rantanen and Camilla Hrdy for commenting on a draft.

TABLE OF CONTENTS

INTRODUCTION.....	264
I. THE CHANGING CONCEPTION OF THE AMERICAN PATENT	267
A. The Origins of Patent Exceptionalism	270
B. Federal Exclusivity.....	272
II. CLASSICAL PATENT LAW	273
A. The Patent in Classical Political Economy	273
B. State vs. Federal Patenting Power: Promoters vs. Inventors	276
C. State-Issued Patents.....	279
D. Economic Development and Unworked Patents	283
E. Patents and Special Interest Capture: The First Sale Doctrine and Substantive Due Process	289
F. Federalism and the Patent “Property” Right	292
G. Federal Law: Patent Eligibility and Scope	294
H. Regulation of Issued Patents: From State Law to Progressive Federal Expansion	297
1. State Patent Regulation	298
2. The Classical Patent in Decline: Federalism, the First Sale Doctrine, and the Invasion of Competition Law.....	300
CONCLUSION: PATENTS, ECONOMIC DEVELOPMENT, AND PROPERTY RIGHTS	306

INTRODUCTION

One enduring debate about the ideological origins of the U.S. Constitution concerns whether it reflected and gave effect to a “classical” theory of statecraft. Richard Epstein has argued forcefully that the Constitution was created as a “classical liberal” document but was hijacked after a century and a half by “progressives.”¹ I believe that this characterization is historically mistaken. The Constitution as written both tolerated and embraced a significant amount of state intervention. That was also true of contemporaneous state constitutions. They began to be interpreted more classically only during the 1830s and after.²

As used here, the terms “classical” or “classical liberal” refer to a theory of the State that maximizes the role of private markets and minimizes the role of government in economic affairs. Some advocates believe this classicism rests on a conception of an *a priori* social contract, in which each participant agreed to be governed but also agreed to give up as few individual rights as possible.³ Others,

1. RICHARD A. EPSTEIN, *THE CLASSICAL LIBERAL CONSTITUTION* 45–73 (2014).

2. Herbert Hovenkamp, *Inventing the Classical Constitution*, 101 IOWA L. REV. 1 (2015) [hereinafter Hovenkamp, *Inventing the Classical Constitution*]. For a response, see Richard A. Epstein, *Rediscovering the Classical Liberal Constitution: A Reply to Professor Hovenkamp*, 101 IOWA L. REV. 55 (2015).

3. EPSTEIN, *supra* note 1, at 20; see also JAMES M. BUCHANAN & GORDON TULLOCK, *THE CALCULUS OF CONSENT: LOGICAL FOUNDATIONS OF CONSTITUTIONAL DEMOCRACY* (1962); Adam Mossoff, *Who Cares What Thomas Jefferson Thought About*

including myself, believe that the conception of a social contract barely influenced American constitutional thought, including that of the Framers and even the advocates of substantive due process, which represented the high water mark for constitutional classicism.⁴

The actual historical Constitution envisioned an active role for the government in promoting economic development. To be sure, that role was different from the one we envision today, with a large public budget, deficit spending, and numerous government agencies. Rather, pre-classical theories of economic development advocated for heavy government contribution to private entrepreneurs to encourage construction of infrastructure and technology. This included tax exemptions, bounties, or guarantees of profitability through the creation of exclusive or monopoly rights.

Constitutional classicists came to reject this view of public involvement in the economy. The most central and powerful proposition of classical constitutionalism is that the government's role in economic development should be minimal. First, private rights in property and contract exist prior to any community needs for development.⁵ Second, if a particular project is worthwhile, the market itself will make it occur. The only exception is a tiny subset of public goods.⁶ Third, when the government attempts to induce development by creating exclusive rights, tax benefits, or other perquisites, politics inevitably distorts the decision-making. The result is excessive creation, with a bias favoring politically-well-placed interest groups.⁷

Whatever value classicism may have as a theory of statecraft, it was not a part of the historical Constitution nor of its dominant early interpreters. To the extent classicists made their views known at the time, they were resoundingly rejected.⁸ Only with the rise of the Jackson era in the 1820s and 1830s did constitutional interpretation begin to become more classical through a series of doctrinal changes that stretched across the balance of the nineteenth century. These included a repudiation of Marshall era Commerce Clause⁹ and Contract Clause jurisprudence,¹⁰ and the development and short life of the constitutional doctrine that taxes may be assessed only for a "public purpose."¹¹ Also included was the rise of inverse condemnation doctrine in the 1870s, largely under state constitutions, which limited economic development or ensured that it would pay

Patents? Reevaluating the Patent "Privilege" in Historical Context, 92 CORNELL L. REV. 953, 953 (2007) (seeking to locate patent law within social contract).

4. Hovenkamp, *Inventing the Classical Constitution*, *supra* note 2, at 40–51.

5. EPSTEIN, *supra* note 1, at 20.

6. See, e.g., *In re* Opinion of the Justices, 58 Me. 590, 592 (1871) (Appleton, C.J.) ("Capital naturally gravitates to the best investment. If a particular place or a special kind of manufacture promises large returns, the capitalist will be little likely to hesitate in selecting the place and in determining upon the manufacture.").

7. EPSTEIN, *supra* note 1, at 22; see also Hovenkamp, *Inventing the Classical Constitution*, *supra* note 2, at 19–29.

8. See Hovenkamp, *Inventing the Classical Constitution*, *supra* note 2, at 7–11.

9. *Id.* at 14–18.

10. *Id.* at 19–26.

11. *Id.* at 27–30.

the costs it imposed upon others.¹² The capstone was the rise of substantive due process or “liberty of contract,” initially in the state courts but later migrating to federal courts. Many of these changes did not occur until after the Civil War.

Most writing about this constitutional history has ignored the patent system.¹³ That oversight needs to be addressed. The constitutional provisions historically most concerned with the role of government in economic development were the Commerce Clause,¹⁴ the Contract Clause,¹⁵ and the Patent, or Intellectual Property, Clause.¹⁶ These clauses were interpreted to address the ways that governmental power over the economy should be allocated between the federal government and the individual states. For patent law, a century and a half of federal supremacy has obscured that fact.

The Fifth Amendment Takings Clause¹⁷ was also relevant to economic development. For nearly all of the nineteenth century, however, it applied only to the federal government and was concerned almost exclusively with the exercise of eminent domain power for such things as rights of way. Only in the 1870s did state courts interpreting their own constitutions become much more involved in ensuring that state-sanctioned economic development paid its full costs, even if eminent domain or unwanted entry were not involved.¹⁸

Historically, Supreme Court decisions interpreting both the Contract Clause and Patent Clause considered whether government-created exclusive rights could be used to encourage development. States had the power to issue monopoly grants already during the colonial era, and neither the Articles of Confederation nor the Constitution took that power away. Under the Articles of Confederation, which were in force from 1781 until the Constitution was ratified in 1789, the federal government had no power to issue patents. The states issued exclusive rights in corporate charters and for patented inventions more or less interchangeably.¹⁹ Today we do not think of the exclusive right created by a patent and the exclusive franchise given to a railroad to operate between two points as having many similarities. But this was not always so.

12. *Id.* at 30–39.

13. While histories of Anglo-American patent law have been written, they have generally not attempted to place the patent system within a general framework of American constitutional history. *See, e.g.*, BRUCE W. BUGBEE, *THE GENESIS OF AMERICAN PATENT AND COPYRIGHT LAW* 58 (1967) (“It does not appear from the record whether this grant, awarded in England, was merely a contract, an importation franchise, or the first patent of invention relating to the American colonies.”); Edward C. Walterscheid, *The Early Evolution of the United States Patent Law: Antecedents*, (5 Part I), 78 J. PAT. & TRADEMARK OFF. SOC’Y 615 (1996) [hereinafter Walterscheid, *Antecedents*]; *see also* SEAN BOTTOMLEY, *THE BRITISH PATENT SYSTEM DURING THE INDUSTRIAL REVOLUTION 1700–1852: FROM PRIVILEGE TO PROPERTY* (2014); CHRISTINE MACLEOD, *INVENTING THE INDUSTRIAL REVOLUTION: THE ENGLISH PATENT SYSTEM, 1660–1800* (2002).

14. U.S. CONST. art. I, § 8, cl. 3.

15. *Id.* art. I, § 10, cl. 1.

16. *Id.* art. I, § 8, cl. 8.

17. *Id.* amend. V.

18. Hovenkamp, *Inventing the Classical Constitution*, *supra* note 2, at 37–39.

19. *Id.* at 19–26.

From the colonial era until the Jackson era, American legislatures and courts conceived of the patent as an active tool of economic development. States, in particular, granted patents in anticipation that the grantee would actually develop some work of public improvement. This conception of the patent was distinctly “pre-classical” in the sense that it envisioned considerable state involvement in ensuring that granted patents were actually used in socially beneficial ways. In addition, state patents, but not federal patents, were issued to “promoters”—that is, to those who had not really invented anything new, but rather promised to install technology or infrastructure in a new place.²⁰

A few decades later a much more classical conception of the patent emerged, as a property right, pure and simple. Questions about whether and how to employ a patent were lodged almost entirely with its owner, who at the high point of patent classicism even had the power to use patents to keep technology off the market—precisely contrary to what the original Framers of the provision had in mind.²¹

One important consequence of this change was that the link between patents and government involvement in economic development was broken. That development haunts patent law to this day, giving us formal patent doctrine that is largely indifferent to how patents affect economic progress in particular markets. Instead, patent lawyers and judges behave much more like old fashioned property lawyers, generally obsessed with validity of title or location of boundaries, but rarely considering broader questions about the relationship between the patent system and economic growth. Beginning in the 1890s, first state and later federal law reacted against important elements of this patent classicism, mainly by imposing limits on patent licensing. But these negative provisions were intended to limit monopolistic power and abuse. They never came close to restoring the affirmative developmental obligations inherent in the original patent system.²²

I. THE CHANGING CONCEPTION OF THE AMERICAN PATENT

The earliest American patents for inventions were a far cry from the private property rights model that predominates today. Historically, the American colonies and later the states viewed the patent as an active policy tool for economic development. Just as the early American states viewed corporate charters as granting private entrepreneurs a special right or privilege to induce the creation of infrastructure,²³ the patent was an inducement to introduce useful technology. Under this model both corporate charters and initially patents were granted selectively to private developers who promised to furnish the state with something that would contribute economic growth or infrastructure. Grantees tended to be well established, both economically and politically.

Prior to the first federal Patent Act passed under the U.S. Constitution, patents were issued exclusively by colonial and later state legislatures. The

20. See *infra* discussion at Section II.A.

21. See *infra* discussion at Sections II.A, II.B.

22. See *infra* discussion at Section II.H.

23. See HERBERT HOVENKAMP, ENTERPRISE AND AMERICAN LAW, 1836–1937, at 17–41 (1991) [hereinafter HOVENKAMP, ENTERPRISE].

legislative grant that is sometimes identified as the earliest American patent was issued by the colony of Massachusetts Bay in 1641, giving Samuel Winslow an exclusive right to use a certain process to make salt. The originator of the grant was the Massachusetts General Court, which was the colony's legislative body.²⁴ Winslow apparently had planned to protect his process as a trade secret, but then agreed to disclose it in exchange for a ten-year exclusive right from the General Court.²⁵ The patent was conditioned on the patentee's actual establishment of salt works employing the patented method within one year of issuance. In addition, it expressly placed no limits on the ability of outsiders to import salt into the colony.

At least half a dozen colonies issued patents prior to the Revolution, although the number was relatively small.²⁶ The United States was then governed for seven years (1781–1788) by the Articles of Confederation, which did not grant the federal government any power to issue patents. Just as corporate charters, patents were granted directly by state legislatures and almost always for the purpose of facilitating specific works of public improvement.²⁷

The first federal Patent Act, enacted in 1790, required applicants to provide a written description, together with drafts or models distinguishing the applicant's invention from prior art. The applicant had to petition the Secretary of State, the Secretary of War, and the Attorney General,²⁸ who were required to examine the application, and then at least two had to agree that the patent should issue. The statute provided almost nothing in the way of substantive or procedural review standards. This system proved to be extremely cumbersome, and only 57 patents issued under the Act.²⁹ The substantially revised 1793 Act simplified the process, eliminating substantive government review and requiring only registration by the applicant. While approval by the Secretary of State was required, review was limited to ensuring that the application was in good order.³⁰ The statute gave the Secretary no authority to examine prior art or assess the proposed invention

24. SCIENTIFIC AMERICAN HANDBOOK RELATING TO PATENTS, CAVEATS, DESIGNS, TRADE-MARKS, ETC. 42 (rev. ed. 1908).

25. BUGBEE, *supra* note 13, at 58.

26. See Sidney A. Diamond, *Our Patent System: The Past is Prologue*, 67 ABA J. 308, 310 (1981); Camilla A. Hrdy, *State Patents as a Solution to Underinvestment in Innovation*, 62 U. KAN. L. REV. 487, 493–95 (2013); Craig Allen Nard, *Legal Forms and the Common Law of Patents*, 90 B.U. L. REV. 51, 61 & n.42 (2010); Walterscheid, *Antecedents*, *supra* note 13, at 630–61.

27. For a catalog, see Pasquale J. Federico, *State Patents*, 13 J. PAT. & TRADEMARK OFF. SOC'Y 166, 167–69 (1931) [hereinafter Federico, *State Patents*]. However, Federico's article does not distinguish which of the many grants he describes were true inventions and which were promises to develop locally technologies that had already been invented.

28. During the brief period the 1790 Act was in force, Thomas Jefferson was Secretary of State, Henry Knox was Secretary of War, and Edmund Randolph was Attorney General. *Cabinet Members*, MOUNT VERNON, <http://mountvernon.org/digital-encyclopedia/article/cabinet-members/> (last visited Feb. 26, 2016).

29. Patent Act of 1790, ch. 7, § 2, 1 Stat. 109, 110–12 (1790); see also Pasquale J. Federico, *Operation of the Patent Act of 1790*, 18 J. PAT. & TRADEMARK OFF. SOC'Y 237, 244–46 (1936).

30. Patent Act of 1793, ch. 11, 1 Stat. 318, 318–23 (1793).

based on novelty, usefulness, or any other factor outside of the application record. It also assessed treble damages for infringement, but damages were based on the “price, for which the patentee has usually sold or licensed to other persons, the use of the said invention”³¹ That is, damages were available only if the patent was either in use by the inventor or licensed out to others.

A senate report issued nearly 40 years later, upon passage of the heavily revised 1836 Patent Act, described patent granting under the 1793 Act as “promiscuous.”³² Nevertheless, this approach was largely consistent with Jefferson’s wish that, while the standard for patentability be high, actual administrative examination of patents be minimal, with questions of validity, including novelty, assessed mainly by the courts subsequent to patent issuance.³³ The result was a large disparity between patent issuance and validity, with patentees losing as many as 75% of litigated cases.³⁴

The Jacksonian coalition of the 1820s and 1830s opened the door through which economic classicism entered American public policy and constitutional thought.³⁵ Andrew Jackson became the symbol for a diverse combination of social, economic, and religious outsiders, united mainly in their opposition to the insider Federalists and Whigs who had dominated national politics and business.³⁶ For Jacksonians, both the liberal granting of exclusive privileges in corporate charters and the nearly unconstrained granting of patent rights were unacceptable. The Marshall Court’s strong interpretation of the Contract Clause largely forbade the states from reneging on privileges contained in corporate grants. Jacksonians increasingly saw these and other governmental privileges as creating a permanent class of economic elites, excluding everyone else.³⁷ The problem with federal patents was that the grants were discretionary and egregiously excessive,

31. *Id.* § 5.

32. See JOHN RUGGLES, SELECT COMMITTEE REPORT ON THE STATE AND CONDITION OF THE PATENT OFFICE, S. DOC. NO. 228, at 6 (1836).

33. See Edward C. Walterscheid, *Thomas Jefferson and the Patent Act of 1793*, 40 *ESSAYS IN HIST.* 3 (1998) [hereinafter Walterscheid, *Thomas Jefferson and the Patent Act of 1793*], <http://web.archive.org/web/20060907014252/http://etext.lib.virginia.edu/journals/EH/EH40/walter40.html>. Most of the cases dealing with novelty issues actually concerned whether the patentee’s own specification distinguished what was novel about the invention. See Zorina Khan, *Property Rights and Patent Litigation in Early Nineteenth-Century America*, 55 *J. ECON. HIST.* 58, 63 (1995); see also EDWARD C. WALTERSCHEID, *TO PROMOTE THE PROGRESS OF USEFUL ARTS: AMERICAN PATENT LAW AND ADMINISTRATION, 1798–1836* (1998); Steven Lubar, *The Transformation of Antebellum Patent Law*, 32 *TECH. & CULTURE* 932 (1991).

34. ZORINA KHAN, *THE DEMOCRATIZATION OF INVENTION: PATENTS AND COPYRIGHTS IN AMERICAN ECONOMIC DEVELOPMENT, 1790–1920*, at 78 (2013) (determining this number for the 1820s, although doubting its significance).

35. See Hovenkamp, *Inventing the Classical Constitution*, *supra* note 2, at 4–5.

36. See CHARLES SELLERS, *THE MARKET REVOLUTION: JACKSONIAN AMERICA, 1815–1846* (1991).

37. See Hovenkamp, *Inventing the Classical Constitution*, *supra* note 2, at 19–26; see also HOVENKAMP, *ENTERPRISE*, *supra* note 23, at 17–41.

inconsistent with the emergent classicism of the day that believed monopoly privileges should be highly exceptional.

A. *The Origins of Patent Exceptionalism*

Opposition to exclusive privilege became an increasingly powerful theme in American public law through the balance of the nineteenth century and well into the twentieth. One of its most enduring manifestations was the expansion of administrative agencies as an alternative to entrenched, conservative courts.³⁸ One of its most important contributions was the general corporation acts of the 1830s, which entitled everyone who could meet statutory requirements to incorporate, typically under the oversight of the secretary of state. At the same time, however, the general incorporation acts took away most of a corporation's special exclusive privileges.³⁹ Beginning with the 1836 Patent Act, a second contribution was an increasingly administrative patent system, with objectively defined criteria of invention but only minimal involvement of government economic policy making.⁴⁰ The champion of the 1836 Act, Jacksonian Senator John Ruggles of Maine, later became known as the "father of the Patent Office."⁴¹ One of the federal government's early important uses of administrative process, first authorized by the Patent Act of 1836, was to limit the number of issued patents but in a way that was free of political influence.⁴² The federal patent then evolved into a "property right" that applicants could obtain through an administrative procedure intended to be politically neutral, and that patentees could practice or not at their will.

As noted previously, pre-classical theories of economic development relied heavily on exclusive rights to create incentives. Patents were a special case of this general principle. For example, the patent provision contained in the original English Statute of Monopolies in 1623 was nothing more than an exception to a statute that limited the government's power to grant monopoly franchises.⁴³ Some of the American colonies emulated this provision. The

38. See Jerry L. Mashaw, *Administration and "The Democracy": Administrative Law from Jackson to Lincoln, 1829–1861*, 117 YALE L.J. 1568, 1581 (2008).

39. See HOVENKAMP, ENTERPRISE, *supra* note 23, at 11–16.

40. British law went through a similar change at about the same time. See ADRIAN JOHNS, PIRACY: THE INTELLECTUAL PROPERTY WARS FROM GUTENBERG TO GATES 248–50 (2009); BRAD SHERMAN & LIONEL BENTLY, THE MAKING OF MODERN INTELLECTUAL PROPERTY LAW: THE BRITISH EXPERIENCE 1760–1911, at 103–12 (1999).

41. See G. H. K., *The Father of the Patent Office*, 64 SCI. AM. 295 (1891).

42. Patent Act of 1836, ch. 357, 5 Stat. 117 (1836). See *infra* discussion at Part II.

43. English Statute of Monopolies of 1623, 21 Jac. 1, c.3, § 6:

6 (a). Provided also, that any declaration before mentioned shall not extend to any letters patents (b) and grants of privilege for the term of fourteen years or under, hereafter to be made, of the sole working or making of any manner of new manufactures within this realm (c) to the true and first inventor (d) and inventors of such manufactures, which others at the time of making such letters patents and grants shall not use (e), so as also they be not contrary to the law nor mischievous to the

Massachusetts Bodie of Liberties (1641), for example, provided that “[n]o monopolies shall be granted or allowed amongst us, but of such new inventions that are profitable to the Country, and that for a short time.”⁴⁴

During the Jackson era, the patent gradually became rebranded as a set of “property” rights, which entailed two things. First was a more ministerial set of rules for determining when patents should be issued, effectively removing this power from direct, individual legislative action. Chief among these rules was the limitation of patents to “inventors,” plus criteria for defining inventorship.⁴⁵ Second was the emerging idea that patents-as-property have the same protections that apply to rights in land or other traditional property. An important corollary was that, once they were issued, patents were subject to the management of their owners but relatively free from other government control. The decision to make productive use of the innovation represented in a patent became purely private, emulating the law of real property. One cannot lose title simply through nonuse, and patent ownership creates no “social” obligations. Licensing and most other post-issuance practices were regulated, if at all, under state contract and commercial law.

With this change in legal profile, the American patent largely managed to escape the hostility toward monopoly and abhorrence of regulation that increased dramatically after the 1830s. Most of that hostility was directed at state legislative grants or private business, but not at federal patent grants. The success of this transformation is underscored by the fact that the early twentieth century represented not only the height of substantive due process doctrine, with its exaggerated fears of state created monopoly,⁴⁶ but also the high point of patent exceptionalism. Supreme Court patent decisions such as *E. Bement & Sons v. National Harrow Co.* (1902)⁴⁷ and *Continental Paper Bag Co. v. Eastern Paper Bag Co.* (1908),⁴⁸ written during the heyday of *Lochner*-style hostility toward state-created monopolies, permitted cartelization of patented products and allowed patentees to enforce unused patents in such a way as to keep technology off the market rather than facilitate its development.

Through this process, patent law became much more privatized and divorced from government policy toward economic development. While such

state by raising prices of commodities at home, or hurt of trade, or generally inconvenient

44. Massachusetts Bodie of Liberties, ¶ 9 (1641), <http://www.bartleby.com/43/8.html>; see also Steven G. Calabresi & Larissa C. Leibowitz, *Monopolies and the Constitution: A History of Crony Capitalism*, 36 HARV. J.L. & PUB. POL’Y 983, 1004 (2013) (referring to Massachusetts Bodie of Liberties (1641) and similar legislation passed by Connecticut in 1672).

45. See *infra* discussion at Section II.B.

46. See e.g., *Lochner v. New York*, 198 U.S. 45 (1905); see also HERBERT HOVENKAMP, *THE OPENING OF AMERICAN LAW: NEOCLASSICAL LEGAL THOUGHT, 1870–1970*, at 243–62 (2015) [hereinafter HOVENKAMP, *OPENING*].

47. 186 U.S. 70, 88–90 (1902) (permitting product price fixing in patent cross-licensing agreement); see *infra* text accompanying note 131.

48. 210 U.S. 405 (1908) (permitting owner of unused patent to use infringement suit to shut down rival’s competing technology); see *infra* text accompanying notes 132–43.

concerns were still articulated, they were increasingly relegated to boilerplate. The government's job was increasingly seen as limited to defining patent property rights, with questions about development and use left entirely to their private owners. As a result the patent system evolved into a remarkably different enterprise from, say, antitrust law, which even in litigation devotes considerable empirical resources to identifying and distinguishing the effects of particular practices in the markets where they occur.⁴⁹ The main reason this is true is that antitrust never turned into a property rights system, but rather gleaned its sources from economics as well as the common law of contracts and torts. For better or worse, it remained much more responsive to policy making about growth and development. Its coverage could both expand and contract without compensation to business persons adversely affected by a change in the law.

B. Federal Exclusivity

An essential part of the development outlined above was the rise of federal patent exclusivity—a result not mandated by the text of the Constitution's Patent Clause. The sources of increased hostility toward state patents were twofold. First was the view that state-issued patents burdened interstate commerce. For example, the Supreme Court struck down the New York steamboat patent under the dormant Commerce Clause as preempted by federal legislation,⁵⁰ not under the Patent Clause as usurpation of an exclusive federal power.⁵¹ Second, however, only federal exclusivity could effectively limit the power of the states to grant unwarranted exclusive rights to favored grantees. The eventual result was a regime in which Congress acquired the exclusive power to award patents for inventions.

While state-issued patents largely disappeared from the economic landscape during the Jackson era, the legal question of federal exclusivity was unsettled in the United States until the 1960s, more than a century later. In 1963 neither the Supreme Court nor the government as *amicus curiae* could cite a single case for the proposition that federal patent power preempted state patent law. The Government's brief in *Day-Brite*, decided in 1964, conceded that it knew "of no case in this Court specifically dealing with the question." Nor was there any federal statute on point.⁵² The Supreme Court responded with a judge-made exclusivity rule, relying on the need for federal uniformity and not even mentioning the Tenth Amendment.

While drafting the first Patent Act in 1790, members of Congress vigorously debated whether federal patents could be given to mere importers of foreign technology, with a consensus emerging that such a provision exceeded

49. See Herbert Hovenkamp, *Antitrust and the Patent System: A Reexamination*, 76 OHIO ST. L.J. 467, 496 (2015) [hereinafter Hovenkamp, *Reexamination*].

50. *Gibbons v. Ogden*, 22 U.S. (9 What.) 1, 221 (1824).

51. See *infra* text accompanying notes 94–95, 193.

52. Brief for the United States as *Amicus Curiae* at 21–22 n.11, *Compco Corp. v. Day-Brite Lighting*, 376 U.S. 234 (1964) (No. 106), 1963 WL 105793, at *21 n.11 (noting the debate over the issue in *Gibbons* and Chief Justice Marshall's refusal to decide the issue).

Congressional power under the Patent clause.⁵³ States, however, retained the power to offer other types of exclusive rights. These were given mainly in corporate charters, and often to entrepreneurs who had not actually invented anything but rather who promised to deploy technology that had been developed elsewhere.⁵⁴

II. CLASSICAL PATENT LAW

Mid-nineteenth century changes in the legal concept of the patent moved away from an “involved” government toward the view that private control would achieve optimal development, provided that the issuance process was kept free of capture and that contract and property rights were protected. The federal process of patent issuance became increasingly administrative, restricted to true inventors as determined by objective criteria intended to be nonpolitical. In the process, the patent began to change from an express element of economic development into a property right, pure and simple.

A. *The Patent in Classical Political Economy*

Beginning with Adam Smith, classical political economists and other policy writers became highly critical of the general system of encouraging development through the creation of monopoly rights. They believed that capital would gravitate naturally to investments that were destined to be profitable, and special state inducements were unnecessary.⁵⁵ They also complained repeatedly that, whatever the ideal vision of statecraft inherent in the monopoly granting process, it always resulted in excessive largesse to favored interested groups. More often than not, both corporate charters and patents were given to those who were politically well placed, and those not so favored were left to labor in the more competitive markets that remained.⁵⁶

Patents managed to find a small place in the writings of classical political economists, provided their scope was sufficiently constrained and the granting process free from special interest control. For example, Adam Smith acknowledged the value of patents, but not with much enthusiasm. His *Lectures on Jurisprudence*, written about 15 years before *The Wealth of Nations*, found exclusive rights generally to be “greatly prejudicial to society.”⁵⁷ However, he found the British 14-year exclusive right for patented inventions to be “harmless enough.”⁵⁸ *The Wealth of Nations* itself says very little on the subject of patents,

53. The debate is recounted in Edward C. Walterscheid, *Conforming the General Welfare Clause and the Intellectual Property Clause*, 13 HARV. J.L. & TECH. 87, 109–10 (1999).

54. See *infra* text accompanying notes 75–81.

55. See Hovenkamp, *Inventing the Classical Constitution*, *supra* note 2, at 20–21.

56. *Id.* at 21–26.

57. ADAM SMITH, LECTURES ON JURISPRUDENCE (R. L. Meek et al. eds., 1976) [hereinafter SMITH, LECTURES ON JURISPRUDENCE], <http://www.portalconservador.com/livros/Adam-Smith-Lectures-on-Jurisprudence.pdf> (undated, but delivered between 1762 and 1766).

58. *Id.*

other than Smith's repeated objections to exclusive rights.⁵⁹ Smith also observed that "pecuniary rewards" such as bounties for valuable inventions were a way to encourage innovation, but in practice they would require the state to place a value on them, and this would "hardly ever be so precisely proportioned to the merit of the invention."⁶⁰ By contrast, exclusivity for a limited term plus the right to license would create rewards based on market evaluation.

Smith's denigration of patents might seem surprising, given the broad scope of *The Wealth of Nations*, which covered what we would today call both macro- and microeconomic topics, and with a strong focus on trade and commerce. Further, Smith's writing coincided with the start of the English Industrial Revolution, which began in the 1760s and spread to continental Europe and America.⁶¹ Smith certainly did not see a strong link between the Industrial Revolution and any protection that the British patent system had to offer.

Thomas Jefferson's position on patents was not that far from Smith's. Jefferson was one of the relatively few Founding Fathers who studied Smith closely in the late-eighteenth century, although he was probably more influenced by other writers in the Scottish classical economic tradition, such as Francis Hutcheson.⁶² Jefferson shared Smith's views about the need for a small, relatively uninvolved state and had the same preferences for an agrarian, rather than

59. ADAM SMITH, *INQUIRY INTO THE NATURE AND CAUSES OF THE WEALTH OF NATIONS*, bk. I, ch. 10, §§ 72, 80 (1776) [hereinafter SMITH, *WEALTH OF NATIONS*]; *see also id.* bk. IV, ch. 8, §17 (speaking of "absurd and oppressive monopolies").

60. SMITH, *LECTURES ON JURISPRUDENCE*, *supra* note 57. Smith's complete statement is:

The greatest part however of exclusive privileges are the creatures of the civil constitutions of the country. The greatest part of these are greatly prejudicial to society. Some indeed are harmless enough. Thus the inventor of a new machine or any other invention has the exclusive privilege of making and vending that invention for the space of 14 years by the law of this country, as a reward for his ingenuity, and it is probable that this is as equal an one as could be fallen upon. For if the legislature should appoint pecuniary rewards for the inventors of new machines, etc., they would hardly ever be so precisely proportioned to the merit of the invention as this is.

Id. This passage is discussed in H. I. DUTTON, *THE PATENT SYSTEM AND INVENTIVE ACTIVITY DURING THE INDUSTRIAL REVOLUTION, 1750–1852*, at 19 (1984).

61. *See* PETER N. STEARNS, *THE INDUSTRIAL REVOLUTION IN WORLD HISTORY* 21–40 (4th ed. 2013).

62. Samuel Fleischacker, *Adam Smith's Reception Among the American Founders, 1776–1790*, 59 WM. & MARY Q. 897 (2002). On Hutcheson's influence on Jefferson, *see* GARRY WILLS, *INVENTING AMERICA: JEFFERSON'S DECLARATION OF INDEPENDENCE 1776–1777*, 233–44 (rev. ed. 2002). Francis Hutcheson was an older contemporary of Adam Smith who spent much of his career at Glasgow.

industrial, society. Like Smith and Hutcheson, Jefferson was unenthusiastic about patents but willing to tolerate them.⁶³

Classical political economy began to take serious hold in the United States in the 1830s.⁶⁴ American political economists in the classical tradition, such as Brown University's Francis Wayland, did not move far from Smith's position on patents. Wayland simultaneously railed against the evils of exclusive grants generally, but made a limited exception for exclusive rights for limited times for patents and copyrights.⁶⁵ By and large, however, these were passing observations, and there was little sustained discussion of patent rights. Indeed, one striking feature of Anglo-American economics generally is the small amount of attention devoted to the patent system until the early decades of the twentieth century. Only in the 1930s did economists such as Arnold Plant at the London School of Economics and Edward Chamberlin at Harvard begin to incorporate patents into their theories of business economics.⁶⁶

After 1830, both Congress and American judges attempted to forge a patent system that simultaneously rejected the pre-classical idea that monopoly was a useful general tool for encouraging enterprise, but also embraced a narrow and increasingly technical exception for inventors. They did this, *first*, by seeking to ensure that patent grants were limited to true inventions and not granted too liberally. *Second*, they reconceptualized the issued patent as a property right, similar to land grants, which entered the stream of commerce once they were created but thereafter received little government oversight other than protection of title and boundaries. Further, they were purely "private" in the sense that ownership did not require use or any other sharing with the public. These changes also served to remove the patent system from the stigma of state-created monopoly.

Smith was just as critical of business corporations as he was of the patent system. He opposed large aggregations of private power and believed that corporations ("joint stock companies"), as managers of "other people's money," were doomed to inefficiency and abuse.⁶⁷ Thomas Jefferson shared many of these views, which he derived from Smith, and strongly favored a nation of small

63. WILLS, *supra* note 62, at 234–35; *see also* Walterscheid, *Thomas Jefferson and the Patent Act of 1793*, *supra* note 33. Jefferson's substantive views on patent law, particularly his concerns about lack of novelty or obvious subject matter, are recounted in *Graham v. John Deere*, 383 U.S. 1, 7–12 (1966).

64. HOVENKAMP, ENTERPRISE, *supra* note 23, at 11–16, 183–92.

65. *See, e.g.*, FRANCIS WAYLAND, ELEMENTS OF POLITICAL ECONOMY 27 (1837) (supporting patents and copyrights); *id.* at 69 (generally discussing the evils of exclusive grants).

66. Arnold Plant, *The Economic Theory Concerning Patents for Inventions*, 1 *ECONOMICA* 30, 30–51 (1934); *see also* EDWARD CHAMBERLIN, THEORY OF MONOPOLISTIC COMPETITION 57–67, 111–12 (1933); HOVENKAMP, OPENING, *supra* note 46, at 78–79, 198–205.

67. SMITH, WEALTH OF NATIONS, *supra* note 59, at bk. V, ch. 1, § 107.

farmers and yeomen.⁶⁸ By contrast, the classical statecraft that emerged in the United States in the 1830s under Andrew Jackson's administration was much more entrepreneurial. Rather than abolishing the business corporation, Jacksonian states democratized it by making the business corporate form available to everyone as a matter of administrative law and attempting to remove any hint of special privilege or monopoly right.⁶⁹

B. State vs. Federal Patenting Power: Promoters vs. Inventors

The Constitution's Patent Clause gives Congress the power to issue patents but says nothing about whether that power is exclusive. Further, the Tenth Amendment provides that the states retain any power not granted to Congress.⁷⁰ The patenting power in the federal Constitution is also expressly restricted to "inventors" and only for "discoveries."⁷¹ Justice Marshall's 1818 opinion for the Supreme Court in *Evans v. Eaton* categorically rejected the patentee's argument that under the federal Patent Act it was "not necessary for the patentee to show himself to be the first inventor or discoverer."⁷² He was entitled to a patent if he invented something, not knowing about prior art, "although it may have been previously discovered by some other person."⁷³ Roughly a third of patent validity challenges during the period 1800–1839 were based on lack of novelty.⁷⁴

By contrast, pre-classical theories of economic growth were much more focused on "developers," or entrepreneurs. What was important was not so much who had invented something, but rather who promised to deploy it to public advantage. In the late-eighteenth and early-nineteenth centuries, states frequently granted patents and monopoly charters to firms that had not invented anything but had promised to build something with existing technology, such as a bridge or a steamboat line. Historically, if a grantee failed to construct or operate the thing contemplated by the grant, the legislative body could withdraw it. Today, by contrast, a patent is valid and enforceable, at least by damage actions, even if the patentee never puts the patent into practice.⁷⁵

In addition, the right to exclude in a patent is specific to a technology described therein. By contrast, a monopoly right in a corporate charter was typically geographic, such as giving a private corporation the exclusive right to

68. See THOMAS JEFFERSON, NOTES ON THE STATE OF VIRGINIA 164–65 (W. Peden ed., 1955) (1775); DREW MCCOY, THE ELUSIVE REPUBLIC POLITICAL ECONOMY IN JEFFERSONIAN AMERICA 175 (1980).

69. HOVENKAMP, ENTERPRISE, *supra* note 23 at 11–17; Herbert Hovenkamp, *The Classical Corporation in American Legal Thought*, 76 GEO. L.J. 1593, 1634 (1988).

70. U.S. CONST. amend. X.

71. *Id.* art. I, § 8, cl. 8; see also Dotan Oliar, *Making Sense of the Intellectual Property Clause: Promotion of Progress as a Limitation on Congress's Intellectual Property Power*, 94 GEO. L.J. 1771, 1816–45 (2006) (arguing that the clause limited federal power to grant IP rights to these categories).

72. 16 U.S. 454, 513–14 (1818).

73. *Id.*

74. Khan, *supra* note 33, at 78.

75. *E.g.*, eBay, Inc. v. MercExchange, LLC, 547 U.S. 388, 388 (2006).

maintain a toll bridge for a specified distance in either direction.⁷⁶ The scope of invention or technology was not an issue. For example, some early decisions considered such questions as whether the exclusive right to operate a toll bridge over a river at a certain point served to exclude those who crossed over the frozen ice in winter by either walking or driving a sleigh.⁷⁷ The issue was not infringement of any technology embodied in the bridge, but simply crossing the river—by any means—within the proscribed distance. State-granted patents often combined these technological and geographic limitations without distinguishing them.

State-issued patents required a geographic limitation if for no other reason than states had no authority to interfere with congressional power over interstate commerce. This became clear after the Supreme Court's 1824 decision in *Gibbons v. Ogden*, discussed below.⁷⁸ The New York-issued steamboat patent in that controversy extended to ports at the state's outer boundaries. This prompted complaints by people from New Jersey and Connecticut who claimed they could not travel to New York by steamboat, because no boat line was capable of operating in two or more states. Thus *Gibbons* became the classic case of state interference with interstate commerce.

Commerce Clause issues aside, the Constitution's Framers very likely did not intend to eliminate all state-issued patents.⁷⁹ The predominant early interpretation was that the Patent Clause gave Congress the right to reward "inventors" with exclusive rights, while permitting the individual states to create such rights for other reasons, including grants to noninventor developers. St. George Tucker, editor of the first American edition of Blackstone's *Commentaries* (1803), understood the Patent Clause to mean that "the states may possess some degree of concurrent right within their respective territories." State patent grants would become rare, however, because they could not provide protection beyond their borders, while United States patents extended nationwide. "[I]t is scarcely probable that the protection of the laws of any particular state will hereafter be resorted to . . ."⁸⁰ As late as the 1830s, Joseph Story agreed in his *Commentaries* on the Constitution, concluding that while state patent grants continued to be

76. Cases involving statutory bridge monopolies for prescribed distances include *Binghamton Bridge*, 70 U.S. (3 Wall.) 51, 51–82 (1865); *Wash. Toll-Bridge Co. v. Comm'rs of Beaufort*, 81 N.C. 491, 499 (1879); *Fort Plain Bridge Co. v. Smitch* 30 N.Y. 44 (1864); see also ELIZABETH B. MONROE, *THE WHEELING BRIDGE CASE: ITS SIGNIFICANCE IN AMERICAN LAW AND TECHNOLOGY* (1992).

77. See, e.g., *Sprague v. Birdsall*, 2 Cow. 419 (N.Y. Sup. Ct. 1823) (denying recovery).

78. 22 U.S. (9 Wheat.) 1, 221 (1824). See *infra* text accompanying notes 87–94.

79. See Federico, *State Patents*, *supra* note 27, at 167–69; 175–77; see also BUGBEE, *supra* note 13, at 102.

80. ST. GEORGE TUCKER, *BLACKSTONE'S COMMENTARIES: WITH NOTES OF REFERENCE, TO THE CONSTITUTIONAL LAW OF THE FEDERAL GOVERNMENT OF THE UNITED STATES; AND OF THE COMMONWEALTH OF VIRGINIA* 265 (1803). Volume one of Tucker's *Blackstone* contains a lengthy Appendix, mainly on the U.S. Constitution.

lawful they would be much less appealing than a United States patent.⁸¹ Neither author acknowledged that the power to create local monopolies within a single state could still be quite valuable.

Consistent with the constitutional limitation, all federal patent acts have restricted patent grants to inventors. The first act, passed in 1790, limited its protection to those who “have invented or discovered” something “useful and important.”⁸² The statute also required a written description of the invention, as well as a model of the invention if practicable.⁸³ It said nothing about the power of the states to issue patents. The Second Patent Act of 1793 clarified the novelty requirement, stating “that simply changing the form or the proportions of any machine, or composition of matter, in any degree, shall not be deemed a discovery.”⁸⁴ The Second Patent Act also made clear that the patent’s written description had to be sufficient to enable someone skilled in the art to make or use it.⁸⁵ Moreover, it did not preclude the states from issuing patents, although it did provide that someone who owned a state patent issued before that state had ratified the Constitution could obtain a United States patent on the same thing only by relinquishing the state patent.⁸⁶

By tying the federal patent exclusively to inventors, the U.S. Constitution effectively divided the territory of government-sanctioned exclusive rights. Granting of exclusive rights in corporate charters remained largely a function of the states. Gradually, however, the power to grant exclusive rights for inventions came to be seen as a federal prerogative. Even in the 1820s and 1830s, judges believed that, while federal power to recognize true invention might be exclusive, the power to grant exclusive rights to developers and promoters continued to reside with the states. As the state court decision in *Gibbons v. Ogden* described it:

Patents under the laws of the *United States*, can be granted only for new inventions and discoveries. In *Great Britain*, patents are granted not only for new inventions, but for improvements

81. 3 JOSEPH STORY, COMMENTARIES ON THE CONSTITUTION OF THE UNITED STATES § 1147 (Leonard W. Levy ed., 1970) (1833) (“The states could not separately make effectual provision for either of the cases.”).

82. Patent Act of 1790, ch. 7, 1 Stat. 109, 109–12 (1790).

83. *Id.* § 2.

84. Patent Act of 1793, ch. 11, § 2, 1 Stat. 318, 318–23 (1793).

85. *Id.* § 3, stating that the applicant:

shall deliver a written description of his invention, and of the manner of using, or process or compounding the same, in such full, clear and exact terms, as to distinguish the same from all other things before known, and to enable any person skilled in the art or science . . . to make, compound, and use the same.

Id.

86. *Id.* § 7 (“[W]here any state, before its adoption of the present form of government, shall have granted an exclusive right to any invention, the party, claiming that right, shall not be capable of obtaining an exclusive right under this act, but on relinquishing his right under such particular state . . .”).

imported from abroad. This state has reserved to itself the precious and very important power of encouraging art and science, by granting exclusive rights to use improvements introduced from foreign states.⁸⁷

In his 1833 *Commentaries on the Constitution*, Joseph Story argued that while the congressional power to grant patents was limited to inventors, the states retained the power to grant an exclusive right to “the possessor or introducer of an art or invention, who does not claim to be an inventor, but has merely introduced it from abroad”⁸⁸

C. State-Issued Patents

After the Revolution but prior to ratification of the Constitution, patents were issued exclusively by individual states, and only by legislative enactment. John Fitch’s first steamboat patent, probably the best known of post-Revolutionary state patents, was created by a special legislative grant from the state of New York in 1787, when the states were still governed by the Articles of Confederation. It granted “the sole and exclusive right and privilege of making and using boats, propelled by fire or steam, within the waters of New York State.”⁸⁹

The scope of the Fitch grant, covering all “boats propelled by fire or steam,” was both extremely nonspecific as to the technology and much broader than anything Fitch had actually invented.⁹⁰ At the time he had nothing more than some drawings. Nevertheless, the New York court sustained the patent against a claim that:

87. *Gibbons v. Ogden*, 17 Johns. 488, 504 (N.Y. 1820), *rev’d on other grounds*, 22 U.S. (9 Wheat.) 1 (1824). While reversing on Commerce Clause grounds, the U.S. Supreme Court refused to decide any issues pertaining to state authority to grant patents. *See also Livingston v. Van Ingen*, 9 Johns. 507, 520 (N.Y. 1812) (noting that the steamboat patent in suit was “not founded on original invention”).

88. STORY, *supra* note 81, at § 1149.

89. *Livingston*, 9 Johns. at 507–08. As the decision quoted the complaint:

That on the 19th of March, 1787, the legislature of the state of New-York passed an act . . . that the said John Fitch, his heirs, administrators and assigns, should be, and they were thereby vested with the sole and exclusive right and privilege of constructing, making, using, employing and navigating, all and every species or kinds of boats, or water craft, which might be urged or impelled through the water, by the force of fire or steam, in all creeks, rivers, bays and waters whatsoever, within the territory and jurisdiction of this state, for and during the full end and term of fourteen years from and after the then present session of the legislature . . .

Id.

90. This is largely supported by the fact that several other states also issued geographically exclusive patents for steamboats. For a broad catalog, see Federico, *State Patents*, *supra* note 27, at 169–72.

The grant in question is not of the exclusive right of a propelling power applied to machinery of an ascertained construction; but is a grant of the propelling power at large, wherever it is possible to create it on the waters of the state, if applied to the purpose of navigating vessels.⁹¹

States continued to issue patents after the U.S. Constitution was ratified. In 1798, New York gave Robert Livingston and Robert Fulton a second patent to make and operate steamboats for up to 30 years.⁹² Just as the Fitch patent, the Livingston/Fulton patent was a special grant of the New York legislature.⁹³ Interestingly, when the U.S. Supreme Court eventually struck down a portion of this grant in *Gibbons v. Ogden*, it relied on the negative implications of the Commerce Clause. Chief Justice Marshall's opinion refused to consider whether either the Constitution's Patent Clause or the federal Patent Act preempted state-issued patents.⁹⁴ A year later, a New York court struck down the entire grant, once again under the Commerce Clause, holding that Justice Marshall's strong "affecting commerce" language in *Gibbons*⁹⁵ served to invalidate significant portions of the exclusive grant even as applied to purely intrastate routes.⁹⁶

The steamboat patent history makes clear that the New York legislature was much less interested in rewarding inventors than in using monopoly grants to promote economic development. It wanted a set of working commercial steamboat lines. First, as part of his application to the legislature, Fitch was required to demonstrate the "great immediate utility and the important advantages" that would result from his invention. This included a lengthy description of the social benefits that would accrue, particularly in western watercourses that had been difficult to navigate.⁹⁷ Second, his patent was regarded as a legal commitment to deploy. Unfortunately, Fitch never developed the promised steamboat or routes.

Several years later, with Fitch's steamboats nowhere in view, Fulton and Livingston demonstrated an actual working steamboat to the New York

91. *Livingston*, 9 Johns. at 516.

92. *Id.*; see also Camilla A. Hrdy, *State Patent Laws in the Age of Laissez Faire*, 28 BERKELEY TECH. L.J. 45, 52 (2013) [hereinafter Hrdy, *State Patent Laws*].

93. *Livingston*, 9 Johns. at 507.

94. *Gibbons v. Ogden*, 22 U.S. (9 Wheat.) 1, 239 (1824) ("I have not touched upon the right of the States to grant patents for inventions or improvements, generally, because it does not necessarily arise in this cause. It is enough for all the purposes of this decision, if they cannot exercise it so as to restrain a free intercourse among the States.").

95. On Marshall's interpretation of the Commerce Clause to create federal power over activities "affecting commerce," see Hovenkamp, *Inventing Classical Constitution*, *supra* note 2, at 14–19.

96. *N. River Steamboat Co. v. Livingston*, 1 Lock. Rev. Cas. 104 (N.Y. 1825).

97. WILLIAM THORNTON, *SHORT ACCOUNT OF THE ORIGIN OF STEAMBOATS* 13–14 (1814); see also Oren Bracha, *Owning Ideas: A History of Anglo-American Intellectual Property* 97–116 (June 2005) (unpublished Ph.D. dissertation, Harvard Law School) [hereinafter Bracha, *Owning Ideas*], <http://www.utexas.edu/law/faculty/obracha/dissertation/>.

legislature.⁹⁸ It responded by revoking Fitch's patent for nonuse and issuing a second patent to Fulton and Livingston.⁹⁹ Fulton's and Livingston's own status as inventors is also open to dispute. They had made a working model by copying liberally from Fitch's design.¹⁰⁰ Not until 1836 would federal law prevent the patenting of something that had been "described in any printed publication," as Fitch's drawings had been prior to the filing of the Fulton/Livingston application.¹⁰¹ Further, Fulton and Livingston also had to make several improvements to comply with additional obligations that the New York legislature assessed—namely, of boats displacing at least 20 tons and capable of going four miles per hour through the ordinary currents of the Hudson River, both upstream and downstream.¹⁰² Another clause in the grant provided that for each additional steamboat that the patentees actually deployed, their patent term would be extended by 5 additional years, up to a maximum of 30.¹⁰³ Clearly the New York grant to Fulton and Livingston contemplated actual construction and use of steamboats, even specifying their minimum performance and creating inducements for increasing their number. The Fulton/Livingston patent represented a "contract to develop and deploy" rather than an "invention" in the modern sense. It was a product of intense bargaining with the legislature, which wanted steamboats of a specified capability to be deployed on New York waters.

One of the reasons that both Justices Yates and Kent gave for upholding the state's power to issue the patent was that the federal Constitution's Patent Clause gave Congress the power to issue patents only to "authors and inventors."¹⁰⁴ They also noted that the Tenth Amendment mandated that anything not expressly given to Congress was reserved to the states.¹⁰⁵ From that it followed

98. For an account of the demonstration and a drawing of the Clermont, the first working steamboat, see JOHN WARNER BARBER ET AL., HISTORICAL COLLECTIONS OF THE STATE OF NEW YORK 340–42 (1842).

99. *Livingston v. Van Ingen*, 9 Johns. 507, 509 (N.Y. 1812).

100. Hrdy, *State Patent Laws*, supra note 92, at 78; see also Oren Bracha, *The Commodification of Patents 1600–1836: How Patents Became Rights and Why We Should Care*, 38 LOY. L.A. L. REV. 177, 243 (2004).

101. Patent Act of 1836, ch. 357, § 7, 5 Stat. 117 (1836). Today, the printed publication rule is codified at 35 U.S.C. §102(b) (2012).

102. *Livingston*, 9 Johns. at 509–10.

103. *Id.* at 511 ("[I]t was, among other things, enacted, that whenever *Robert R. Livingston* and *Robert Fulton*, and such persons as they may associate with them, should establish one or more steam-boats or vessels, other than that then already established, they should, for each and every such additional boat, be entitled to five years' prolongation of their grant or contract with this state . . .").

104. *Id.* at 546.

105. Kent's statement is worth quoting:

If the grant is not inconsistent with the power of congress to regulate commerce, there is as little pretence to hold it repugnant to the power to grant patents. That power only secures, for a limited time, to authors and inventors the exclusive privilege to their writings and discoveries; and as it is not granted, by exclusive words, to the *United States*, nor prohibited to the individual states, it is a concurrent power which may be exercised by the states, in a variety of cases, without any

that a state had the power to grant a patent right to someone who was *not* an inventor but rather a developer or promoter. Speaking of the federal Patent Act, which by this time was more than 20 years old, Justice Yates observed that under it, patent applicants

are limited to authors and inventors only; this clause, therefore, never can admit of so extensive a construction, as to prohibit the respective states from exercising the power of securing to persons introducing useful inventions (without being the authors or inventors) the exclusive benefit of such inventions, for a limited time¹⁰⁶

Chancellor Kent agreed, stating the dominant pre-classical view about monopoly grants and economic development:

infringement of the congressional power. A state cannot take away from an individual his patent right, and render it common to all the citizens. This would contravene the act of congress, and would be, therefore, unlawful. But if an author or inventor, instead of resorting to the act of congress, should apply to the legislature of this state for an exclusive right to his production, I see nothing to hinder the state from granting it, and the operation of the grant would, of course, be confined to the limits of this state. Within our own jurisdiction, it would be complete and perfect. . . . Congress may secure, for a limited time, an exclusive right throughout the union; but there is nothing in the constitution to take away from the states the power to enlarge the privilege within their respective jurisdictions. The states are not entirely divested of their original sovereignty over the subject matter; and whatever power has not been clearly granted to the union, remains with them.

Id. at 581–82. Chancellor Kent also added this:

The power of congress is only to ascertain and define the right of property; it does not extend to regulating the use of it. That must be exclusively of local cognisance. If the author's book or print contains matter injurious to the public morals or peace, or if the inventor's machine or other production will have a pernicious effect upon the public health or safety, no doubt a competent authority remains with the states to restrain the use of the patent right. That species of property must likewise be subject to taxation, and to the payment of debts, as other personal property. The national power will be fully satisfied, if the property created by patent be, for the given time, enjoyed and used exclusively, so far as under the policy of the several states the property shall be deemed fit for toleration and use. There is no need of giving this power any broader construction in order to attain the end for which it was granted, which was to reward the beneficent efforts of genius, and to encourage the useful arts.

Id. at 582.

106. *Id.* at 560–61. The New York courts had already agreed, however, that if the patent in question had been issued by the United States, then only the federal courts would have jurisdiction to adjudicate it. *Parsons v. Barnard*, 7 Johns. 144 (N.Y. Sup. Ct. 1810).

[T]he uniform opinion, in *England*, both before and since the statute of *James*,¹⁰⁷ has been, that imported improvements, no less than original inventions, ought to be encouraged by patent. . . . [To hold otherwise] would be leaving the states in a condition of singular and contemptible imbecility. The power is important in itself, and may be most beneficially exercised for the encouragement of the arts; and if well and judiciously exerted, it may ameliorate the condition of society, by enriching and adorning the country with useful and elegant improvements.¹⁰⁸

This understanding of patents as inducements to develop or produce was hardly an oddity at the time. British patents had also been issued not merely to new inventors, but also to those that had migrated an existing manufacture or trade into a new area.¹⁰⁹ Hamilton's *Report on Manufactures*, published in 1791, argued in favor of a system that applied not only to novel inventions, but also to those individuals who introduced foreign technology into the United States. Hamilton also acknowledged that the new federal Constitution limited patent protection to "authors and inventors." He suggested the possibility that Congress could legislate additional protection for noninventing promoters, although its authority to do so—apparently under the Commerce Clause—was "not without a question."¹¹⁰

State policy of granting patent rights to noninventing developers reflected the pre-classical view that exclusive rights were necessary to encourage economic development generally, not merely to incentivize invention. That is, capital could *not* be expected to gravitate naturally to those areas that needed it. Exclusivity operated not merely as an incentive to develop technology, but also as an incentive to migrate technology to a new area. This view of patent law, more than anything else, accounts for the difference between Federalists and Whigs such as Hamilton, Kent, and Story; and Jacksonian liberals.

D. Economic Development and Unworked Patents

Like the monopoly grants created in state-issued corporate charters, early patent provisions contemplated actual production under the exclusive rights that they permitted. Their purpose was to encourage development, not simply to create exclusive rights over technology. The patent grant in the Statute of Monopolies conferred the exclusive right on "manufactures," while the Massachusetts Bodie of Liberties limited exclusive privileges to "[i]nventions that are profitable to the

107. See *supra* note 43 (referring to the 1623 Statute of Monopolies).

108. *Livingston*, 9 Johns. at 584–85. Justice Thompson simply concluded that the Patent Clause granted to Congress concurrent rather than exclusive power to issue patents. See *id.* at 563.

109. See BUGBEE, *supra* note 13, at 57–83 (noting difficulties distinguishing patents from exclusive corporate privileges in early national period); EDWARD C. WALTERSCHEID, *THE NATURE OF THE INTELLECTUAL PROPERTY CLAUSE: A STUDY IN HISTORICAL PERSPECTIVE* (2002) (similar); Bracha, *Owning Ideas*, *supra* note 97, at 97–116.

110. ALEXANDER HAMILTON, *REPORT ON MANUFACTURES* § 8 (1791), http://www.constitution.org/ah/rpt_manufactures.pdf.

Country . . .” Further, the term “invention,” typically used together with the term “discovery,” generally referred to the introduction of a new industry into the territory. That is, the emphasis was on developing a new industry in a particular area rather than developing a technology not previously known.¹¹¹ By contrast, the emergent classical conception of the patent saw it as a narrowly authorized property right, given only to inventors and thereafter placed more or less completely under the patent owner’s control.

Many English patents from before the American Revolution had “working clauses,” later called “revocation clauses,” which were provisions that required the patentee to commercialize the technology covered by the invention.¹¹² Some patents specified a number of years during which the patentee must perfect the invention or put it into use. Otherwise the patent would lapse or be revoked. Some patent systems retained working clauses until well into the twentieth century.¹¹³ Obligations to practice, or “work,” the patent were also included in many state patent grants during the early national period.¹¹⁴ By contrast, none of the federal patent acts ever included a working requirement, except for a short-lived provision enacted in 1832 that permitted foreign applicants to receive a U.S. Patent only if they “introduce[d] into public use in the United States the invention or improvement within one year from the issuing thereof . . .”¹¹⁵ The provision was removed from the 1836 Act and never reappeared.¹¹⁶

Working clauses were seen as a way of guaranteeing that the public would benefit from the grant of an exclusive right prior to the patent’s expiration, as well as ensuring that patents would not be deployed so as to retard rather than encourage innovation. An unsigned 1882 British editorial in an engineering magazine linked the problem of unworked patents to what we today would call “trolls”: “We must not do anything that might tend to bring about a system of lying in ambush with unworked patents, to spring in due time upon those who actually

111. See generally Bracha, *Owning Ideas*, *supra* note 97, at 1–116.

112. See E. Wyndham Hulme, *The History of the Patent System Under the Prerogative and at Common Law: A Sequel*, 16 L. Q. REV. 44 (1900).

113. See PRESIDENT’S COMMISSION ON ECONOMY AND EFFICIENCY, REPORT OF THE INVESTIGATION OF THE UNITED STATES PATENT OFFICE, H.R. REP. NO. 62-1110, at 378–79, 415 (1912), <http://archive.org/stream/reportinvestiga00effigoog#page/n6/mode/2up>. On working clauses under British and German patent law in the late-nineteenth and early-twentieth centuries, see Harm G. Schröter & Anthony S. Travis, *An Issue of Different Mentalities: National Approaches to the Development of the Chemical Industry in Britain and Germany Before 1914*, 95, 109–11, in *THE CHEMICAL INDUSTRY IN EUROPE, 1850–1914: INDUSTRIAL GROWTH, POLLUTION, AND PROFESSIONALIZATION* (Ernst Homburg et al. eds., 1998).

114. See Edward C. Walterscheid, *The Early Evolution of the U.S. Patent Law: Antecedents (5, Part II)*, 78 J. PAT. & TRADEMARK OFF. SOC’Y 665, 669, 681 (1996) (speaking of patents granted by Pennsylvania in the 1780s); see also D. Seaborne Davies, *The Early History of the Patent Specification*, 50 L. Q. REV. 86, 95–96 (1934); Fritz Machlup & Edith Penrose, *The Patent Controversy in the Nineteenth Century*, 10 J. ECON. HIST. 1 (1950).

115. 4 Stat. 577 (1832).

116. See *Special Equip. Co. v. Coe*, 324 U.S. 370, 378–79 (1945) (discussing the provision); *Cont’l Paper Bag Co. v. E. Paper Bag Co.*, 210 U.S. 405, 429–30 (1908) (same).

do something practical towards promoting the industrial progress of the country.”¹¹⁷

The concern was clear: If the patentee did not work the patent, then during the period covered by the grant, no one else could do so either. The impact of such a patent would be to withdraw its technology or manufacture from service—precisely the opposite of what was intended. The effect was to put the patent “to sleep,” in the words of economist John Maurice Clark.¹¹⁸ Eventually working clauses gave way to requirements of disclosure and enablement, which required a patent to be sufficiently clear so that another person who read it could replicate the invention without undue experimentation.¹¹⁹ The importance of the difference should not be lost, however. Patent disclosure and enablement were intended to facilitate copying of the innovation by others *after* the patent expired. Nonuse during the patent period could still result in removal of the technology from the market during the patent’s life.

Depending on available remedies, an unused patent manifested not merely the patentee’s failure to develop, but also a right to prevent others from developing until the patent expired. In the early-nineteenth century United States, a nation acutely aware of its undeveloped state, that idea was intolerable. Chancellor Kent concluded in his *Commentaries* that, while the government could not invalidate a United States patent simply because it was not being used, the owner could not maintain an action against an infringer.¹²⁰

In *Earle v. Sawyer*, written just as the steamboat patent wars were winding up, Justice Story also stated his belief that federal law required patents to be practiced before they could be enforced, concluding that the federal Patent Act protected “not a mere elementary principle, or intellectual discovery, but a principle put in practice”¹²¹ As late as 1868, the Supreme Court held that an improvement patent that had issued was not enforceable against a subsequent developer of the technology when the improvement failed experimental testing and was never brought into practice.¹²² A few years later, the Supreme Court held that a first patent was prior art as to a different inventor’s later patent, but only because the first patentee had actually reduced the invention to practice by making a working model that was viewed by witnesses.¹²³

The principal nineteenth century patent law treatise writers were not entirely consistent on the issue, although overall they favored a practice requirement. Willard Phillips, the most prominent patent law writer of the 1830s, insisted that reduction to practice was a prerequisite to enforcement. “The subject

117. *Patent Law Reform and Sir John Luccock’s Bill*, ENGINEERING: AN ILLUSTRATED WKLY. J., Apr. 21, 1882, at 378, 409.

118. JOHN MAURICE CLARK, STUDIES IN THE ECONOMICS OF OVERHEAD COSTS 145 (1923).

119. See E. Wyndham Hulme, *On the Consideration of the Patent Grant, Past and Present*, 13 L. Q. REV. 313, 315–18 (1897).

120. 2 JAMES KENT, COMMENTARIES ON AMERICAN LAW 369 (3d ed. 1836).

121. 8 F. Cas. 254, 256 (C.C.D. Mass. 1825) (No. 4,247).

122. *Whitely v. Swayne*, 74 U.S. (7 Wall.) 685 (1868).

123. *Coffin v. Ogden*, 85 U.S. (18 Wall.) 120 (1873).

of a patent must be something that has been reduced to practice; it must be something which has been actually done or produced,” Phillips concluded in 1837, citing several British decisions as well as Justice Story’s *Earle* decision. Further, “[t]he patent being for an invention that is described in it, it is not only requisite that the invention should be reduced to practice, but it must be reduced to practice in the way, and produce the effect specified.”¹²⁴

George Ticknor Curtis, whose 1849 treatise was probably the most prominent in nineteenth century American patent law, did not disagree with Phillips.¹²⁵ However, his third edition, which was published in 1867, began to merge the practice requirement with enablement, or the idea of “constructive” reduction to practice:

It is not necessary that the invention should have been reduced to practice; but unless the description would enable the public, without further invention, to put the thing in practice, it cannot be said that a knowledge of that thing is in the possession of the public.¹²⁶

In his 1890 treatise, William Callyhan Robinson strongly disagreed, declaring that patent law required “nothing less than the actual practice of some art, or the construction of some article of manufacture.”¹²⁷ Robinson expressly rejected the view that a detailed written description sufficient to enable someone to make the invention was sufficient. Indeed, for Robinson even a “model exhibiting the article in all its parts” was insufficient.¹²⁸

But Robinson was swimming upstream. Already in 1872 one federal court had concluded that a legal rule voiding unworked patents was “wholly unsound” because “no such condition is required by the act of congress.”¹²⁹ The idea of “constructive” reduction to practice began appearing in the case law—that is, that a patent should be treated as constructively reduced to practice if its disclosure was specified sufficiently that a knowledgeable person skilled in the art could implement the invention without excessive experimentation.¹³⁰

124. WILLARD PHILLIPS, *THE LAW OF PATENTS FOR INVENTIONS: INCLUDING THE REMEDIES AND LEGAL PROCEEDINGS IN RELATION TO PATENT RIGHTS* 110–12 (1837).

125. GEORGE TICKNOR CURTIS, *A TREATISE ON THE LAW OF PATENTS FOR USEFUL INVENTIONS* § 2, at 3–4 (1849).

126. GEORGE TICKNOR CURTIS, *A TREATISE ON THE LAW OF PATENTS FOR USEFUL INVENTIONS, AS ENACTED AND ADMINISTERED IN THE UNITED STATES OF AMERICA*, § 378, at 397–98 (3d ed. 1867).

127. 1 WILLIAM C. ROBINSON, *THE LAW OF PATENTS FOR USEFUL INVENTIONS* 181 (1890).

128. *Id.* at 182.

129. *Wheeler v. Clipper Mower, etc., Co.*, 29 F. Cas. 881, 888 (C.C.S.D.N.Y. 1872) (No. 17,493); *see also* Warren H. Willner, *Origin and Development of the Doctrine of Constructive Reduction to Practice*, 36 J. PAT. OFF. SOC’Y 618, 619–20 (1954).

130. *Carty v. Kellogg*, 7 App. D.C. 542 (D.C. Cir. 1896). *Porter v. Loudon*, 7 App. D.C. 64 (D.C. Cir. 1895); *see also* John F. Duffy, *Reviving the Paper Patent Doctrine*, 98 CORNELL L. REV. 1359, 1370–71 (2013).

The culmination of classical patent law was that an issued patent was a property right completely in the control of its owner, who should be free to use it or not at will and also to enjoin infringers. Whether or not the patent's owner actually practiced the patent or licensed it to others became largely irrelevant. The Supreme Court embraced this view early in the twentieth century, in two decisions concerning the uses of patents in ways that served to limit rather than expand output. In *E. Bement & Sons v. National Harrow Co.*, the Supreme Court upheld a patent cross-licensing agreement that included a provision fixing the sales price of agricultural harrows covered by the patents. In response to the argument that product price fixing was not in the public interest, Justice Peckham replied that the patentee's "title is exclusive, and so clearly within the constitutional provisions in respect of private property that he is neither bound to use his discovery himself nor permit others to use it."¹³¹ With that, the Court reasoned that an owner who had the right not to use a property interest at all also had the right to fix the price at which the patented article could be sold.

The Court went further six years later in *Continental Paper Bag Co. v. Eastern Paper Bag Co.*, concluding that an unpracticed patent was enforceable, and that it entitled the patentee to an injunction against a competing firm.¹³² The patent owner was a dominant manufacturer of paper grocery bags. It was using one type of cutter to make its bags but purchased a patent on a different type of cutter from an outside inventor. Preferring to stick with its existing technology, the patent owner then brought suit against a rival firm whose technology resembled that in the acquired but unused patent. Not only did the Supreme Court permit the plaintiff to get an injunction shutting down the rival's technology, but it did so under a particularly broad reading of patent law's doctrine of equivalents, which permits infringement claims against technology that do not literally infringe a patent.¹³³

Even more than *Bement*, the *Paper Bag* decision showed how dominant the private conception of patent law as a property right had become. The federal district court had observed that the patent owner "stands in the common class of manufacturers who accumulate patents merely for the purpose of protecting their general industries and shutting out competitors."¹³⁴ Nevertheless, it felt obliged to issue the injunction. The First Circuit affirmed, but Judge Aldrich wrote a strong dissent, complaining that in this case, "a court of equity is asked not to protect from infringement the statutorily intended monopoly . . . but to protect a monopoly beyond and broader . . ." Further:

131. 186 U.S. 70, 88–90 (1902) (quoting *Heaton-Peninsular Button-Fastener Co. v. Eureka Specialty Co.*, 77 F. 288, 294 (6th Cir. 1896)).

132. 210 U.S. 405 (1908); see also CHRISTINA BOHANNAN & HERBERT HOVENKAMP, CREATION WITHOUT RESTRAINT: PROMOTING LIBERTY AND RIVALRY IN INNOVATION 295–99 (2012).

133. The doctrine was first developed by a divided Court in *Winans v. Denmead*, 56 U.S. 330 (1854). See BOHANNAN & HOVENKAMP, *supra* note 132, at 296–97.

134. *E. Paper Bag Co. v. Cont'l Paper Bag Co.*, 142 F. 479, 487 (C.C.D. Me. 1905).

The proposition involves the idea of a secondary monopoly maintained to stifle patent competition in the trades and industries, and thus contemplates a condition which at once contravenes the manifest purpose of the Constitution, and a monopoly of a kind and breadth and for a purpose in no sense ever contemplated by the statutory contract which safeguards the legal right to make, use, and vend under a particular patent.¹³⁵

Nevertheless the Supreme Court concluded:

The inventor is one who has discovered something of value. It is his absolute property. He may withhold the knowledge of it from the public, and he may insist upon all the advantages and benefits which the statute promises to him who discloses to the public his invention.¹³⁶

Over the subsequent four decades Congress was repeatedly asked to overrule or limit the effect of *Paper Bag*, mainly by providing for either forfeiture¹³⁷ or compulsory licensing¹³⁸ of unused patents. It always declined.

Paper Bag represents the high point in the Supreme Court's development of patent doctrine based on private property principles, largely indifferent to concerns about economic development, growth, or the independent value of competition. Under the law of real property, the owner of undeveloped land has no duty to sell it to another for development, and she can use an injunction to exclude outsiders, no matter how socially beneficial their purpose.¹³⁹ This was so notwithstanding that no federal patent act ever made injunctions automatic. Rather, they provided that such suits should be governed by general equitable principles.¹⁴⁰ While the principles were not fully stated in the acts, commonly accepted requirements for an injunction were that a remedy at law, or damages, was inadequate. Further, the plaintiff had to show that the public interest would not

135. *Cont'l Paper Bag Co. v. E. Paper Bag Co.*, 150 F. 741, 744 (1st Cir. 1906).

136. *Paper Bag*, 210 U.S. at 424. Justice Harlan was the only dissenter, stating that he would have denied the injunction "upon grounds of public policy." *Id.* at 430.

137. H.R. 6864, 75th Cong. (1937); S. 3297, 67th Cong. (1922); H.R. 22203, 62d Cong. (1912); H.R. 13876, 62d Cong. (1911) (all unenacted proposals to provide for forfeiture of patents not used within a specified period).

138. S. 2491, 77th Cong. (1942); S. 383, 74th Cong. (1935); S. 290, 73d Cong. (1933); S. 22, 72d Cong. (1931); S. 203, 71st Cong. (1929); S. 705, 70th Cong. (1927); S. 3474, 69th Cong. (1926); S. 3325, 67th Cong. (1922) (all unenacted proposals to provide for compulsory licensing of unworked patents).

139. *See, e.g., Pollock v. Cleveland Ship Bldg. Co.*, 47 N.E. 582 (Ohio 1897) (landowner could obtain injunction against shipper who placed vessels on the owner's land for repair, even though the land was unimproved).

140. Patent Act of 1836, ch. 357, § 17, 5 Stat. 117 (1836) (granting federal court in equity the power "to grant injunctions, according to the course and principles of courts of equity . . . on such terms and conditions as said courts may deem reasonable . . ."); *see also* Patent Act of 1870, § 55, 16 Stat. 198 (1870) (similar).

be disserved by an injunction.¹⁴¹ Reflecting deep division in thinking about patents as absolute property rights or as tools of economic development, the courts initially divided on the question of entitlement to an injunction. Some concluded that the remedy for infringement actions on unpracticed patents should not be an injunction, which would keep the technology off the market altogether,¹⁴² while others disagreed.¹⁴³ By approving an injunction restraining infringement of the defendant's unpracticed patent, the *Paper Bag* decision settled that issue for the time being.

E. Patents and Special Interest Capture: The First Sale Doctrine and Substantive Due Process

In *Bloomer v. McQuewan*, Chief Justice Taney wrote the Supreme Court's opinion limiting the enforcement of patent rights against someone who had previously purchased the patented product.¹⁴⁴ While the decision is often cited as the first statement of patent law's first-sale, or "exhaustion," doctrine, Taney was pursuing a different purpose. *Bloomer* tied patent doctrine to Jacksonian concerns about retroactivity and special-interest capture, neither of which characterizes the patent-exhaustion doctrine today.¹⁴⁵ Much more significant than *Bloomer's* statement of the exhaustion doctrine was its declaration of what later became economic substantive due process.

Bloomer had licensed a patent on a rotary wood-planing machine from its inventor, William Woodworth, one of the nineteenth century's most litigious patentees.¹⁴⁶ The machine's ability to smooth all four sides of a wooden board, without pulling it to one side as it passed through the device, made it a significant contribution to that industry.¹⁴⁷ *Bloomer* authorized others to build the machine with a license that limited the number that could be built and their location, as well

141. See *eBay, Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 392 (2006) (interpreting the 1952 Patent Act, 35 U.S.C. § 283; courts "may grant injunctions in accordance with the principles of equity").

142. *Elec. Smelting & Aluminum Co. v. Carborundum Co.*, 189 F. 710 (C.C.W.D. Pa. 1900) (refusing an injunction); *Hoe v. Knap*, 27 F. 204 (C.C.N.D. Ill. 1886) (conditioning enforcement on a showing that the patentee either practiced the patent itself or licensed others to practice it).

143. *Consol. Roller-Mill Co. v. Coombs*, 39 F. 803 (C.C.E.D. Mich. 1889) (permitting nonpracticing firm an injunction).

144. 55 U.S. (14 How.) 539 (1852).

145. See Hovenkamp, *Inventing Classical Constitution*, *supra* note 2, at 5–7.

146. Nathan Rosenberg, *America's Rise to Woodworking Leadership*, in *AMERICA'S WOODEN AGE: ASPECTS OF ITS EARLY TECHNOLOGY* 37 (Brooke Hindle ed., 1975); see also Carolyn C. Cooper, *A Patent Transformation: Woodworking Mechanization in Philadelphia, 1830–1856*, in *EARLY AMERICAN TECHNOLOGY: MAKING AND DOING THINGS FROM THE COLONIAL ERA TO 1850*, 280, 280–322 (Judith A. McGraw ed., 1994).

147. The machine is described in *Discoveries and Inventions: Planing Machine*, 2 J. AM. INST. AGRIC., COM., MANUFACTURES, & ARTS 585–86 (1837). On subsequent litigation against numerous infringers, see *Sloat v. Patton*, 22 F. Cas. 327 (C.C.E.D. Pa. 1852) (No. 12,947); see also *The Woodworth Planing Machine Patent*, 12 SCI. AM. 149 (1857).

as the licensee's ability to transfer the machines to others.¹⁴⁸ McQuewan's sublicense from Bloomer authorized him to construct and use the machines in Pittsburg and Allegheny County, Pennsylvania.¹⁴⁹

As the patent approached expiration, Woodworth, whose very substantial royalties were based on the square feet of surface area that went through the machine, lobbied Congress for retroactive extension of the patent term.¹⁵⁰ Congress responded twice, first with a provision in the 1836 Patent Act extending the patent term and making the extension retroactive to cover patents that had already been issued.¹⁵¹ Congress's second response came after Woodworth's death in 1839, when his son lobbied Congress and obtained an additional seven-year retroactive extension that covered only Woodworth's patent, mentioned by name.¹⁵² A federal court in Ohio upheld the second extension against a claim that patent terms could only be extended by general legislation.¹⁵³ Using a land analogy, the court reasoned that Congress had the power to make different public-land grants to different grantees and could grant different parcels for different terms.¹⁵⁴ Subsequently, however, when Woodworth's son requested yet another extension there was a large public outcry of unfair monopoly.¹⁵⁵ McQuewan had paid Bloomer royalties until the original patent's expiration. After the term was extended, Bloomer insisted on reviving the royalties and sued for infringement when McQuewan refused to pay.

The Marshall Court had already effectively upheld both general and special retroactivity provisions some 20 years before Taney was appointed to the Court. In 1815, it approved a federal statute¹⁵⁶ that gave another litigious inventor, Oliver Evans, a 14-year retroactive term extension on a patent that at least one

148. *Bloomer*, 55 U.S. at 554–55.

149. See Frank R. Strong, *Unravelling the Tangled Threads of Substantive Due Process*, in *POWER AND POLICY IN QUEST OF THE LAW: ESSAYS IN HONOR OF EUGENE VICTOR ROSTOW* 73, 92–95 (Myres S. McDougal & W. Michael Reisman eds., 1985).

150. See *Patent Cases in Congress—the Woodworth Planing Machine*, 12 *SCI. AM.* 138 (1857).

151. Patent Act of 1836, ch. 357, § 8, 5 Stat. 117 (1836).

152. See *An Act to extend a patent heretofore granted to William Woodworth*, 6 Stat. 936 (1845); see also *Bloomer v. Millinger*, 68 U.S. (1 Wall.) 340 (1863) (describing the patent extension and adhering to first sale doctrine). Earlier litigation involving the extension is recounted in *Livingston v. Woodworth*, 56 U.S. (15 How.) 546 (1853); see also *Wilson v. Simpson*, 50 U.S. (9 How.) 109 (1850) (litigation over repair versus reconstruction of Woodworth machine).

153. *Bloomer v. Stolley*, 3 F. Cas. 729 (C.C.D. Ohio 1850) (No. 1,599).

154. *Id.* at 730–31.

155. See *The Woodworth Patent Extension Scheme*, 11 *SCI. AM.* 277 (1856); see also "Petition of Three Hundred Citizens of Wheeling, Virginia," as well as summaries of other petitions, collected in Representative John Otis, Speech of Hon. John Otis, of Maine, and the Minority Report of the Committee on Patents Made by Him, on the Subject of Woodworth's Patent for a Planing Machine, and Against the Bill for Extending that Patent, U.S. House of Reps. (Mar. 27, 1850), in 89 *CONG. & POLIT. PAMPHLET*, 1850; see also H.R. REP. NO. 31-150 (1850); H.R. REP. NO. 32-156 (1852).

156. *An Act for the Relief of Oliver Evans*, ch. 13, 6 Stat. 70 (1808).

court had already invalidated for lack of invention.¹⁵⁷ Then Congress followed that same year with a further seven-year extension. The provisions applied retroactively, although they contained a damages exemption for infringements that occurred during the interval between the expiration of the first patent and the legislation creating the second.¹⁵⁸

To a Jacksonian, these retroactive and single-owner term extensions represented the worst form of legislative capture, reflecting all of the evils of the monopoly bridge franchises and the Contract Clause doctrine that protected them.¹⁵⁹ Chief Justice Taney's opinion for the Court rejected Bloomer's infringement claim. The judge-made first sale doctrine that the Court announced did not necessarily condemn all retroactive term extensions. Rather, the Court held that once a patented good had been sold under an original patent whose term had expired, the patentee could not revive royalty obligations by relying on a subsequent patent term extension: "when the machine passes to the hands of the purchaser, it is no longer within the limits of the monopoly. . . . [The] machine becomes his private individual property."¹⁶⁰ As it survives to this day,¹⁶¹ the patent-exhaustion rule does not depend for its existence on a legislative term extension. It can apply to a patented article at any time after sale. Its effect has been to limit the scope of the patent "monopoly" in an area where both the Constitution's Patent Clause and the Patent Act are silent.¹⁶²

Chief Justice Taney was also concerned that retroactive patent extensions could serve to withdraw a property right from someone who had already purchased the patented good in the reasonable expectation that license restrictions would end when the patent expired. Here, in one of his most prescient and important utterances, Taney invoked the Fifth Amendment Due Process Clause, very likely because the Contract Clause was not available in an action involving a federally created right:

157. *Evans v. Jordan*, 13 U.S. (9 Cranch) 199, 202 (1815). Thomas Jefferson was involved in the dispute and was of the opinion that there was nothing new about Evans' invention. See SIGFRIED GIEDION, *MECHANIZATION TAKES COMMAND: A CONTRIBUTION TO ANONYMOUS HISTORY* 84–85 (1948); see also Letter from Thomas Jefferson to Isaac McPherson (Aug. 13, 1813), in 6 *THE WRITINGS OF THOMAS JEFFERSON* 175, 180 (H.A. Washington ed., 1857) (assailing the patent as nothing more than an obvious combination of old technologies and artifices).

158. An Act Extending the Time of Oliver Evan's Patent on his Improvement on Steam Engines, ch. 11, 6 Stat. 147 (1815).

159. See Hovenkamp, *Inventing the Classical Constitution*, *supra* note 2, at 19–26.

160. *Bloomer v. McQuewan*, 55 U.S. (14 How.) 539, 549–50 (1852).

161. See, e.g., *Quanta Computer, Inc. v. LG Electronics, Inc.*, 553 U.S. 617 (2008).

162. The cases are assessed in John F. Duffy & Richard M. Hynes, *Statutory Domain and the Commercial Law of Intellectual Property*, 102 VA. L. REV. 1 (2016); see also Herbert Hovenkamp, *Post-Sale Restraints and Competitive Harm: The First Sale Doctrine in Perspective*, 66 N.Y.U. ANN. SURV. AM. L. 487 (2011) [hereinafter Hovenkamp, *Post-Sale Restraints*].

The right to construct and use these planing machines, had been purchased and paid for without any limitation as to the time for which they were to be used. They were the property of the respondents. Their only value consists in their use. And a special act of Congress, passed afterwards, depriving the appellees of the right to use them, certainly could not be regarded as due process of law.¹⁶³

In anticipating substantive due process doctrine, Taney's discussion reflects a deep suspicion of legislative capture and the threat to settled expectations in property rights. He might have added that a retroactive term extension, such as the Woodworths obtained from Congress, did not serve to incentivize anything, for this patent had already been issued.

Although Taney cited "due process" as the rationale for his decision, the facts of *Bloomer* actually come much closer to the core concerns of Contract Clause doctrine than to what became economic substantive due process. Paraphrasing Contract Clause language, Taney observed that while Congress had the power to grant patents, it did not have the authority to "reinvest in [the patent holder] rights of property which he had before conveyed for a valuable and fair consideration."¹⁶⁴ Taney recited a parade of horrors under which innocent purchasers might acquire goods that are out of patent, but that patent rights could then spring up as a result of a retroactive Congressional term extension and limit their usefulness or require payment of a royalty.¹⁶⁵ The disanalogy was that the challenged term extensions came from the federal government rather than a state. *Bloomer's* principal concern was retroactive legislation that undermined settled expectations in a sale of property that had already occurred. That was consistent with the Contract Clause, whose adjacent language also barred the states from making ex post facto laws.¹⁶⁶ Further, the retroactive term extension represented precisely the type of special interest generated favoritism for a single patent that the 1836 Patent Act sought to avoid.

F. Federalism and the Patent "Property" Right

Under pre-classical conceptions, patents were exclusive privileges granted in exchange for a promise to develop economic infrastructure. They were issued, supervised, and, if need be, revoked by the same legislative body. A good example is the state-issued steamboat patents previously discussed.¹⁶⁷ When patents are regarded as "property," however, their character changes. First, the issuance process becomes more regularized and ideally removed from the political process. Second, the patent owner acquires greater discretion about whether and

163. *Bloomer*, 55 U.S. at 553–54.

164. *Id.* at 554; *cf.* *Fletcher v. Peck*, 10 U.S. (6 Cranch) 87 (1810) (Contract Clause: a land deed, once granted, could not be taken back by its grantors).

165. *Bloomer*, 55 U.S. at 552–53.

166. U.S. CONST. art. I, § 10, cl. 1 ("No State shall . . . pass any Bill of Attainder, ex post facto Law, or Law impairing the Obligation of Contracts . . .").

167. *See supra* text accompanying notes 87–96.

how the patent will be used. Third, as a property right, the patent cannot be revoked at a legislature's behest, but only through judicial process and for cause.

Management of property rights has traditionally been left to state law, with federal law providing occasional limitations. Because patent property is created in the first instance by federal law, this division of power is more complex. Federal law determines the conditions for issuing a patent and its proper scope. Federal law also governs infringement actions, because these involve questions of validity and location of boundaries, two parts of the definition of the property right. Except for infringement actions, however, state law kicks in after a patent is issued and governs most issues of licensing, transfer, and descent. As developed below, the fact that federal and not state law governed infringement actions threatened to rob the states of control over the use of patented goods. The first sale doctrine served to limit this federal authority, in the process ceding greater control to the states.

Increasingly after the Civil War, the Supreme Court treated patents as a species of property, having many of the same constitutional protections as other forms of property. For example, it concluded in 1871 that "[i]nventions secured by letters patent are property in the holder of the patent, and as such are as much entitled to protection as any other property, consisting of a franchise, during the term for which the franchise or the exclusive right is granted."¹⁶⁸ In its 1888 *United States v. American Bell Telephone Co.* decision, the Supreme Court described the process of patent issuance as "quasi judicial" and concluded that once a patent had been issued it could be revoked only by the courts and for cause. The Court relied almost exclusively on the law of government grants of land titles, rejecting the patentee's objection that the Court's "reference[s] exclusively to patents for land . . . are not applicable to patents for inventions and discoveries."¹⁶⁹ The Court summarized:

The patent, then, is not the exercise of any prerogative power or discretion by the president, or by any other officer of the government, but it is the result of a course of proceeding *quasi* judicial in its character, and is not subject to be repealed or revoked by the president, the secretary of the interior, or the commissioner of patents, when once issued.¹⁷⁰

The legal structure that emerged gave the federal government a great deal of discretion to manage patent *issuance*, which was controlled entirely by the Patent Act. However, once the patent was issued it was transformed into a property right with considerable insulation from subsequent regulatory control. Under the U.S. Constitution, property rights are so strong that they often take precedence over developmental needs. An ironic result was that patent law in the United

168. *Seymour v. Osborne*, 78 U.S. (11 Wall.) 516, 533 (1871); *see also* Adam Mossoff, *Patents as Constitutional Private Property: The Historical Protection of Patents Under the Takings Clause*, 87 B.U. L. REV. 689 (2007) (focusing mainly on later decisions).

169. *United States v. Am. Bell Tel. Co.*, 128 U.S. 315, 368 (1888); *see also* Note, *Revocation of a Patent by Government Suit*, 48 YALE L.J. 1095 (1939).

170. *Am. Bell Tel.*, 128 U.S. at 363.

States—the set of legal rules that should be most explicitly concerned with innovation—developed in relative isolation from economic theories of development or economic growth. Patent lawyers disputing patent validity and scope have traditionally behaved much more like property lawyers, disputing boundaries rather than, say, antitrust lawyers trying to base legal rules on observations about industrial performance.¹⁷¹

G. Federal Law: Patent Eligibility and Scope

The 1836 Patent Act was passed amid a debate about patent issuance and patent quality, with critics protesting that under the then existing registration system, far too many weak patents were being issued. The Senate Report concluded that a “considerable portion of all the patents granted [were] worthless and void.” It went on to explain that patent litigation had been “daily increasing in an alarming degree” and was “onerous to the courts, ruinous to the parties, and injurious to society.”¹⁷² The report concluded that under the existing system:

The country becomes flooded with patent monopolies, embarrassing to bona fide patentees, whose rights are thus invaded on all sides; and not less embarrassing to the community generally, in the use of even the most common machinery and long-known improvements in the arts and common manufactures of the country.¹⁷³

The 1836 Patent Act attempted to address these problems by creating the modern Patent Office with an appointed commissioner who had the authority to appoint one or more “examining clerk[s]” to evaluate applications for patentability.¹⁷⁴ This examiner looked at each “alleged new invention or discovery” to determine whether the thing described in the application “had been invented or discovered by any other person in this country prior to the alleged invention or discovery thereof by the applicant”¹⁷⁵ In addition, the examiner ensured that the subject of the application had not been patented previously or described in a printed publication in either the United States or a foreign country, or had not been “in public use or on sale with the applicant’s consent or allowance prior to the application.”¹⁷⁶ Once these conditions for patentability had been satisfied, “it shall be [the commissioner’s] *duty* to issue a patent”¹⁷⁷ If the applicant believed the application should have been approved but the Commissioner disagreed, then the applicant could take the application to a review

171. See HOVENKAMP, OPENING, *supra* note 46, at 184–205; Hovenkamp, *Reexamination*, *supra* note 49.

172. S. DOC. NO. 24-238, at 3 (1836).

173. *Id.* On patent issuance prior to and under the 1836 Act, see John F. Duffy, *The FCC and the Patent System: Progressive Ideals, Jacksonian Realism, and the Technology of Regulation*, 71 U. COLO. L. REV. 1071, 1127–29 (2000) (describing pre-1836 protests about excessive low-quality patents).

174. Patent Act of 1836, ch. 357, § 2, 5 Stat. 117 (1836).

175. *Id.* § 7.

176. *Id.*

177. *Id.* (emphasis added).

panel of “three disinterested persons, who shall be appointed for that purpose by the Secretary of State,” and one of whom was an expert in the relevant area.¹⁷⁸ Final decisions of the panel could be challenged in court.¹⁷⁹

The examination process recognized in the 1836 Patent Act and further elaborated in the 1870 Act took concerns of economic development almost entirely out of the picture. None of the criteria explicitly linked patentability to socially productive innovation. While the Act required the commissioner to ensure that the alleged invention was “useful,”¹⁸⁰ that requirement had largely become meaningless and, in any event, *never* referred to marketability or the filling of an important need, things that had been deemed essential to the issuance of early patents.¹⁸¹ Chancellor Kent believed that patents had to be “to a cert[ain] degree, beneficial to the community, and not injurious, or frivolous, or insignificant.”¹⁸² Justice Story, who generally favored broad monopoly grants, argued that the utility requirement should mean no more than that the invention must not be “frivolous or injurious to the well-being, good policy, or sound morals of society.”¹⁸³ Judicial interpretation under the 1836 Act increasingly adopted the Story view.¹⁸⁴ Increasingly, courts rejected inquiries into usefulness in patent validity litigation unless the only functions of the challenged device were unlawful or immoral.¹⁸⁵ At the same time, applicants became entitled to a patent unless the examiner concluded that their patent application failed to meet one of the technical criteria for patentability. There was no applicant promise to deploy the patented invention and nothing limiting a right to bring an infringement suit on an unused patent. Courts applying the statute seldom had an opportunity to query whether the patent in question satisfied a perceived economic need.

The 1836 Patent Act also introduced the requirement of patent “claims,” which were greatly elaborated in the 1870 Act and Supreme Court decisions. Claims became analogous to the “metes and bounds” in a real property deed. They had to “particularly specify and point out the part, improvement, or combination, which [the applicant] claim[ed] as his own invention or discovery.”¹⁸⁶ Each claim operated as a kind of “boundary line,” specifying exactly what the patentee claimed to be new and patent-worthy in his invention. The rise and rapid expansion of patent-claiming doctrine, already underway in judicial decisions, pulled questions about patent validity and scope away from analysis of the central

178. *Id.*

179. *Id.* at § 12.

180. *Id.* at § 7.

181. *See, e.g.,* Whitney v. Carter, 29 F. Cas. 1070, 1071–72 (C.C.D. Ga. 1810) (No. 17,583) (on the social usefulness of the Whitney cotton gin).

182. 2 KENT, *supra* note 120, at 369.

183. Lowell v. Lewis, 15 F. Cas. 1018 (C.C.D. Mass. 1817) (No. 8,568).

184. PHILLIPS, *supra* note 124, at 141–42 (1837).

185. *See* Bracha, *Owning Ideas*, *supra* note 97, at ch. 4, nn.81–82 (collecting decisions).

186. Patent Act of 1836, ch. 357, §§ 5, 6, 5 Stat. 117 (1836).. *See also* the greatly elaborated provision in the Patent Act of 1870, ch. 230, § 26, 16 Stat. 198–217 (1870). The doctrine was applied in *Merrill v. Yeomans*, 94 U.S. 568 (1876) and *Keystone Bridge Co. v. Phx. Iron Co.*, 95 U.S. 274 (1877).

technological contribution of a patent and toward the precise location of its boundaries. Today the process is described as “peripheral” claiming, emphasizing a patentee’s focus on boundary location.¹⁸⁷

In the process, the patent document necessarily became tied to specific technologies within the owner’s clear contemplation. For example, the famous Morse Telegraph patent case (1853), in which the Supreme Court applied the 1836 Patent Act, upheld most of the claims for that remarkable invention. Chief Justice Taney’s decision for the Supreme Court rejected its infamous eighth claim, however, where the Morse patent declared:

I do not propose to limit myself to the specific machinery or parts of machinery described in the foregoing specification and claims; the essence of my invention being the use of the motive power of the electric or galvanic current, which I call electro-magnetism, however developed, for making or printing intelligible characters, signs or letters at any distances, being a new application of that power, of which I claim to be the first inventor or discoverer.¹⁸⁸

As Taney’s opinion recognized, that claim was not tied to any technology whatsoever. As a result, it would commandeer future innovations for transmitting intelligible characters, “however developed.” Taney complained:

If this claim can be maintained, it matters not by what process or machinery the result is accomplished. For aught that we now know some future inventor, in the onward march of science, may discover a mode of writing or printing at a distance by means of the electric or galvanic current, without using any part of the process or combination set forth in the plaintiff’s specification. His invention may be less complicated—less liable to get out of order—less expensive in construction, and in its operation. But yet if it is covered by this patent the inventor could not use it, nor the public have the benefit of it without the permission of this patentee.

Nor is this all, while he shuts the door against inventions of other persons, the patentee would be able to avail himself of new discoveries in the properties and powers of electro-magnetism which scientific men might bring to light. For he says he does not confine his claim to the machinery or parts of machinery, which

187. For a discussion on the rise of peripheral, or boundary, claiming in the nineteenth century, see J. Jonas Anderson & Peter S. Menell, *Informal Deference: A Historical, Empirical, and Normative Analysis of Patent Claim Construction*, 108 *Nw. U. L. Rev.* 1, 12 (2013).

188. *O’Reilly v. Morse*, 56 U.S. (15 How.) 62, 112 (1853) (quoting the Morse patent). For further discussion of this important decision, see Bohannon & Hovenkamp, *supra* note 132, at 122–25.

he specifies; but claims for himself a monopoly in its use, however developed, for the purpose of printing at a distance.... And if he can secure the exclusive use by his present patent he may vary it with every new discovery and development of the science, and need place no description of the new manner, process, or machinery, upon the records of the patent office. And when his patent expires, the public must apply to him to learn what it is.¹⁸⁹

The telegraph decision was thus in sharp contrast to judicial approval of the highly general language of the steamboat patents, which said very little more than that they applied to all boats propelled by fire or steam.¹⁹⁰

Patent law became more technical, with more strenuous requirements tied to disclosure of specific technology that was said to be in the possession of someone who could show that he was an “inventor.” In sum, the classical patent would no longer be regarded as an inchoate “promise to develop,” implicit in the steamboat patents.¹⁹¹

An essential part of this transformation was that patent issuance had to become a ministerial process, but one in which security of titles could be ensured. The Jackson era did the same thing for business corporations by creating general incorporation acts that assessed objective criteria for corporate status.¹⁹² So too later versions of the federal Patent Act objectified the standards for entitlement to a patent, in the process removing state-issued patents from the picture. Beginning with the 1836 Act, the patent system developed most of its prominent modern features—mainly, intense scrutiny at the pre-issuance stage by a government official, making sure that technical requirements have been met, but very little scrutiny once a patent was issued. The patent entered the stream of commerce as a property right, pure and simple. Its subsequent use was largely a question for the owner and state commercial law.

H. Regulation of Issued Patents: From State Law to Progressive Federal Expansion

Under the classical conception of the patent, individual states lost the power to determine entitlement to a patent or the scope of the patent property right. But the Constitution’s Patent Clause authorized Congress only to “secure” the exclusive patent right. Once a patent was issued and entered the stream of commerce, its management as a property right largely befell the states. That division of responsibility has very largely persisted, although with qualifications emanating from the first sale doctrine, federal antitrust, and misuse policy. Federal law defines entitlement to a patent, its appropriate scope, and enforcement power

189. *O’Reilly*, 56 U.S. at 113.

190. *See supra* text accompanying note 89.

191. *See supra* text accompanying notes 89–98.

192. HOVENKAMP, ENTERPRISE, *supra* note 23, at 11–16.

by means of infringement actions. By contrast, state commercial law determines questions about licensing, assignment, and descent.¹⁹³

1. State Patent Regulation

Prior to the Supreme Court's decision in *Erie v. Tompkins*, the line between federal and state law was often indistinct, particularly where the rule of commercial law in question was thought to be "general" as opposed to "local," and came from the common law.¹⁹⁴ The federal courts had no obligation to defer to state law but rather followed the general law, or their own view of the best law on the subject.¹⁹⁵ A case in point is *Brooks v. Byam*, decided by Supreme Court Justice Joseph Story while he was riding circuit in Massachusetts.¹⁹⁶ *Brooks* came only a year after Justice Story's opinion for the Supreme Court in *Swift v. Tyson*, which first established the "general law" rule for the federal courts.¹⁹⁷ The question in *Brooks* was whether a license to practice a patent on friction matches could be subdivided among six different sublicensees independently, who could then practice the patent in competition with one another. Justice Story first observed that the federal Patent Act did not speak to the issue.¹⁹⁸ He then looked to the general common law and applied the ancient British rule in *Mountjoy's Case*, which held that a license to take sod and gravel could not be subdivided among different users unless the users committed to operate it jointly as "one stock," or effectively as a partnership.¹⁹⁹

No state statute addressed the issue either, and Justice Story did not say whether the presence of such a statute would have affected the outcome.

193. The 1836 federal statute authorized assignments and required that they be in writing and recorded, but said little beyond that. See Patent Act of 1836, ch. 357, § 11, 5 Stat. 117 (1836):

... every patent shall be assignable in law, either as to the whole interest, or any undivided part thereof, by any instrument in writing; which assignment, and also every grant and conveyance of the exclusive right under any patent, to make and use, and to grant to others to make and use, the thing patented within and throughout any specified part or portion of the United States, shall be recorded in the Patent Office within three months from the execution thereof, for which the assignee or grantee shall pay to the Commissioner the sum of three dollars.

Id. Section 14 additionally provided that assignees as well as original patentees could bring infringement actions. *Id.* §14.

194. See HOVENKAMP, ENTERPRISE, *supra* note 23, at 79–92.

195. *Erie R.R. v. Tompkins*, 304 U.S. 64 (1938). On *Erie's* impact on intellectual property law, see HOVENKAMP, OPENING, *supra* note 46, at 292–95.

196. 4 F. Cas. 261 (C.C.D. Mass. 1843) (No. 1,948).

197. 41 U.S. (16 Pet.) 1 (1842).

198. *Brooks*, 4 F. Cas. at 267 (referring to Patent Act of 1836, ch. 357, § 11, 5 Stat. 121).

199. *Earl of Huntington v. Lord Mountjoy (Mountjoy's Case)*, (1583) 123 Eng. Rep. 488 (C.P.D.). This application of the *Mountjoy* rule, which had involved rivalrous sod and gravel, was incorrect for a situation involving a nonrivalrous patent. See BOHANNAN & HOVENKAMP, *supra* note 132, at 327–28.

Increasingly after the 1870s, however, the federal courts began to defer to state statutes regulating the assignment and licensing of patent rights, provided that the statutes did not interfere with the federal prerogative to secure the rights in the first place.

For example, the courts upheld state statutes expanding the Statute of Frauds by requiring transfers of patents to be in writing, as federal patent law already required, but also to authenticate or provide evidence of patent ownership.²⁰⁰ The courts were more divided on state statutes that limited the negotiability of promissory notes used in purchase of patent rights unless the note clearly stated that the underlying consideration was a patent.²⁰¹ Some courts viewed these statutes as indicating that, while a patent was a form of property, it was less secure than tangible property rights. As a result, a bona fide assignee of a promissory note had a right to know that the underlying interest was a patent rather than real or tangible personal property whose title was less likely to be disputed. As one Michigan decision striking down such a statute observed:

The plain and avowed purpose of the statute of 1871 is to impose conditions on the transfer of patent rights, which do not apply to any other kinds of property, thereby interfering with the value and enjoyment of such rights, and treating them as a species of interests to be regarded with disfavor.²⁰²

However, the court continued, questions concerning the validity of federal patent rights were for Congress and “that body alone” to determine.²⁰³

In 1906, the Supreme Court confirmed the general division between federal and state law on questions of post-issuance commerce. *Allen v. Riley* upheld a state statute requiring copies of a patent and affidavits of genuineness to be attached to any commercial transfer of patent rights.²⁰⁴ Justice Peckham’s opinion for the Supreme Court distinguished a hypothetical state statute that prevented the transfers of federal patent rights, which would be in conflict with federal law, from the actual statute, which did no more than police fraud.²⁰⁵ “There is great opportunity for imposition and fraud in the transfer of intangible property, such as exists in a patent right, and many states have prescribed regulations for the transfer of such property differing essentially from those which control the transfer of other property.”²⁰⁶

200. *Wyatt v. Wallace*, 55 S.W. 1105 (Ark. 1900); *Brechbill v. Randall*, 1 N.E. 362 (Ind. 1885); *Hollida v. Hunt*, 70 Ill. 109 (1873).

201. Upholding such statutes: *State v. Cook*, 64 S.W. 720 (Tenn. 1901); *Tod v. Wick Bros. & Co.*, 36 Ohio St. 370 (1881); *Haskell v. Jones*, 86 Pa. 173 (1878). *But see* *Cranson v. Smith*, 37 Mich. 309 (1877) (striking down state statute requiring note to disclose that its consideration was a patent right, as being in conflict with federal law, which assessed no such requirement); *accord* *Wilch v. Phelps*, 15 N.W. 361 (Neb. 1883).

202. *Cranson*, 37 Mich. at 311.

203. *Id.*

204. 203 U.S. 347 (1906), *aff’g* 80 P. 952 (Kan. 1905).

205. 203 U.S. at 352–53.

206. *Id.* at 353.

Another area where the Patent Act left considerable room for state regulation concerned the immoral or unsafe uses of patented products or processes. As noted previously,²⁰⁷ while the federal Patent Act assessed “usefulness” as a requirement for patent eligibility, the requirement was soon watered down to refer only to things that had no purpose other than illegality or immorality. Beyond that, the regulation of patented goods on grounds of safety or immorality largely befell the states. In the early leading decision, *Vannini v. Paine*, the defendant had what is best described as a business method patent on a system for drawing lottery numbers.²⁰⁸ The decision came down during the high tide of Jacksonian evangelical fervor against lotteries.²⁰⁹ The Delaware legislature had already determined that lotteries were “pernicious and destructive to frugality and industry and introductive of idleness and immorality.” As a result, the court held it could not “be admitted that the [plaintiffs] have a right to use an invention for drawing lotteries in this State, merely because they have a patent for it under the United States.”²¹⁰ In its 1878 *Patterson v. Kentucky* decision, the Supreme Court held the defendant’s patent on a particular fuel oil did not suffice to defend against a state statute that prohibited use of the oil because its burning temperature was unsafely low.²¹¹ Dicta in Justice Field’s opinion for the Supreme Court in *Webber* illustrated the rationale and limit for this power in the states:

The patent for a dynamite powder does not prevent the State from prescribing the conditions of its manufacture, storage, and sale, so as to protect the community from the danger of explosion. A patent for the manufacture and sale of a deadly poison does not lessen the right of the State to control its handling and use.²¹²

2. *The Classical Patent in Decline: Federalism, the First Sale Doctrine, and the Invasion of Competition Law*

Both federal and state law potentially reached post-issuance patent restraints that were thought to be anticompetitive. The Sherman Antitrust Act had been passed in 1890, but it made no mention of patents and played only a minor role in policing anticompetitive patent practices prior to the 1920s. The principal exception was the government antitrust prosecution of the *Standard Sanitary* cartel in 1912. The Court agreed that a market-wide cartel in enameled ironware such as bathroom sinks could not defend by showing that the price-fixing agreement was contained in a patent license covering the enameling process.²¹³

207. See *infra* Section II.G.

208. 1 Del. (1 Harr.) 65, 65 (1832).

209. On increasing legislative history toward lotteries during the Jackson era, see HOVENKAMP, OPENING, *supra* note 46 at 256–58.

210. *Vannini*, 1 Del. at 68.

211. 97 U.S. 501, 502–03 (1878).

212. *Webber v. Virginia*, 103 U.S. 344, 347 (1880).

213. See *Standard Sanitary Mfg. Co. v. United States*, 226 U.S. 20, 48–49 (1912); see also *Bauer & Cie v. O’Donnell*, 229 U.S. 1, 11–12, 18 (1913). In *Bauer*, the Supreme Court refused to enforce a resale price maintenance agreement in a patent license despite

But federal antitrust was not the only source of competition law. In *Pope Manufacturing Co. v. Gormully*, the Supreme Court refused to enforce on equitable grounds an exclusive dealing agreement—in this case, the promise by a licensee/manufacture of bicycles that it would not import or sell any patented bicycles produced by competitors.²¹⁴ The Court did not mention the Sherman Act, which had passed two years earlier, and the doctrine of patent “misuse” was still decades in the future. Then, in 1907 the Supreme Judicial Court of Massachusetts held that the Tenth Amendment reserved to the states the power to regulate practices such as exclusive dealing when contained in patent licenses.²¹⁵ While the Patent Acts have authorized patentees to issue exclusive licenses, they did not authorize exclusive dealing. The distinction is important. An exclusive license benefits the licensee by creating a commitment that the patentee will not license a competitor to practice the patent in the area covered by the exclusivity provision. By contrast, exclusive dealing limits the power of a licensee to obtain competing goods for resale, whether patented or not, from someone else.

Closely related to exclusive dealing was tying, or the patentee’s requirement that a licensee could practice a patent only by using it with additional goods (whether patented or unpatented) purchased from the patentee. Both practices were thought to make downstream markets less competitive by limiting the range of products that resellers could sell. Several cases arose around the time the Sherman Act was passed, but that statute’s condemnation of agreements “in restraint of trade” said nothing specific about tying and exclusive dealing. Further, there was very little case law suggesting that either practice restrained trade at common law. As a result, the Sherman Act played almost no role in the development of tying law prior to the 1930s except for a brief mention in *Motion Picture Patents v. Universal Film Manufacturing Co.*, which cited the Sherman Act as an alternative ground for refusing to enforce a tying requirement in a patent license.²¹⁶

The Supreme Court first refused to enforce a patent tie in 1894, but relied on the first sale doctrine and did not mention the Sherman Act.²¹⁷ In *Morgan*

citing its opinion two years earlier in *Dr. Miles Med. Co. v. Jon D. Park & Sons Co.*, 220 U.S. 373, 384–85 (1911), *overruled by* *Leegin Creative Leather Prods., Inc. v. PSKS, Inc.*, 55 U.S. 877 (2007), which had condemned resale price maintenance (RPM) under the antitrust laws; Bauer, in fact, relied on the first sale doctrine and did not cite the Sherman Act. *Bauer*, 229 U.S. at 11–17.

214. 144 U.S. 224, 232, 237–38 (1892).

215. *In re Op. of the Justices*, 81 N.E. 142, 143 (Mass. 1907); *see also* J. R. Watkins Med. Co. v. Johnson, 162 S.W. 394, 395 (Tex. Civ. App. 1913) (refusing to enforce exclusive dealing provision in contract for supply of patent medicines). *But cf.* *State ex rel. Postal Tel. Cable Co. v. Del. & A. Tel. & Tel. Co.*, 47 F. 633, 640–41 (C.C.D. Del. 1891) (state common carrier obligation imposed on telephone company to serve everyone overrode patent license restriction preventing telephone company from providing a telephone to a competing telegraph company); *Missouri ex rel. Balt. & Ohio Tel. Co. v. Bell Tel. Co.*, 23 F. 539 (C.C.E.D. Mo. 1885) (similar).

216. 243 U.S. 502, 517 (1917); *see also infra* notes 239–40 and accompanying text.

217. *Morgan Envelope Co. v. Albany Perforated Wrapping Paper Co.*, 152 U.S. 425 (1894).

Envelope Co., the patentee sold its patented toilet paper dispenser subject to a license agreement requiring the purchaser to use only its own unpatentable toilet paper. The Court concluded that once the patentee sold the device the purchaser was free to use it with or without the patentee's paper. The Court quoted an earlier first sale decision, which had not involved tying, for the proposition that the first sale doctrine was intended to divide the territory between federal and state law:

When the patented machine rightfully passes to the hands of the purchaser from the patentee, or from any other person authorized to convey it, the machine is no longer within the limits of the monopoly. * * * By a valid sale and purchase, the patented machine becomes the private individual property of the purchaser, and is no longer protected by the laws of the United States, *but by the laws of the state in which it is situated*.²¹⁸

The first sale doctrine in patent law is entirely judge made, and its rationale has always been mysterious and controversial. Some have argued that it was designed in furtherance of a policy about competition,²¹⁹ others that it represents an unjustified interference in freedom of contract,²²⁰ and others still that it was simply an exercise in statutory interpretation, which includes an assessment of the patent's appropriate domain.²²¹ But the doctrine also clearly played an important role in dividing the territory between federal patent law and competition law, whether federal or state.²²²

Nineteenth century courts often viewed the doctrine as policing the line between federal law, which governed patent issuance, and state law, which governed patent use as well as the use of patented products. Writing in 1904, Albert Henry Walker, author of the most prominent of early twentieth century patent treatises, observed that:

The reason why a State has complete power of regulation over the sale of the patented thing, and is restricted in its power of regulation over the sale of the patent covering that thing, is explainable as follows: A patentee has two kinds of rights in his invention. He has a right to make, use, and sell specimens of the invented thing; and he has a right to prevent all other persons from doing either of those acts. The first of these rights is wholly independent of the patent laws; while the second exists by virtue

218. *Id.* at 432 (emphasis added) (quoting *Chafee v. Bos. Belting Co.*, 63 U.S. (22 How.) 217, 223 (1859)).

219. *See, e.g.*, Hovenkamp, *Post-Sale Restraints*, *supra* note 162, at 493–94 (“The first sale doctrine grew out of the common law’s strong policy against restraints on alienation, which had little to do with the protection of competition, except in the sense that it prevented wealthy landowners from tying up land in their families indefinitely.”).

220. Richard A. Epstein, *The Disintegration of Intellectual Property? A Classical Liberal Response to a Premature Obituary*, 62 *STAN. L. REV.* 455, 502–09 (2010).

221. Duffy & Hynes, *supra* note 162.

222. *See* Herbert Hovenkamp, *Patent Exhaustion and Federalism: A Historical Note*, 102 *VA. L. REV. ONLINE* 25 (2016).

of those laws alone. A patentee therefore holds the first of these rights subject not only to the police powers, but to the taxing powers, of the State, and to the law regulating common carriers; while the second, being the creation of the laws of Congress, is wholly beyond state control or interference by antitrust laws, or otherwise.²²³

When the first sale doctrine applied, tying, exclusive dealing, resale price maintenance, and other patent licensing practices would not be preemptively approved as a matter of federal patent law. Rather, nonpatent statutory and common law made by the states would be left to control these practices. Then-Sixth Circuit Judge Horace H. Lurton initially exposed this problem in the *Button-Fastener* decision in 1896, which led to the Progressive critique that eventually federalized the law of exclusive dealing and tying. The *Button-Fastener* defendant made a patented machine that fastened button hooks to garments. A license restriction required purchasers to use the patentee's own button hooks exclusively.²²⁴ The court refused to apply the first sale doctrine for the technical reason that the doctrine did not apply to "conditional" sales.

The court acknowledged that regulation of the way a patented article is used is within "the police power of the states."²²⁵ Nevertheless, a state statute that forbade tying under these circumstances would be in direct conflict with its rule that the tying requirement could be enforced by a contributory infringement suit. "Contributory" infringement refers to the act of selling an article knowing that it will be used to commit patent infringement.²²⁶ A state statute condemning tying would have prohibited the very thing that the Patent Act required. In that case, the Supremacy Clause provided that the patent infringement suit would control and state law would not apply.

Justice Lurton recognized this difficulty 16 years later in *Henry v. A.B. Dick, Co.*, which was the proverbial straw that broke the camel's back. By that time, he had been appointed to the Supreme Court by his former Sixth Circuit Colleague, President William Howard Taft. He wrote the opinion in *Henry* as well.²²⁷ The facts resembled those of the *Button* case, although in a different technology. A.B. Dick, a large manufacturer of office equipment, sold a mimeograph machine with a license restriction requiring purchasers of the machine to use its ink, paper, and stencils. When Sidney Henry sold a can of a competitor's ink to a user of the machine the patentee brought an action for contributory infringement, which the Supreme Court sustained. This time Justice

223. ALBERT HENRY WALKER ET AL., TEXT-BOOK OF THE LAW OF PATENTS FOR INVENTIONS 193 (5th ed. 1917).

224. *Heaton-Peninsular Button-Fastener Co. v. Eureka Specialty Co.*, 77 F. 288, 289–90 (6th Cir. 1896).

225. *Id.* at 293.

226. 35 U.S.C. § 271(c) (2012). This provision, however, does not apply to staple commodities capable of substantial noninfringing uses. *Id.* § 271(e)(1). If the statute had been in effect at the time it would not have applied to the ink sale because the ink was clearly capable of noninfringing uses.

227. 224 U.S. 1 (1912); *see also* HOVENKAMP, OPENING, *supra* note 46, at 194–97.

Lurton's opinion for the Court observed that the question of tying of patented products was not addressed by the Patent Act. Nor was it prohibited by the Sherman Act, which did not reach monopolies created by patent.²²⁸ However, writing against the background of then existing substantive due process law, Lurton noted that state law would permit intervention in a lawfully made contract only if the practice in question affected health or public safety, and he could not see how a tying arrangement had such an effect.²²⁹ In any event, Lurton observed, state law would not have the power to undo a federally recognized action for patent infringement.²³⁰ At the same time, he rejected the argument that the rule he was adopting constituted "an encroachment upon the authority of the state courts and an extension of the jurisdiction of the Federal courts."²³¹ In sum, *Henry* indicated not only that a tying arrangement by means of a patent license restriction was enforceable, but that such an action would override conflicting state law.

Henry's critics argued that the Supreme Court was overlooking the fact that a patentee could use a tie to create a second monopoly in an unpatented article, and that the Patent Act provided no such authority.²³² In any event, the Congressional reaction was swift and strong. Seeking to strike at both the previously discussed *Paper Bag* decision²³³ and *Henry*, Senator William Oldfield from Arkansas offered a bill amending the Patent Act by requiring compulsory licensing of any patent that was not being practiced within four years of

228. *Henry*, 224 U.S. at 29–30 (“[T]he general rule is absolute freedom in the use or sale of rights under the patent laws of the United States. The very object of these laws is monopoly, and the rule is, with few exceptions, that any conditions which are not in their very nature illegal with regard to this kind of property . . . will be upheld by the courts.”).

229. *Id.* at 29. On the health, safety, and morals exception to substantive due process law, see HOVENKAMP, OPENING, *supra* note 46, at 243–62.

230. *Henry*, 224 U.S. at 29–30.

231. *Id.* at 12. Justice Lurton explained:

We are unable to assent to these suggestions. We do not prescribe the jurisdiction of courts, Federal or state, but only give effect to it as fixed by law. If a bill asserts a right under the patent law to sell a patented machine subject to restrictions as to its use, and alleges a use in violation of the restrictions as an infringement of the patent, it presents a question of the extent of the patentee's privilege, which, if determined one way, brings the prohibited use within the provisions of the patent law, or, if determined the other way, brings into operation only principles of general law.

Id. at 13.

232. See Note, *Control of Patentee over Unpatented Commodities*, 25 HARV. L. REV. 641, 641–42 (1912).

233. *Cont'l Paper Bag Co. v. E. Paper Bag Co.*, 210 U.S. 405, 429 (1908); see *supra* text accompanying notes 132–43.

issuance.²³⁴ A second section provided that one who purchased a patented article was free to use it with unpatented complementary products without restriction.²³⁵

Congress's actual response was somewhat different. In 1914 it amended the antitrust laws rather than the Patent Act.²³⁶ Section 3 of the Clayton Act²³⁷ did nothing about refusals to license unpracticed patents. However, it did limit tying and exclusive dealing. The provision applied to both sales and leases, thus reaching further than the first sale doctrine, and also to goods "whether patented or unpatented." Finally, it did not create a per se prohibition, but rather condemned tying and exclusive dealing only "where the effect . . . may be to substantially lessen competition or tend to create a monopoly in any line of commerce."²³⁸

The Supreme Court promptly reversed course, overruling *Henry* and condemning a patent tie in the 1917 *Motion Picture Patents Co. v. Universal Film Manufacturing Co.* case.²³⁹ The Court acknowledged that the newly passed Clayton Antitrust Act "confirmed" its conclusion to refuse to enforce the tie,²⁴⁰ and it never referenced state law. Thereafter it proceeded on an expansionist course that significantly federalized the law of patent licensing when the license agreements were thought to be anticompetitive or asserted patentee power "beyond the scope" of the patent.²⁴¹ In 1931, it refused to enforce a patent license tying dry ice, a common unpatented commodity, to the defendant's refrigerator boxes.²⁴² In 1936, it condemned IBM's tie of patented computers to patented data-processing cards—the machines were leased, so the first sale doctrine did not apply.²⁴³ Sixteen years later it created a virtual per se rule against tying arrangements when one of the products in question was patented.²⁴⁴ In the 1960s, it refused to enforce a license agreement requiring royalty payments that extended beyond the patent's

234. H.R. Rep. No. 62-1161, § 17 (1912); see also *Oldfield Revision and Codification of the Patent Laws: Hearing Before the Comm. on Patents, House of Representatives*, 63d Cong. 31–32 (1914).

235. H.R. Rep. No. 62-1161, § 32.

236. However, a version of Senator Oldfield's bill was passed a half century later and is now partly codified at 35 U.S.C. §271(c) (2012), which makes contributory infringement actions unavailable for the independent sale of "a staple article or commodity of commerce suitable for substantial noninfringing use."

237. 15 U.S.C. § 14; see also *United Shoe Mach. Corp. v. United States*, 258 U.S. 451, 454–55 (1922) ("Section 3 of the Clayton Act . . . makes it unlawful for persons engaged in interstate commerce to . . . fix a price therefor, or to discount from, or rebate upon, such price, upon the condition, agreement, or understanding that the lessee thereof shall not use or deal in the machinery, supplies, or other commodities of the competitor or competitors of the lessor, where the effect of such lease, agreement, or understanding may be to substantially lessen competition or tend to create a monopoly.").

238. *United Shoe*, 258 U.S. at 454–55.

239. 243 U.S. 502 (1917).

240. *Id.* at 517.

241. See Herbert Hovenkamp, *The Rule of Reason and the Scope of the Patent*, 52 SAN DIEGO L. REV. 515, 515–16, 525 (2015).

242. *Carbice Corp. of Am. v. Am. Patents Dev. Corp.*, 283 U.S. 27, 34 (1931).

243. *Int'l Bus. Machs. Corp. v. United States*, 298 U.S. 131, 139–40 (1936).

244. *Int'l Salt Co. v. United States*, 332 U.S. 392, 398–400 (1947), *abrogated by* *Ill. Tool Works Inc. v. Indep. Ink, Inc.*, 547 U.S. 28 (2006).

expiration date—a rule that the Supreme Court affirmed in 2015 on *stare decisis* grounds.²⁴⁵

In sum, the first sale doctrine limited the ability of patentees to impose license restrictions under the Patent Act preemptively, effectively opening the door for state law that might wish to condemn these restrictions. The expansion of antitrust law subsequent to the passage of the Clayton Act federalized this power, expanding it to leases and other transactions where the first sale doctrine would not ordinarily apply. Under both federal and state law, tying, exclusive dealing and resale price maintenance all became independently unlawful, and it did not matter whether the restrictions were in a patent license. The emergent federal doctrine of patent “misuse” performed largely the same function, except within Patent Law and even when no federal or state statute was on point.²⁴⁶ The classical patent had begun to crumble.

CONCLUSION: PATENTS, ECONOMIC DEVELOPMENT, AND PROPERTY RIGHTS

Whether property or not, one distinguishing historical feature of patents is their explicit constitutional rationale as an instrument of economic growth. The Patent Clause gave Congress the authority to create a patent system in order to “promote the Progress of science and useful Arts.”²⁴⁷ But policies about development and the state’s role in furthering it changed over time. Patent protection thought sufficient in one period was seen as inadequate or excessive in another. Today the patent system has been the subject of significant empirical analysis, much of which has either questioned the wisdom of patents in some markets or determined that different markets should have different amounts or types of protection.²⁴⁸ By contrast, property rights tend to create ratchets, permitting interests to be expanded but not contracted without compensation to their owners. This is in sharp contrast to antitrust law, which is also concerned with economic development but has never given its protections or liabilities the status of property rights. As a result, antitrust rules expand and contract over time without compensation to those who are injured by the changes.

Mid-nineteenth century changes in U.S. patent law were heavily driven by classical beliefs that monopoly is bad and generally unnecessary for economic growth, with invention as a narrow exception. This entailed, first, that the conditions for obtaining a patent be narrow, limited to actual inventions within the applicant’s possession, and adequately disclosed. Second, the system had to be made nondiscretionary and free from capture. Individual patent grants were no

245. *Brulotte v. Thys Co.*, 379 U.S. 29, 30 (1964), followed by *Kimble v. Marvel Entm’t, LLC*, 135 S. Ct. 2401, 2415 (2015); see also Herbert Hovenkamp, *Brulotte’s Web*, 11 J. COMP. L. & ECON. 527, 527 (2015) (“[T]he Supreme Court decided that *stare decisis* required it to adhere to the half-century-old, much criticized rule in *Brulotte v. Thys*.”).

246. See *Morton Salt Co. v. G.S. Suppiger Co.*, 314 U.S. 488, 494 (1942) (finding patent misuse in patentee’s leases of patented salt injecting machines on condition that lessee use only its salt; because the machines were leased, the first sale doctrine would not apply), abrogated by *Ill. Tool Works*, 547 U.S. 28.

247. U.S. CONST. art. I, § 8, cl. 8.

248. See Hovenkamp, *Reexamination*, *supra* note 49, at 504–12.

longer a matter of legislative prerogative. Rather, the applicant was entitled to a patent if he could make specific showings concerning prior technology and use. The “prior art” queries that increasingly dominated patentability doctrine focused on what had been available in the past, rather than what economic development might require for the future. Finally, once a patent was issued the government abandoned much of its interest. The patent entered commerce as personal property, creating individual rights but few social obligations. Together these requirements led both Congress and the courts away from relatively open-ended policy concerns and toward technical specification and boundary clarity. The result was a patent system increasingly detached from questions about economic development.