

STATE PATENT LAWS IN THE AGE OF *Laissez Faire*

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ABSTRACT

This Article brings to light the heretofore unstudied views of esteemed nineteenth century jurists, including Chief Justice of the New York Supreme Court James Kent (1763–1847), that states have concurrent constitutional authority to grant their own patents alongside Congress in order to stimulate innovation and economic development in their own territories. Based on arguments surrounding the constitutional validity of New York’s infamous steamboat monopoly, this Article reveals that in the height of America’s supposed commitment to *laissez faire* economics, concurrent state patent powers were justified by a fundamental concern that Congress’s new and uniquely “hands-off” patent system was not a sufficient replacement for the active patent policies of state and colonial governments prior to adoption of the Constitution. Therefore, in the tradition of Alexander Hamilton—who tempered his vision of a strong central government with a recognition of the importance of autonomous state policymaking and his vision of a vibrant free market with a recognition that targeted government incentives are sometimes necessary to stimulate investment in beneficial activities—state patents were seen as an important policy tool for encouraging the private sector to invest in developing costly technology of unproven value that states deemed worthy of support.

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I. INTRODUCTION

A. A WORLD WITHOUT STATE PATENT LAWS

In theory, by granting inventors exclusive rights to their original inventions for a limited period, patents give the private sector a needed incentive to invest in innovation and encourage public disclosure of previously unknown technological know-how.¹ Today patent law is purely a federal creature. Article I, Section 8, Clause 8 of the Constitution (“the IP Clause”) gives Congress power “to promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.”² Under the Patent Act, Congress determines the terms and conditions under which inventors may apply for federal patents (“U.S. patents”).³ A single agency, the United States Patent and Trademark Office (“USPTO”), is responsible for granting and issuing those patents.⁴ Federal district courts have exclusive jurisdiction over patent cases, and a single court of appeals, the Federal Circuit, hears all patent appeals in the country.⁵ Meanwhile, states do not grant their own patents and have not done so for over two hundred years.

1. The primary utilitarian justifications for patents are the incentive-to-invent and incentive-to-disclose theories. See Rebecca Eisenberg, *Patents and the Progress of Science: Exclusive Rights and Experimental Use*, 56 U. CHI. L. REV. 1017, 1024–30 (1989). The incentive-to-innovate and prospect theory justifications add that the chance of obtaining a limited patent monopoly will entice patent holders to invest still more time and capital, after an invention has been made, in order to develop, perfect, and market it to the public. See *id.* at 1036–45 (explaining Joseph Schumpeter’s and Edmund Kitch’s famous theories). In today’s world of high financing, U.S. patents also may serve as a useful “signal” for capital-rich investors that a particular innovation or company is a good investment. See Clarisa Long, *Patent Signals*, 69 U. CHI. L. REV. 625, 653 (2002).

2. U.S. CONST. art. I, § 8, cl. 8.

3. 35 U.S.C. §§ 100–213 (2011).

4. *Id.* § 2(a)(1) (authority of USPTO to grant and issue patents). Until the recent reforms, which ordered the director to establish at least three satellite offices, there was only a single regional office of the USPTO in Alexandria, Virginia. See Leahy-Smith America Invents Act, Pub. L. No. 112-29, § 23, 125 Stat. 284, 336 (2011).

5. See 28 U.S.C. §§ 1295 (jurisdiction of Federal Circuit over patent appeals), 1338 (exclusive jurisdiction of federal courts in patent cases) (2011).

Historically, however, the states, and before that the American colonies, played an active role in encouraging inventors and entrepreneurs to invest time and labor in developing and implementing new and useful technology.⁶ One of their most valuable policy tools was individual statutes granting private actors exclusive rights to a particular innovation that promised local benefits.⁷ Although states often referred to these grants as “patents” after the English practice, these were extraordinarily different legal tools from modern U.S. patents.⁸ Universal novelty and original inventorship were not essential requirements for obtaining a state patent; instead, the patentee’s primary obligation was to establish a technology in the state that benefited the public.⁹ Also, unlike with U.S. patents, legislatures used various means, such as individualized term lengths, local working requirements, and compulsory licensing, to ensure that patents rights did not create unjustified monopolies or impede access to the building blocks of knowledge.¹⁰

Today it is essentially a unanimous assumption that states cannot grant their own patents. The Supreme Court has consistently held that the terms of

6. In this Article, I use “technology” in a loose utilitarian sense to mean applied science, such as manufacturing methods or machines that might be immediately profitable or of use to society, rather than basic research. On the gradual development of this modern conception of technology over the course of the nineteenth century, see DAVID NYE, *AMERICAN TECHNOLOGICAL SUBLIME* 45–46 (1994); see also Karl B. Lutz, *Patents and Science: A Clarification of the Patent Clause of the U.S. Constitution*, 18 GEO. WASH. L. REV. 50, 54 (1949) (arguing that “[t]he term ‘useful arts’ as used in the [IP Clause of the] Constitution . . . is best represented in modern language by the word ‘technology.’”).

7. On colonial and state patent laws, generally, see BRUCE BUGBEE, *GENESIS OF AMERICAN PATENT AND COPYRIGHT LAW* 57–103 (1967); Oren Bracha, *Owning Ideas: A History of Anglo-American Intellectual Property* 97–116 (June 2005) (unpublished Ph.D. dissertation, Harvard Law School), available at <http://www.utexas.edu/law/faculty/obracha/dissertation/>. For present purposes, the term “state patent” refers loosely to laws giving a person or entity the right to exclude others from making, using, selling, or practicing an invention or technological innovation, though it need not be entirely new or meet any of the other standards of patentability the U.S. patent laws impose today. See also discussion *infra* Part II.

8. See Edward Walterscheid, *The Early Evolution of the United States Patent Law: Antecedents (5 Part I)*, 78 J. PAT. & TRADEMARK OFF. SOC’Y 615, 616 n.4 (1996); see also notes to Part II, *infra*.

9. See 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); see also Mario Biagioli, *Patent Republic: Representing Inventions, Constructing Rights and Authors*, 73 SOC. RES. 1129, 1138 (asserting that “[p]rivilege-granting authorities wanted to maximize local utility, not to disclose knowledge about the invention.”); see also *infra* notes and accompanying text in Part II.

10. On working clauses, compulsory licensing and price controls in state patents, see Section II.B, *infra*.

the IP Clause itself do not apply to the states¹¹ and that states are not “completely disabled from offering any form of protection to articles or processes which fall into the broad scope of patentable subject matter.”¹² But, in its leading patent preemption case, *Bonito Boats, Inc. v. Thundercraft Boats, Inc.*, the Court was nonetheless quite clear that states cannot grant patents or even “patent-like”¹³ rights because this would compete with inventors’ decision to apply for U.S. patents and interfere with Congress’s exclusive power to define the criteria and terms of patentability.¹⁴ Despite the

11. See *Goldstein v. California*, 412 U.S. 546, 560–62, 571 (1973) (holding that the IP Clause does not deprive states of their constitutional powers to grant intellectual property rights and upholding California’s authority to criminalize unauthorized copying of sound recordings left unprotected by the Copyright Act); see also *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 478–93 (1974). The *Kewanee Oil* Court discussed *Goldstein*, noting that:

[The Court has held that] the cl. 8 grant of power to Congress was not exclusive and that, at least in the case of writings, the States were not prohibited from encouraging and protecting the efforts of those within their borders by appropriate legislation This determination was premised on the great diversity of interests in our Nation—the essentially non-uniform character of the appreciation of intellectual achievements in the various States. Evidence for this came from patents granted by the States in the 18th century.

Id.

12. See *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 154 (1989) (finding that federal law preempted a Florida statute that prohibited using a controversial direct molding technique to copy boat hulls that had not been patented and did not appear to meet the federal criteria of patentability).

13. The term “patent-like” is not confined to state laws that create a right against the world to exclude others from inventive subject matter, as patent laws do. See *Bonito Boats*, 489 U.S. at 156–57. The “antimolding” statute that the Court struck in *Bonito Boats* did not grant boat hull manufacturers exclusive rights in their boat hull design, but simply prohibited using a particular method (a direct molding process) to copy the boat hulls. Thus, it did not give boat hull manufacturers the right to exclude competitors from making and selling the same boat hulls so long as they did not use the direct molding process to do so. This is why, in *Interpart Corporation v. Italia*, 777 F.2d 678, 684–85 (Fed. Cir. 1985), which was later overruled by the Supreme Court in *Bonito Boats*, 489 U.S. at 143–44, the Federal Circuit upheld California’s similar antimolding statute, basing its decision largely on the fact that the statute did not actually give the creator of the boat hull designs “the right to exclude others from making, using, or selling the product as does the patent law.” *Interpart*, 777 F.2d at 684–85.

14. See *Bonito Boats*, 489 U.S. at 151 (“The offer of federal protection from competitive exploitation of intellectual property would be rendered meaningless in a world where substantially similar state law protections were readily available.”); *Kewanee*, 416 U.S. at 489 (“If a State, through a system of protection, were to cause a substantial risk that holders of patentable inventions would not seek patents, but rather would rely on the state protection, we would be compelled to hold that such a system could not constitutionally continue to exist.”). In *Sears, Roebuck & Company*, the Court noted that Congress enacted the first Patent Act in 1790 and:

Court's contention that this prohibition is purely statutory, the Court has effectively read it into the Constitution, creating a so-called "Dormant Patent Clause."¹⁵ The Federal Circuit, for its part, has suggested that the Patent Act "occupies the field of patent law," if not unfair competition law.¹⁶

[E]ver since that time has fixed the conditions upon which patents . . . shall be granted. . . . Obviously a State could not, consistently with the Supremacy Clause of the Constitution, extend the life of a patent beyond its expiration date or give a patent on an article which lacked the level of invention required for federal patents. To do either would run counter to the policy of Congress of granting patents only to true inventions, and then only for a limited time.

376 U.S. 225, 229–31 (1964) (footnotes omitted); *see also* Daniel Laster, *The Secret is Out: Patent Law Preempts Mass Market License Terms Barring Reverse Engineering for Interoperability Purposes*, 58 BAYLOR L. REV. 621, 647 (2006). Laster summarized:

In a nutshell, although there is no preemption of the field of regulating IP, the Supremacy Clause of the Constitution requires preemption of any state law which either (1) provides a party (whether investor or inventor) a realistic and potentially preferable option to the limited term monopoly grant offered by patent law or (2) provides patent-like protection for functional matter which does not meet the novelty and nonobviousness requirements of patent law and thereby stifles competition in such matter without any concomitant advance in the "Progress of Science and useful Arts."

Id.

15. Ever since Chief Justice Marshall declined to decide the issue in *Gibbons v. Ogden*, 22 U.S. 1, 221 (1824), discussed below, courts have toyed with the idea of a "dormant patent clause." *See* Dan L. Burk, *Protection of Trade Secrets in Outer Space Activity: A Study in Federal Preemption*, 23 SETON HALL L. REV. 560, 610 (1992) ("Since *Gibbons*, the tantalizing prospect of a "dormant patent clause" has remained an unadjudicated possibility, but a possibility that informs a preemption analysis involving the Patent Clause."). In the middle of the twentieth century a highly influential judge on the Second Circuit, Learned Hand, posited the existence of a "Dormant IP Clause," which entirely extinguishes any state patent or copyright laws. *See* Miller, *infra* note 17, at 747. The Supreme Court has repeatedly claimed to reject this position. *See Goldstein*, 412 U.S. at 560; *Kewanee*, 416 U.S. at 479; *Bonito Boats*, 489 U.S. at 154. But the presumption that the IP Clause impliedly prevents states from granting their own patents pervades the Court's patent preemption cases. For example, the *Bonito Boats* Court stated:

The novelty and nonobviousness requirements of patentability embody a congressional understanding, *implicit in the Patent Clause itself*, that free exploitation of ideas will be the rule, to which the protection of a federal patent is *the exception* To a limited extent, the federal patent laws must determine not only what is protected, but also what is free for all to use.

Bonito Boats, 489 U.S. at 151 (emphasis added); *see also* *Compco Corp. v. Day-Brite Lighting, Inc.*, 376 U.S. 234, 237 (1964) The *Compco* Court held that:

[W]hen an article is unprotected by a patent or a copyright, state law may not forbid others to copy that article. To forbid copying would interfere with the federal policy, *found in Art. I, § 8, cl. 8, of the Constitution* and in the

Legal academia has also supported this assumption of federal supremacy.¹⁷ The most important illustration comes from Edward

implementing federal statutes, of allowing free access to copy whatever the federal patent and copyright laws leave in the public domain.

Id. (emphasis added); *see also* K. David Crockett, *The Salvaged Dissents of Bonito Boats v. Thunder Craft*, 13 GEO. MASON L. REV. 27, 28 (1990) (concluding that the Court in *Bonito* relied on theories of implied preemption, actual conflict preemption, and “a new ‘dormant patent clause.’”).

16. *See Hunter Douglas, Inc. v. Harmonic Design, Inc.*, 153 F.3d 1318, 1334 (Fed. Cir. 1998) (“With respect to field pre-emption, Title 35 occupies the field of patent law, not commercial law between buyers and sellers.”) (citing *Cover v. Hydramatic Packing Co.*, 83 F.3d 1390, 1393 (Fed. Cir. 1996)). An intent by Congress to preempt an entire field may be inferred from a “scheme of federal regulation . . . so pervasive as to make reasonable the inference that Congress left no room for the States to supplement it,” or when congressional legislation “touch[es] a field in which the federal interest is so dominant that the federal system will be assumed to preclude enforcement of state laws on the same subject.” *Rice v. Santa Fe Elevator Corp.*, 331 U.S. 218, 230 (1947).

17. Even those scholars who advocate for *less* stringent preemption of state IP laws do not suggest that states should be allowed to grant exclusive rights against the world like U.S. patents do. *See, e.g.*, K. David Crockett, *The Salvaged Dissents of Bonito Boats v. Thunder Craft*, 13 GEO. MASON L. REV. 27, 57–59 (1990) (explaining that under “relational rights theory” the key distinction between state laws like trade secrets and trademarks and the federal patent laws is that the state laws only protect rights as between competitors and do not create intellectual property against the world like federal patents do); Douglas Gary Litchman, *The Economics of Innovation: Protecting Unpatentable Goods*, 81 MINN. L. REV. 693, 731–32 (1997) (arguing from the law and economics perspective that states should be allowed to provide limited protections for unpatentable innovations, with the caveat that “[i]f a state law seems to do more than forbid a particularly egregious form of unauthorized duplication, or if a law leaves intact no tenable copying alternative, the court should and will strike the law down.”); Arthur Miller, *Common Law Protection for Products of the Mind: An Idea Whose Time Has Come*, 119 HARV. L. REV. 703, 752 (2006) (distinguishing state laws protecting against theft of undeveloped ideas from “a state right in something unpatented that is enforceable against the public” which would be preempted under the Patent Act). Other scholars have advocated abolishing state intellectual property laws entirely, including seemingly benign business incentives like trademarks and trade secrets. *See, e.g.*, Joan E. Schaffner, *Patent Preemption Unlocked*, 1995 WIS. L. REV. 1081, 1085–86 (1995) (arguing that “any state protection of discoveries conflicts with the congressional patent scheme” and advocating for an even broader preemption theory under field preemption principles); Malla Pollack, *Unconstitutional Incontestability? The Intersection of the Intellectual Property and Commerce Clauses of the Constitution: Beyond A Critique of Shakespeare Co. v. Silstar Corp.*, 18 SEATTLE U. L. REV. 259, 270–326, 313–14 (1995) (noting historical support for the view that the IP Clause does not, on its own, extinguish states’ intellectual property powers, though going on to argue that various other theories place direct constitutional limits on states’ powers to protect intellectual property and that state trademarks can therefore only last for “limited times.”). Other scholars object in particular to state contract laws that allow IP owners to extend their exclusive rights beyond those afforded by U.S. patents. *See, e.g.*, John E. Mauk, *The Slippery Slope of Secrecy: Why Patent Law Preempts Reverse-Engineering Clauses in Shrink-Wrap Licenses*, 43 WM. & MARY L. REV. 819 (2001) (patent law preempts shrink-wrap licenses that prohibit

Walterscheid, the preeminent historian of the IP Clause and American patent law.¹⁸ According to Walterscheid, “the enactment of federal patent and copyright laws in 1790 was largely viewed as removing the need for state patents and copyrights, because the advantages of uniformity and broader protection inherent in the federal system were obvious to almost everyone.”¹⁹ Walterscheid goes on to conclude that state patents are unconstitutional because under the IP Clause “Congress alone has the discretion to set the term of patents and copyrights”²⁰

B. AN UNEXPECTED APPEAL FOR STATE PATENTS IN THE AGE OF
LAISSEZ FAIRE

What the Supreme Court and modern scholars alike seem to have overlooked is that in 1798, ten years after ratification of the Constitution, the state of New York *did* grant a state patent, giving the wealthy and well-connected investor Robert Livingston (1746–1813) and his partner the inventor Robert Fulton (1765–1815) the exclusive right to make, use, and sell any vessels “propelled by the power of steam” within the territory of the state for up to thirty years.²¹ When Livingston and Fulton attempted to

reverse engineering); Laster, *supra* note 14, at 647 (patent law preempts mass market license terms that bar reverse engineering for interoperability purposes).

18. For an impressive review of all materials related to the IP Clause and the history of patent law in America, refer to EDWARD C. WALTERSCHEID, *THE NATURE OF THE INTELLECTUAL PROPERTY CLAUSE: A STUDY IN HISTORICAL PERSPECTIVE* (2002) as well as Walterscheid’s many articles cited throughout his book and this article.

19. See WALTERSCHEID, *THE NATURE OF THE INTELLECTUAL PROPERTY CLAUSE*, *supra* note 18, at 436–37; see also BUGBEE, *supra* note 7, at 102–03 (also suggesting federal patents made state patents obsolete); WALTERSCHEID, *THE NATURE OF THE INTELLECTUAL PROPERTY CLAUSE*, *supra* note 18, at 76–77 (highlighting the downsides of a patent system based on patents that were limited to the jurisdiction of one state), 438–42 (dismissing Justice Kent’s views that states could continue to grant their own patents alongside Congress).

20. WALTERSCHEID, *THE NATURE OF THE INTELLECTUAL PROPERTY CLAUSE*, *supra* note 18, at 442–43. To elaborate, Walterscheid wrote:

Under the clause, *Congress alone has the discretion to set the term of patents and copyrights* and once that term has expired, the clear intent of the clause is that the subject matter of the particular patent or copyright shall go into the public domain to be available for use or reproduction by all throughout the United States.

Id. at 442 (emphasis added).

21. See *Livingston v. Van Ingen*, 9 Johns. 507, 511 (N.Y. 1812). There has been a good deal of recent scholarship on *Gibbons v. Ogden*, 22 U.S. 1 (1824), and the controversy surrounding Livingston and Fulton’s monopoly. See THOMAS H. COX, *GIBBONS V. OGDEN, LAW, AND SOCIETY IN THE EARLY REPUBLIC* (2009); HERBERT A. JOHNSON, *GIBBONS V. OGDEN: JOHN MARSHALL, STEAMBOATS, AND THE COMMERCE CLAUSE* (2010); Norman R.

enforce their rights in *Livingston v. Van Ingen*, 9 Johns. 507 (N.Y. 1812), the court unanimously upheld the patent. In his lengthy opinion, the Chief Justice and respected American jurist, James Kent (1763–1847), included a remarkable piece of dicta stating that nothing in the Constitution prevented states from continuing to concurrently grant patents over a wide range of inventive subject matter, just as they had done prior to ratification.²²

Kent's position is entirely incommensurable with modern preemption doctrine, as is his decision to uphold Livingston and Fulton's thirty-year monopoly over a mode of navigation that was already, to some extent, in the public domain.²³ But although the U.S. Supreme Court famously struck down the steamboat monopoly in *Gibbons v. Ogden*, Chief Justice John Marshall did so on narrow grounds and did not decide or even address the patent preemption issue—leaving Kent's strongly worded dicta on states' concurrent patent powers entirely intact.²⁴ Less than ten years later, Justice Joseph Story, the father of many modern patent law doctrines and a justice on the Supreme Court during one of the most important periods in American legal development, endorsed Kent's opinion in *Livingston* in his seminal *Commentaries on the Constitution of the United States*.²⁵ Courts, including the Supreme Court, continued to cite favorably to Kent's opinion throughout the nineteenth century.²⁶ *Livingston* has never been overruled.

Despite these indicators that notable jurists in the period shared Kent's views on concurrent state patent powers, scholars have largely ignored them.²⁷ The reason is apparently their assumption that the availability of U.S.

Williams, *Gibbons*, 79 N.Y.U. L. REV. 1398 (2004). For a more complete historiography, see JOHNSON, *supra* note 21, at 1–3, 179–88.

22. *Livingston*, 9 Johns. at 581–82.

23. See *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 156–57 (1989).

24. See *Gibbons v. Ogden*, 22 U.S. 1, 221 (1824).

25. JOSEPH STORY, COMMENTARIES ON THE CONSTITUTION OF THE UNITED STATES 79 (1833) [hereinafter COMMENTARIES].

26. See, e.g., *Patterson v. Kentucky*, 97 U.S. 501, 508–09 (1878) (employing Kent's opinion in *Livingston* to uphold states' authority to pass laws requiring illuminating oils to be certified before sale in the state).

27. With the exception of Edward Walterscheid, whose views I discuss below, scholars have barely mentioned Kent's opinions on concurrent state patent powers. Cox and Johnson have both briefly discussed Kent's opinion in *Livingston*, but neither addresses Kent's views on a concurrent patent system in detail nor notes Kent's views on states' continuing powers to grant patents to inventors. See COX, *supra* note 21, at 60 (briefly summarizing Kent's opinion, though not commenting on Kent's dicta regarding a concurrent patent system); see also JOHNSON, *supra* note 21, at 33–34. Regarding Kent's holding on the patent power, Johnson stated:

While United States patent laws protected actual authors and inventors, state financial grants, prizes, and monopolies encouraged the importation

patents made state patents both obsolete and impractical, and that Kent's opinion was both wrong and irrelevant. For example, after noting the incommensurability between Kent's position in *Livingston* and modern preemption doctrine, Walterscheid concludes that Kent's position "was of doubtful validity in 1812 and most certainly would be deemed invalid today."²⁸ In Walterscheid's version of events, Kent's contemporaries believed that if states continued granting patents to inventors on their own terms and conditions this would lead to an unacceptable "patchwork of patent rights in the various states, a result which the Framers clearly intended to avoid by the constitutional authorization for federal patents and copyrights."²⁹

I do not disagree with Walterscheid that in the early nineteenth century, as now, the *risk* that concurrent state patents might undermine the U.S. patent system would have been obvious and might have led some people to disagree with Kent's conclusion. But I contend that we are still left with a perplexing question worth addressing in some depth: given that the perils of a concurrent patent system were so obvious, why then did nineteenth century jurists like James Kent, Joseph Story and perhaps John Marshall himself—all of whom were Federalists and adherents to Alexander Hamilton's vision of a strong central government, and were otherwise committed to Adam Smith's general aversion to state-sanctioned monopolies³⁰—nonetheless think there ought to be a concurrent patent system and that the two systems could effectively and beneficially coexist?

of foreign technology, augmenting the federal system. The *Livingston-Fulton* New York legislative grant was an outstanding example of this supplementary function of state legislative power, and therefore would not be in conflict with the interstate commerce powers should Congress elect to exercise those powers.

Id.; see also G. EDWARD WHITE, *THE MARSHALL COURT AND CULTURAL CHANGE, 1815–1835*, in 3–4 OLIVER WENDELL HOLMES DEVISE *HISTORY OF THE SUPREME COURT OF THE UNITED STATES* 569 (1988) (discussing only Kent's conclusion that states could regulate commerce unless state and federal powers in the field "[came] directly in contact"); Williams, *supra* note 21, at 1407 (stating regarding *Livingston* only that New York's highest court "rejected Van Ingen's Dormant Commerce Clause-based constitutional challenge to the monopoly, holding that the Commerce Clause did not divest the states of authority to regulate commercial activities such as steamship navigation."). Oren Bracha's dissertation on the history of the U.S. patent laws notes the historical question of whether state patents were preempted by the IP Clause in a brief footnote without addressing Kent's opinion. Bracha, *supra* note 7, at 115 n.268.

28. WALTERSCHEID, *THE NATURE OF THE INTELLECTUAL PROPERTY CLAUSE*, *supra* note 18, at 442.

29. *Id.* at 442–43.

30. On Hamilton and the Federalist agenda for a strong national government, both economically and politically, see GORDON S. WOOD, *EMPIRE OF LIBERTY: A HISTORY OF THE EARLY REPUBLIC, 1789–1815*, at 95–110 (2009).

C. THE STRUCTURE OF THIS ARTICLE

To answer this question, this Article proceeds as follows. In Part II, I introduce the patent practices of the colonies and the early states, showing how they differed from modern U.S. patents and emphasizing the unique features that made them effective tools for local policymakers, particularly their low cost as compared to outright subsidies and their utility for mitigating the risk of funding relatively new technology of unproven value.

In Part III, I explain the major reasons behind the decision to transition from a state to a national patent system. I then present evidence that the Framers of the Constitution and the drafters of the Patent Acts of 1790 and 1793—with participation from Secretary of State Thomas Jefferson—nonetheless deliberately left states with residual authority to grant their own patents.

In Part IV, I provide the factual background necessary for understanding New York's decision to grant a patent for the steamboat to Robert Livingston in 1798 and the eventual legal arguments challenging the patent's constitutionality.

In Part V, I present Justice Kent's opinion in *Livingston* upholding the steamboat patent and providing the fullest judicial expression of the argument that states retain broad concurrent powers to grant patents based on the principles of federalism espoused by Alexander Hamilton in *The Federalist*.³¹ I show that Kent's opinion was never overruled and received broad support throughout the nineteenth century, even in the wake of the Supreme Court's decision to strike down the steamboat monopoly on other grounds in *Gibbons*.³²

In Part VI, I seek to understand and justify the argument for concurrent state patent powers in the context of nineteenth-century economic and political theory. I argue that advocates for state patents were concerned that the national patent system was incapable of doing all the work of promoting innovation in America, let alone within individual states. Unlike their state

31. *Livingston v. Van Ingen*, 9 Johns. 507, 581–85 (N.Y. 1812). Hamilton famously explained that many state and federal powers, such as the power of taxation, are “concurrent,” not “repugnant,” and can generally be exercised side by side without conflict. See THE FEDERALIST NOS. 32, 33 (Alexander Hamilton); see also BERNARD BAILYN, TO BEGIN THE WORLD ANEW: THE GENIUS AND AMBIGUITIES OF THE AMERICAN FOUNDERS 120 (2003) (writing that Hamilton insisted that “[t]wo authorities with similar powers could concur, if their roles were clearly established—could divide their responsibilities into separate spheres—could even reinforce each other and clarify each other's role. The Constitution's federalist division of absolute powers was a structure of concurrence, he argued, not repugnancy.”).

32. *Gibbons v. Ogden*, 22 U.S. 1, 221 (1824).

counterparts, U.S. patents protected original inventors' exclusive rights in a relatively narrow range of universally novel subject matter and did not allow the government to play a role in selecting technologies or in tailoring patent rights to the investment incentive actually required. Therefore, in the tradition of Hamilton—who had recommended an array of national incentives to promote innovation and industrial development, including patents to “introducers” of foreign inventions³³—Federalists like Kent and Story believed states must be able to use patents to encourage local implementation of potentially invaluable technology that was otherwise too expensive or risky to attract private investment.³⁴ After all, as Joseph Schumpeter would famously put it over a century later, “[a]s long as they are not carried into practice, inventions are economically irrelevant.”³⁵

These early arguments resemble modern proposals for reforming *federal* patents to more effectively induce investment in costly innovations with uncertain chance of success.³⁶ However, I show that in Kent's time the more viable policy solution came from *state* governments, which were almost exclusively responsible for promoting economic development in their own territories and frequently granted legal monopolies to private developers of

33. See ALEXANDER HAMILTON, REPORT ON MANUFACTURERS (1791), reprinted in 2 ANNALS OF CONG. 971, 991–92, 1014, available at <http://memory.loc.gov/ammem/amlaw/lwaclink.html> [hereinafter REPORT ON MANUFACTURERS]. On Hamilton's support for patents of importation, see Edward Walterscheid, *Patents and Manufacturing in the Early Republic*, 80 J. PAT. & TRADEMARK OFF. SOC'Y 855, 860–78 (1998).

34. See *Livingston*, 9 Johns. at 581–85; STORY, COMMENTARIES, *supra* note 25, at 79.

35. JOSEPH SCHUMPETER, THE THEORY OF ECONOMIC DEVELOPMENT 88–89 (Redvers Opie trans., Harvard Univ. Press 1951).

36. The most popular strategy has been to focus on federal courts' role in crafting the standards of patentability. See Robert P. Merges, *Uncertainty and the Standard of Patentability*, 7 HIGH TECH. L.J. 1, 1–4, 43–55 (1992) (arguing that patent law's nonobviousness test “seeks to reward inventions that, viewed prospectively, have a low probability of success” and arguing for a moderate lowering of the patentability standards for inventions involving high-cost research and uncertain success); Dan L. Burk & Mark A. Lemley, *Policy Levers in Patent Law*, 89 VA. L. REV. 1575, 1582–83 (2003) (arguing that courts should use flexible standards to account for the incentive needs of different industries); Michael Abramowicz & John F. Duffy, *The Inducement Standard of Patentability*, 120 YALE L.J. 1590, 1593–96, 1625–26, 1676 (2011) (arguing that courts should revitalize an “inducement standard” of nonobviousness and apply a structured economic inquiry into the economic incentives that would exist without the patent, on the one hand, and the actual or expected economic costs of developing and commercializing the invention, on the other). Others suggest tailoring patents at the granting stage. See, e.g., Michael W. Carroll, *One Size Does Not Fit All: A Framework for Tailoring Intellectual Property Rights*, 70 OHIO ST. L.J. 1361 (2009); Eric E. Johnson, *Calibrating Patent Lifetimes*, 22 SANTA CLARA COMPUTER & HIGH TECH. L.J. 269 (2006); see also Gideon Parchomovsky & Michael Mattioli, *Partial Patents*, 111 COLUM. L. REV. 207, 219–23 (2011) (proposing a new option to obtain a “partial patent” or a “semi patent” and usefully summarizing extant proposals for patent law reforms).

expensive public works like bridges and roads.³⁷ As I will demonstrate, states' authority to grant patents on uncertain new technologies like the steamboat came from a direct analogy to their authority to grant public utilities monopolies.³⁸ Although political shifts in the 1830s subjected states' monopoly grants to stricter scrutiny, courts considered them constitutional and strictly enforced them against states under the Contracts Clause.³⁹

In conclusion, I draw together my major findings and introduce the obvious question left by all of this historical research: could states revive their patent practices today? From a strict Originalist perspective, I show in this Article that the answer is *yes*. For those unwilling to restrict government to a structure designed in the late eighteenth century, the answer may be different. My views on the modern policy implications of state patent laws are the subject of a work in progress.⁴⁰ I simply suggest here that, despite the predominance of the federal government in issuing patents for the past two centuries, patent law is not necessarily immune to the benefits of federalism and decentralized decision making.⁴¹ My purpose here is to lay the vital

37. See LAWRENCE M. FRIEDMAN, *A HISTORY OF AMERICAN LAW* 177–81 (2d ed. 1985) (describing states' nearly exclusive role in promoting local development, using various monopoly charters and other encouragements). On state monopolies in the nineteenth century, see Herbert Hovenkamp, *Technology, Politics, and Regulated Monopoly: An American Historical Perspective*, 62 *TEX. L. REV.* 1263, 1268 (1984).

38. See *Livingston*, 9 Johns. at 573 (analogizing New York's sovereign power to grant Livingston the exclusive right to operate steamboats to New York's power to grant monopolies to operators of ferries, bridges and roads). Herbert Hovenkamp argues that many of the monopolies states granted in the nineteenth century to operators of public works—including the steamboat monopoly—can be justified using natural monopoly theory; but Hovenkamp concedes that states did not rely on a structured economic analysis in granting these monopolies, and that governments' and courts' ideas of which technologies qualified for the protections of a legal monopoly changed over time with changing notions of which technologies the state had a duty to provide the public. Hovenkamp, *supra* note 37, at 1293–95.

39. See STANLEY I. KUTLER, *PRIVILEGE AND CREATIVE DESTRUCTION: THE CHARLES RIVER BRIDGE CASE* 18–21 (1971); see also cases cited *infra* note 272.

40. Camilla A. Hrdy, *State Patents as a Solution to Underinvestment in Innovation*, 62 *U. KAN. L. REV.* (forthcoming 2013), available at <http://ssrn.com/author=1687909>; see also Camilla A. Hrdy, *Dissenting State Patent Regimes*, 3 *IP THEORY* 78 (2013) (arguing that objectors to U.S. patents could seek state patents instead of U.S. patents, leading to more innovation spillovers and encouraging states to implement socially beneficial patent reforms).

41. The Supreme Court has recognized the benefits of allowing states to protect intellectual property in their own jurisdictions alongside the U.S. government, at least with respect to copyright, trade secret and unfair competition laws. See *Goldstein v. California*, 412 U.S. 546, 557–62 (1973); *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 478–79 (1974). More recently, Xuan-Thao Nguyen has recognized the benefits of using local patent rules and other local procedural reforms to improve the efficiency of the patent litigation process. See Xuan-Thao Nguyen, *Dynamic Federalism and Patent Law Reform*, 85 *IND. L.J.* 449, 451 (2010) (nonetheless concluding that local reform movements cannot change the

groundwork, showing that state patent laws have a vibrant history and that our predecessors believed the practice was too valuable to give up, in spite of Congress's national patent system.

II. STATE AND COLONIAL PATENT LAWS

Starting in the early seventeenth century, the American colonies, loosely following the British practice, frequently granted “patents” to inventors and importers of technology for the purpose of inducing costly projects with the prospect of a period of exclusivity.⁴² In England, the word “patent” had referred to special privileges granted by the monarch and recorded in “open letters” to become matters of public record.⁴³ Similarly, in the colonies the term generally implied a grant from the government of exclusive rights or “privileges”⁴⁴ and broadly included corporate charters and franchises given to

substance of patent laws due to accepted federal supremacy in patent law). Also, the economic literature generally favors *decentralized* rather than centralized policymaking structures “based on the observation that free-market economies perform better than planned, centralized economies.” Tim Wu, *Intellectual Property, Innovation, and Decentralized Decisions*, 92 VA. L. REV. 123, 126 (2006). For examples, see *id.* at 124 n.3. See also Richard Schragger, *Decentralization and Development*, 96 VA. L. REV. 1837, 1838–39 nn.1–3 (2010) (challenging studies showing a connection between decentralized policies and economic development, in part due to the possibility that divergence in results is due to fundamentally different economic geography, not governmental policy). On the benefits of decentralized innovation policies in particular, see, for example, CHARLES W. WESSNER, NATIONAL RESEARCH COUNCIL, GROWING INNOVATION CLUSTERS FOR AMERICAN PROSPERITY: SUMMARY OF A SYMPOSIUM, available at http://sites.nationalacademies.org/PGA/step/PGA_043846; ORG. FOR ECON. CO-OPERATION AND DEV., REGIONS AND INNOVATION POLICY 29–68 (2011), available at http://www.oecd-ilibrary.org/urban-rural-and-regional-development/regions-and-innovation-policy_9789264097803-en (arguing that regions cannot simply replicate national policies given the heterogeneity between and within regions and the importance of regional collaboration and local networks for producing innovation).

42. See BUGBEE, *supra* note 7, at 57–103; Bracha, *Owning Ideas*, *supra* note 7, at 97–116; see also P.J. Federico, *Colonial Monopolies and Patents*, 11 J. PAT. OFF. SOC'Y 358 (1929); P.J. Federico, *State Patents*, 13 J. PAT. OFF. SOC'Y 166 (1931); Frank D. Prager, *A History of Intellectual Property from 1545 to 1787*, 26 J. PAT. OFF. SOC'Y 711 (1944).

43. Blackstone wrote:

The king's grants are also matter[s] of public record These grants, whether of lands, honors, liberties, franchises, or aught besides, are contained in charters, or letters patent, that is, open letters, *literae patentes*: so called because they are not sealed up, but exposed to open view, with the great seal pendant at the bottom; and are usually directed or addressed by the king to all his subjects at large.

2 WILLIAM BLACKSTONE, COMMENTARIES *346–47 (1768); see also ROBERT P. MERGES & JOHN F. DUFFY, PATENT LAW AND POLICY 3 n.6 (4th ed. 2007).

44. I use the terms “privilege” and “right” interchangeably mainly because the grants themselves often did. For example, a 1722 Connecticut grant conveyed the “the sole right, privilege and liberty to erect, use, maintain and support, a slitting mill” See 6 PUBLIC

operators of public utilities.⁴⁵ Although these patents frequently included a legal monopoly,⁴⁶ they might include other local privileges as well,⁴⁷ such as tax incentives, grants of land,⁴⁸ exclusive use of the colony's natural resources,⁴⁹ or authorization to establish a facility for production within the colony.⁵⁰ For instance, Massachusetts Bay's twenty-one-year monopoly grant

RECORDS OF THE COLONY OF CONNECTICUT (1636–1776) 312–13 (James H. Trumbell & Charles J. Hoadly eds., 1850–1890) [hereinafter CONNECTICUT RECORDS]; see also BUGBEE, *supra* note 7, at 181 n.34. However, Adam Mossoff has pointed out that the term “privilege” had a different meaning in the colonial period, sometimes implying that the grantee had a “natural right” in his invention, so it is important not to impose our modern definition of the term onto colonial grants. See Adam Mossoff, *Who Cares What Thomas Jefferson Thought About Patents? Reevaluating the Patent “Privilege” in Historical Context*, 92 CORNELL L. REV. 953, 968–69 (2007).

45. See BLACKSTONE, *supra* note 43, at *346. On colonial grants to operators of bridges and ferries, see KUTLER, *supra* note 39, at 6–8. For a history of franchises in America, see David Gurnick & Steve Vieux, *Case History of the American Business Franchise*, 24 OKLA. CITY U. L. REV. 37, 38 (1999). On early corporate charters, see RON HARRIS, *INDUSTRIALIZING ENGLISH LAW: ENTREPRENEURSHIP AND BUSINESS ORGANIZATION 1720–1844* (2000).

46. Modern patents are not necessarily the same thing as a monopoly, mainly because exclusive rights over a narrow range of subject matter do not necessarily confer market power over an invention or product that actually reaches the market. See Kenneth W. Dam, *The Economic Underpinnings of Patent Law*, 23 J. LEGAL. STUD. 247, 249–50 (1994). However, early colonial and state patents were likely to confer a monopoly since they were much broader in scope, likely covering an entire product or operation, had local working requirements, and often included other benefits besides exclusivity.

47. Biagioli has noted that, unlike modern U.S. patents, the exclusive privileges granted in early modern Europe “also [included] other benefits such as authorization to set up a business in a certain place . . . cash awards, free housing, capital investments in the invention, the permission to immigrate and assume citizenship, or the exemption from taxes [etc.]” and that they “were as much about excluding competitors as about providing resources and permissions to set up and operate a business based on that invention.” Mario Biagioli, *From Print to Patents: Living on Instruments in Early Modern Europe*, 44 HIST. SCI. 139, 147–48 (2006).

48. For example, in 1639, the General Court of Massachusetts Bay granted 500 acres of land at Pecoit to Edward Rawson for a gunpowder mill to make saltpeter. *Records of the General Court of Massachusetts*, quoted in J.L. BISHOP, *HISTORY OF AMERICAN MANUFACTURERS* II 23 (Philadelphia: Young, 1864).

49. For example, in 1641, the town of Plymouth granted John Jenney the use of a nearby island, “Clarke’s Hand,” in order to operate a salt works and supply the town with salt at two shillings a bushel, and also gave him exclusive use of the island’s wood for this purpose. 1 RECORDS OF THE TOWN OF PLYMOUTH (1636–1705), at 7 (Plymouth: Avery & Doten 1889–1903); see also BUGBEE, *supra* note 7, at 180 n.14.

50. For example, in 1718, in response to their request to set up a linseed oil mill, the assembly of Connecticut granted to John Prout, Moses Manfield, and Jerimiah Attwater “the sole and whole privilege of making linseed oyl [sic] within this Colony,” specifying “that no other person or persons shall set up any mill or other engines for that purpose within the county of New Haven during the space of twenty years next coming, nor in any other part of this Colony without the special leave of this Court.” To keep their rights, they were required to set up the mill within two years and keep it in “good repair at all times.” CONNECTICUT RECORDS, *supra* note 44, at 79–80; see also BUGBEE, *supra* note 7, at 181 n.34.

in 1644 to the “Company of the Undertakers of the Iron Works in New England” provided, along with the exclusive privilege to make iron and manage iron mines and works in the colony, various tax exemptions and free use of the colony’s natural resources, including “all manner of wood & timber” and “all manner of earth, stones, turfe, clay, & other materials for building & reparations of any of their workes, forges, mills, or houses, built or to be built”⁵¹

These early patents played a similar policy role to the patents the federal government eventually offered American inventors under the early Patent Acts.⁵² But they contained many features we do not associate with U.S. patents today; and they were also not directly analogous to those granted in Britain in the period.⁵³ Thus, to refer to them as “patents” at all is misleading *unless* we understand precisely what the term entailed in contemporary context.

A. LESS EMPHASIS ON NOVELTY; MORE EMPHASIS ON RESULTS

Unlike modern U.S. patents, early American patents were not uniform rights granted by a specialized agency with the sole job of reviewing and granting patents. Rather, they were individualized semi-contractual arrangements between the sovereign and the patentee created in statutes by the legislatures and assemblies. Like U.S. patents, the resulting exclusive rights were of limited term length; but the terms were not standardized, instead ranging anywhere from seven to around twenty years, depending on the estimated cost and risk of developing and implementing the technology

51. 2 RECORDS OF THE GOVERNOR AND COMPANY OF MASSACHUSETTS BAY IN NEW ENGLAND, 1642–1649, at 125–26 (Nathaniel B. Shurtleff ed. 1853–1854); *see also* BUGBEE, *supra* note 7, at 62 (noting various other encouragements provided for the company).

52. *See* Patent Act of 1790, ch. 7, 1 Stat. 109 (repealed 1793); *see also* Patent Act of 1793, ch. 11, 1 Stat. 318 (repealed 1836).

53. *See* BUGBEE, *supra* note 7, at 57. Bugbee explained:

As in Elizabethan and Jacobean England, true patents of invention (in the present American sense, as involving originality) constituted only a small proportion of these colonial grants or awards. Unlike the English patents of invention, which were issued by royal grace and favor under the Prerogative of the sovereign, the American patents consisted almost entirely of private enactments of colonial legislatures in behalf of individual inventors, and included varying provisions and terms of effectiveness.

Id.; *see also* Bracha, *supra* note 7, at 97 n.222 (also noting a major difference from early British privileges was that colonial patents were created by the assemblies and legislatures, not the Crown).

involved.⁵⁴ The state legislature could extend the patent's term if further protection from competition was necessary to recoup costs or produce beneficial results,⁵⁵ or it could retract the patent entirely if the patentee failed to meet his end of the bargain.⁵⁶

Nor was novelty a necessary requirement for obtaining a patent. Whereas the U.S. Patent Act mandates full disclosure of an absolutely new invention in order to obtain a patent and employs various means for policing this requirement,⁵⁷ the colonies followed the English practice of defining "invention" more broadly as introducing a new trade or industry into the realm.⁵⁸ Although the legislatures did sometimes grant patents on ostensibly new inventions, these were not reliably distinguishable from other statutory monopolies given to entrepreneurs, developers, or inventors who imported inventions from abroad.⁵⁹ Likewise, disclosure to the public of the technological know-how required to practice an invention was not an essential element for obtaining a patent. Instead, the primary requirement was investing the time, money, and labor required to establish a working technology that produced beneficial results for the community.⁶⁰

Although this strategy is at odds with modern patent law's emphasis on universal novelty and the disclosure of new information, the colonies' emphasis on introduction rather than invention of known technology makes sense when viewed in historical context. The colonies were short on capital

54. See Bracha, *supra* note 7, at 101 (stating terms oscillated between seven and twenty years).

55. For instance, in 1652, Massachusetts Bay granted John Clarks a three-year monopoly over use of his invention saving firewood and heating rooms and after this term expired extended it for life. See BUGBEE, *supra* note 7, at 64.

56. See discussion *infra* Section II.B (discussing working clauses).

57. See 35 U.S.C. §§ 102 (novelty), 103 (non-obviousness) & 112 (disclosure and enablement) (2011).

58. Bracha, *supra* note 7, at 13, 19 (on English definition of invention), 99 (concept of invention employed in colonies that of the introduction of a new trade or industry).

59. In his survey of colonial and state patents, Bruce Bugbee has attempted to extract "true patents of invention" that appeared to claim original subject matter; but he concedes that there is no reliable way to tell whether the invention was truly new or had been used back in England. See BUGBEE, *supra* note 7, at 57–83; see also Bracha, *supra* note 7, at 99 ("Like the early English grants colonial patents for invention were not conceived of as forming a separate well differentiated channel for stimulating economic growth.").

60. Other scholars have noted that early patent privileges prioritized local establishment of a working invention or trade far more than disclosure of technological know-how; and that the shift in focus can be linked to the requirement that the inventor produce a specification designed to permit replication of the invention by one of ordinary skill in the art. See Biagioli, *Patent Republic*, *supra* note 47, at 1138; MERGES & DUFFY, *supra* note 43, at 6.

and in desperate need of industrial development.⁶¹ The colonists had access to plentiful resources but recognized that they would have to rely on technology, along with hard work, to convert this natural wilderness into a civilization comparable to that which they had enjoyed back home.⁶² They strove hard to transform America's plentiful natural resources into things that English people could use, like tobacco, flour, bread, furs, whale oil, and iron, and to develop the essential facilities that defined a civilized nation: agricultural fields, mills, sugar refineries, tanneries, salt works, and public utilities like ferries, bridges, and roads.⁶³

In order to accomplish these goals, the colonies used a variety of policies and institutions designed to give the colonists private incentives to invest and work hard.⁶⁴ Granting patents on technology was part of this strategy.⁶⁵ But colonial legislatures saw no clear reason to favor those who came up with entirely new ideas. Although they could obviously develop industry by encouraging original invention, the "safer road" was simply to copy what was already proven to work somewhere else.⁶⁶ We might object that, since these early patents did not primarily protect novel ideas from copyists or promote disclosure of new information, it would have been more effective for the government simply to offer subsidies or rewards to those who applied

61. For an empirical study addressing economic effects of the limited availability of credit in New England prior to the issuance of public currency, see Claire Priest, *Currency Policies and Legal Development in Colonial New England*, 110 YALE L.J. 1303, 1317–35 (2001).

62. See DARON ACEMOGLU & JAMES A. ROBINSON, *WHY NATIONS FAIL: THE ORIGINS OF POWER, PROSPERITY, AND POVERTY* 19–28 (2012) (arguing that the American colonies, unlike Spanish colonies in the same period, strove to become self-sufficient, rather than relying solely on plundering and indigenous labor, and developed economic policies to make the colonists themselves invest and work hard). *But see* MICHAEL ADAS, *DOMINANCE BY DESIGN* 35–45 (2006) (arguing that the colonists' mission to develop "the tools and skills needed to put the continent's abundant resources to proper use" went hand in hand with their mission to subdue and civilize the natives, whom they saw as undeserving of America's abundant resources).

63. For a list of the goods and facilities integral to the colonies' domestic economies, see Richard B. Sheridan, *The Domestic Economy*, in *COLONIAL BRITISH AMERICA: ESSAYS IN THE NEW HISTORY OF THE EARLY MODERN ERA* 43–85, 58 (Jack P. Greene & J.R. Pole, eds., 1984). In the early years, the colonists' end goal was subsistence, though in time they began to generate surplus and colonial economies became more export-driven. They came to rely on the income generated from shipping raw materials and semi-processed goods back to England. See Jacob M. Price, *The Transatlantic Economy*, in *COLONIAL BRITISH AMERICA: ESSAYS IN THE NEW HISTORY OF THE EARLY MODERN ERA* 18–42, 27–30 (Jack P. Greene & J.R. Pole, eds., 1984); *see also* Acemoglu & Robinson, *supra* note 62, at 26.

64. See Bracha, *Owning Ideas*, *supra* note 7, at 99; ACEMOGLU, *supra* note 62, at 19–28.

65. See Bracha, *Owning Ideas*, *supra* note 7, at 99 (explaining that patents in the American colonies were one of many tools used to promote economic growth).

66. See WALTERSCHEID, *THE NATURE OF THE INTELLECTUAL PROPERTY CLAUSE*, *supra* note 18, at 45–46.

known ideas to the task of implementing a particular local project.⁶⁷ And the colonial legislatures did use a “whole arsenal of tools and tactics” for promoting economic development.⁶⁸

But, historically, patents, not direct cash payments, have been the preferred means for governments with limited resources to reward investment in relatively new and unproven technology.⁶⁹ Patents are, at least initially, cheaper, costing taxpayers nothing up front and shifting the burden of financing the project to the private sector. If the technology fails or proves impossible to market, the state loses nothing since the patent will be completely valueless; if the technology shows promise but the patentee is an inefficient developer, the state legislature can simply retract the patent and transfer it to a more skilled operator under a local working clause. Though patents may ultimately tax the public in the form of monopoly prices, they are arguably a more accurate way to determine the appropriate amount for this tax than a sum supplied in a reward or contract, particularly where the

67. Subsidies like cash grants or tax incentives are generally given prior to development of a technology and cover the cost of development and deployment. The major downside is that it is difficult to value the technology prior to development, and the risk of failure is entirely on the government, not the innovator. See Cédric Schneidery, *Mixed R&D incentives: the effect of R&D subsidies on patented inventions 1* (Copenhagen Business School, Department of Economics, Working Paper No. 06-2008, 2008) (citing further secondary literature), available at <http://openarchive.cbs.dk/bitstream/handle/10398/7662/wp6-2008.pdf?sequence=1>; see also SUZANNE SCOTCHMER, *INNOVATION AND INCENTIVES* (2004). Rewards and prizes, in contrast to subsidies, are granted after the invention is developed. Major downsides are the requirement of paying cash directly and, again, the difficulty of valuing the invention, especially if the reward is given prior to full deployment or commercialization. See Steven Shavell & Tanguy Van Ypersele, *Rewards Versus Intellectual Property Rights*, 44 J.L. & ECON. 525 (2001).

68. As Bracha explained:

The colonies striving to promote the public good, to accommodate various interests, and in some periods to ensure their very survival and their basic needs employed a whole arsenal of tools and tactics . . . [including] bonuses, prizes, subsidies, payment of salaries to skilled artisans, loans, permissions to hold lotteries for raising funds, exemption from tax and military service and also grants covered all kinds of enterprises and manufactures, everything from mills to iron works or the operation of ferries.

Bracha, *supra* note 7, at 99–100.

69. Adam Smith, who otherwise generally opposed to state-sponsored monopolies, defended England’s policy of granting fourteen-year exclusive privileges to inventors. He believed it to be a more accurate and efficient way to value unknown technology than direct rewards. ADAM SMITH, *WEALTH OF NATIONS*, quoted in MERGES & DUFFY, *supra* note 43, at 8.

market value of the technology is entirely unknown before development.⁷⁰ Meanwhile, the patentee has a much stronger incentive to succeed than if the cash had already been paid or promised up front because they gain nothing from the prospect of a monopoly on a useless technology and their gains increase the more successful the technology becomes.⁷¹

B. LIMITING PRINCIPLES ON COLONIAL AND STATE PATENT LAWS

Obviously, state patents, like any legal monopoly, risked generating various social costs: the legal ability to charge monopoly prices, wasteful competition among different inventors vying for a valuable economic right from the state, lobbying by rights holders to protect or extend their rights (“rent-seeking”), and inhibition of future innovation by excluding others from experimenting and competing in the same intellectual space.⁷² This is why the federal government today limits patents by requiring that the patentee claim a novel and nonobvious invention and disclose it to the public.⁷³ The colonial and state legislatures also recognized the risks of patent rights.⁷⁴ They imposed various restrictions on patents to ensure that their

70. See Nancy Gallini & Suzanne Scotchmer, *Intellectual Property: When is it the best incentive system?*, in 2 INNOVATION POLICY AND THE ECONOMY 51, 70 (Adam Jaffe, Joshua Lerner & Scott Stern eds., 2002). Gallini and Scotchmer concluded:

IP is probably the best mechanism for screening projects when value and cost are not observable by the sponsor, since the private value of IP reflects the social value, and firms automatically compare some measure of value to the cost of innovation. In addition, IP encourages firms to accelerate progress, since the reward is conditional on success. Prizes could serve the same purposes if the size of the prize could be linked to the social value and without the deadweight loss of monopoly pricing.

Id.

71. A major utilitarian justification for patents is that they generate strong incentives not just to generate an invention but also to make further investments in developing and marketing it in order to enhance the value of their monopoly. See Eisenberg, *supra* note 1, at 1036–45 (citing Edmund Kitch, *The Nature and Function of the Patent System*, 20 J.L. & ECON. 265 (1977)); see also Gallini & Scotchmer, *supra* note 70, at 70.

72. See Dam, *supra* note 46, at 249–53 (enumerating three costs of a monopoly grant); see also Mark Lemley, *Property, Intellectual Property, and Free Riding*, 83 TEX. L. REV. 1031, 1058–64 (2005) (summarizing costs that an IP system imposes on a society).

73. See 35 USC §§ 102 (novelty), 103 (nonobviousness), 112 (U.S. patent law’s disclosure and enablement requirements) (2011).

74. At least two colonies had their own versions of England’s Statute of Monopolies (1624), which limited the Crown’s ability to grant monopolies to favored individuals. See Statutes at Large, 1624, 21 Jac., c.3 (Gr. Brit.). For instance, in 1641, the General Court of Massachusetts Bay added to its “Body of Liberties” a clause stating: “No monopolies shall be granted or allowed amongst us, but of such new inventions yt are pftable to ye Countrie, & yt [sic] for a short time.” See BUGBEE, *supra* note 7, at 61.

exclusive rights actually resulted in beneficial innovation and did not impede access to the building blocks of knowledge.

At the most general level, the state legislatures tailored the terms of each statutory patent grant based on the legislature's assessment of the benefits that the technology was likely to produce for the community, on the one hand, and the likely costs to the public and the patentee, on the other.⁷⁵ In addition, each patent came with significant *quid pro quos* for the patentee—and not just the requirement that he disclose his art to the public. First, to reduce the risk of patents entirely preempting competition in the same market, or all innovative activity in the same intellectual space, colonial and state patents nearly always specified a statutory maximum penalty for infringement.⁷⁶ This essentially compelled patentees to license their technology to anyone who wished to use it for a set fee.⁷⁷ Some patents even employed direct price controls, limiting the rates the patentee could charge for use or sale of the invention.⁷⁸

By far the most significant *quid pro quo* was the so-called “working clause,” providing that if the patentee did not develop and actually start practicing his invention within a certain number of years his grant would lapse.⁷⁹ For instance, in 1706, Massachusetts Bay gave Thomas Houghton “a Patent for the Improvement of the Whale Flesh,” giving him ten years’ exclusive privilege to make saltpeter out of the lean whale flesh discarded by

75. As Bracha puts it, the decision to grant a patent in any given case involved a “specific calculus of the public good”:

In a fashion similar to the early English grants applicants usually detailed specific tangible benefits offered by their inventions such as lower prices, the supply of a scarce commodity or the saving of labor. . . . The assembly was in charge of a specific calculus of the public good in each case, considering whether a patent was justified and what its specific terms should be.

Bracha, *supra* note 7, at 100–01.

76. See the state patents catalogued in BUGBEE, *supra* note 7, at 84–103.

77. Some states also used what Bugbee calls “abolition privileges” to achieve a similar result. BUGBEE, *supra* note 7, at 96. For instance, in 1785 Virginia gave a ten-year patent to James Rumsey for his steam engine, but included a provision that the assembly could cancel Rumsey’s patent at any time by paying £10,000 in gold or silver. *Id.* Bugbee also notes that “[s]everal state awards provided for their own repeal should it be known that someone other than the grantee was the first and true inventor. . . .” *Id.* at 103.

78. See BUGBEE, *supra* note 7, at 64, 90 (noting that “this principle of price control had already appeared in some early English awards and in Joseph Jenk’s Massachusetts patent of 1646”); see also *id.* at 89–90 (describing 1775 Pennsylvania Assembly grant to Donaldson on new machine for cleaning docks allowing the legislature to set the rates charged for the dredged material).

79. See Bracha, *supra* note 7, at 102.

Cape Code whalers.⁸⁰ In exchange, Houghton was required to “disclose and make publick his art” after the ten years elapsed; but he was also required to demonstrate within four years that he was working his method successfully in the colony.⁸¹ Even as states began granting more patents over truly new inventions in the 1780s, disclosure of new principles alone would not justify a patent. Legislatures still required the patentee, as a primary matter, to actually establish a working technology in the state in order to deserve a monopoly.⁸² Otherwise, the legislatures would retract or transfer the patent to a more deserving grantee.⁸³

80. BUGBEE, *supra* note 7, at 67.

81. *Id.*

82. For example, in 1780, New York granted Henry Guest a five-year patent over the making of the following:

[a] certain species of blubber and oyl proper for currying and dressing of leather made from ingredients that “abound[ed]” in the state of New York. In exchange, Guest was required to disclose his invention to the public, submitting “a writing containing the names and descriptions of the materials aforesaid, and the method and process of making such blubber and oyl” But the patent also specified that it would not take effect “until the said Henry Guest shall have a manufactory erected for the purpose, and shall have made blubber or oyl [sic], of the materials aforesaid, within this State.

Id. at 87–88. Another telling example of the longevity of this strict local working requirement is the patent that New Hampshire granted to John Young for a chimney design in 1791, after the first Patent Act of 1790 had gone into effect. *See id.* at 101–02.

83. The issue of whether a state could have retracted a patent after ratification under the Constitution and specifically the Contracts Clause was not actually tested. But New York’s retraction of Fitch’s 1787 grant in 1798 suggests that the state could have rescinded an inventor’s patent for failure to establish a working technology in state jurisdiction even when the patent contained no explicit working clause. *Livingston v. Van Ingen*, 9 Johns. 507 (N.Y. 1812). Cases from the nineteenth century involving public utilities monopolies also support that the state would have been free to retract a patent and transfer the exclusive rights to another. *See, e.g., Chenango Bridge Co. v. Paige*, 83 N.Y. 178 (1880) (holding that if a toll bridge with a monopoly grant is so far out of repair as not to afford a passage with ordinary convenience and safety, a rival bridge, even though within a previously prohibited distance, is not unlawful). Bracha reaches a similar conclusion:

Unlike the parallel issue of corporate charters there was no legal dispute that directly involved the question of whether the legislature could revoke a patent grant, but from a few instances in which such revocations happened it seems that at least during the eighteenth century the assumption was that the legislature could take away what it granted.

Bracha, *supra* note 7, at 110 n.251.

III. THE INCOMPLETE TRANSITION TO A NATIONAL PATENT SYSTEM

During the short period between independence in 1776 and ratification of the U.S. Constitution in 1788, during which the Articles of Confederation established a confederation of thirteen states of independent sovereignty, states continued to use limited monopolies as a cheap and efficient way to encourage development and implementation of useful technologies in their jurisdictions.⁸⁴ Although the state patents granted in the 1780s more often involved truly novel inventions and made disclosure a requirement, the same general features and underlying framework continued to guide their practices.⁸⁵ Nevertheless, despite potential benefits to states' local economies, the increasingly *interstate* nature of commerce heralded the end of state patents.

A. "THE STATES CANNOT SEPARATELY MAKE EFFECTUAL PROVISION . . ."

During the colonial period, trade had been intra-colonial or with foreign nations. There was no common currency among the different states.⁸⁶

84. On state patents generally, see Bracha, *supra* note 7, at 109–16. *See also* BUGBEE, *supra* note 7, at 84–103. South Carolina mentioned patents in its 1784 copyright statute, providing that “inventors of useful machines shall have a like exclusive privilege of making or vending their machines for the like term of fourteen years, under the same privileges and restrictions hereby granted to and imposed on the authors of books.” *See* Federico, *State Patents*, *supra* note 42, at 166.

85. As Bugbee explained:

A new outpouring of provincial patents of invention came with the 1780's, and was largely confined to that decade. In character it was essentially a continuation of the colonial practice of enacting private laws of varying provisions in favor of individual inventors, but to pre-Revolutionary patent features were added some significant improvements.

BUGBEE, *supra* note 7, at 84. Similarly, Bracha wrote:

On the eve of creating the American patent regime in 1790 the American patent grant practice was still rather similar on both the practical and the conceptual level to the traditional English framework. In fact, it was much closer to the English origin than its contemporaneous British counterpart. Colonial and state patents were individual privileges granted as a result of a case-specific policy-political decision by government in the name of the public good. Although this aspect was beginning to change late in the eighteenth century, patents were also conceived and practiced not as creating “ownership” in an intellectual-informational entity called an “invention;” but rather as commercial privileges to exercise a “trade.”

Bracha, *supra* note 7, at 109, 401.

86. *See* JOEL ACHENBACH, *THE GRAND IDEA: GEORGE WASHINGTON'S POTOMAC AND THE RACE TO THE WEST* 11–12 (2004). Colonial governments did begin issuing paper

Transportation of people and goods across state lines was slow and expensive. The country was full of impassable mountains, dense forests, and rivers that, for all practicable purposes, were not navigable. There were few bridges, and people relied on ferries.⁸⁷ Bodies of water were barriers to communication and trade between developed communities in distinct jurisdictions.⁸⁸ Under these conditions, a patent covering local use of an invention was a valuable asset. Even assuming the patentee actually discovered infringements outside his jurisdiction, this would not have significantly affected his ability to profit in local markets. If the invention was a method, such as a process for grinding corn using a water mill,⁸⁹ or an agricultural tool, such as an “engine” for husking rice,⁹⁰ it was likely to be connected to local resources and to require the establishment of a stable operation in the colony. Even if the invention was a product, traveling to another jurisdiction to find an infringing alternative would have been incredibly costly.

The development of new modes of production, better infrastructure, and the more rapid steam-powered transportation completely altered this situation.⁹¹ The steam engine allowed for cheaper and quicker production of goods, and also enabled vendors to more efficiently transport and market their wares across state borders. For the first time, developed economies of

money in their own jurisdictions during the period from 1690 to 1710. *See* Priest, *supra* note 61, at 1303.

87. Achenbach, *supra* note 86, at 14, 28.

88. *See* KUTLER, *supra* note 39, at 6 (stating that the river villages became “centers for intracolonial trade and depots for foreign commerce.”).

89. Many colonial grants involved mills. For instance, in 1646, the General Court of Massachusetts granted Peter Jenks a fourteen year patent to “[b]uild a mill for making of Sithes; and alsoe a new jnvented Saw Mill, and divers other Engines for making of divers sorts of Edge tooles” *See* BUGBEE, *supra* note 7, at 62. In 1722, Connecticut granted Ebinezar Fitch and company “the sole right, privilege and liberty to erect, use, maintain and support, a slitting mill or slitting mills within this Colony of Connecticut during [the space of fifteen years,]” provided that they “erect and set up a good, sufficient slitting mill” on the Stony Brook river or in “some place within this Colony,” within three years, and keep it in good repair. CONNECTICUT RECORDS, *supra* note 44, at 312–13; *see also* BUGBEE, *supra* note 7, at 181 n.34.

90. In 1691 South Carolina passed an act granting a two-year patent to “Mr. Peter Jacob Guerard” for a “pendulum engine” for husking rice “much better, and in lesse time and labour . . . than any other heretofore . . . used within this Province,” with a set infringement penalty of forty shillings. *See* BUGBEE, *supra* note 7, at 75.

91. *See* Nye, *supra* note 6, at 120–121; Adas, *supra* note 62, at 76–77; *see also* Achenbach, *supra* note 86, at 238 (“Commerce required better transportation networks, and better transportation networks led to increased commerce, and soon the whole system was heating up like a steam boiler.”), 238–39 (describing steamboats running on the Potomac).

different jurisdictions began interacting fluidly side-by-side.⁹² Infringing uses of patented inventions outside a state's jurisdiction would have been more readily visible. In many cases, such out-of-state infringing use would have immensely reduced the value of a state patent right because consumers could simply purchase infringing products or products made from infringing methods in other states. As a result, inventors in the 1780s started purchasing patents from adjoining states to consolidate the jurisdictional scope of their protection.⁹³

Inventors soon began lobbying for a nationwide patent system to more effectively protect their rights, for obvious reasons.⁹⁴ National patents provided superior protection against copyists and potentially entitled inventors to greater profits by enabling them to sell and license their inventions in multiple states. This was especially true for consumer goods, such as the clocks and watches proliferating in this period, which could be easily copied and sold in interstate markets.⁹⁵ Also, unlike a decentralized system of individualized state statutes, a uniform national system would be more likely to produce consistent decisions and, ideally, would put an end to

92. See BORIS BITTKER, BITTKER ON THE REGULATION OF INTERSTATE AND FOREIGN COMMERCE 1.02[A], at 1–8 (citing Albert S. Abel, *Commerce Regulation Before Gibbons v. Ogden: Interstate Transportation Facilities*, 25 N.C. L. REV. 121, 122 (1947)).

93. See Walterscheid, *Priority of Invention: How the United States Came to Have a "First to Invent" Patent System*, 23 AIPLA Q.J. 263, 277 (1995) (discussing priority battles between steam boat inventors attempting to buy up patents from various states and lobbying by inventors); see also MERGES & DUFFY, *supra* note 43, at 7 & nn.17–18.

94. See Michael Martin, *The End of the First-to-Invent Rule: A Concise History of Its Origin*, 49 IDEA 435, 461–67 (2009) (describing the influence of inventors like John Fitch, advocating for federal patents to protect their natural rights in their inventions). Walterscheid has succinctly summed up the weaknesses of the state-level system:

The most singular defect was that states could only legislate with respect to their own territory. Thus, state patents and copyrights could be infringed with impunity in adjoining states. Getting multiple patents or copyrights was time consuming, expensive, and frequently frustrating. Moreover, there was no certainty of consistency in terms and conditions from state to state.

WALTERSCHEID, THE NATURE OF THE INTELLECTUAL PROPERTY CLAUSE, *supra* note 18, at 76.

95. On the patent granted by Pennsylvania in 1789 to Robert Leslie for various improvements on clocks and watches, see BUGBEE, *supra* note 7, at 91; see also *id.* at 88 (describing a 1783 Connecticut patent over a wind-up clock preventing anyone from constructing, importing or selling such a clock in the state). For inventions like the steamboat that had to be operated within the boundaries of a particular state, the value of the patent was reduced, though not necessarily eliminated, by competitors' use of the invention in other states. Local public utilities monopolies are still valuable today.

never-ending rivalries over priority of invention and infringement.⁹⁶ The inventors found a captive audience for their plea in the nation's policymakers. According to lore, on August 20, 1787, two days after Madison first suggested adding the IP Clause to the Constitution, several members of the Constitutional Convention gathered on the banks of the Delaware River to watch a demonstration of Fitch's latest steamboat model.⁹⁷ No one appeared to disagree with James Madison's famous statement in the Federalist No. 43 that "[t]he States cannot separately make effectual provision for either of the cases [patent or copyright.]"⁹⁸ Thereafter, the Framers added the IP Clause to the Constitution with little discussion of the matter.⁹⁹

B. THE EVIDENCE FOR STATES' REMAINING PATENT POWERS

Over four years between 1787 and 1791, the states ratified the Constitution, thereby accepting the terms of Congress's new power of "securing for limited Times to . . . Inventors the exclusive Right to their respective . . . Discoveries."¹⁰⁰ On April 10, 1790, Fitch's prayers for a national patent on his steamboat were finally answered when Congress passed the first federal Patent Act, giving inventors the opportunity to obtain a fourteen-year period of exclusive rights in their inventions, nationwide.¹⁰¹ Once U.S. patents became available, inventors enthusiastically began applying

96. See Zorina B. Khan, *Property Rights and Patent Litigation in Early Nineteenth-Century America*, 55 J ECON HIST. 58, 62 (1995) ("Consistent regional decisions would serve to increase the value of holding a patent; first, by expanding the coverage of the patent to a much wider market; and second, by eliminating the uncertainty and costs of enforcement if litigation were governed by the laws of the individual states.").

97. See COX, *supra* note 21, at 1–2; see also JAMES THOMAS FLEXNER, STEAMBOATS COME TRUE: AMERICAN INVENTORS IN ACTION 126–27 (1944).

98. THE FEDERALIST NO. 43, at 279 (James Madison) (Earle edition, 1938). In a speech at the Pennsylvania ratifying convention, Thomas McKean echoed this concern, stating that "[t]he power of securing to authors . . . the exclusive right to their writings . . . could only with effect be exercised by the Congress." Thomas McKean, Speech at Pennsylvania Ratifying Convention (Dec. 10, 1787), *quoted in* WALTERSCHEID, THE NATURE OF THE INTELLECTUAL PROPERTY CLAUSE, *supra* note 18, at 10.

99. See *id.* at 110; see also Bracha, *Owning Ideas*, *supra* note 7, at 272 n.2 (and citations therein to literature on the history of the passage of the IP Clause).

100. U.S. CONST. art. I, § 8, cl. 8. On ratification, see THE DOCUMENTARY HISTORY OF THE RATIFICATION OF THE CONSTITUTION (John P. Kaminski and Gaspare J. Saladino eds., Wisconsin Historical Society Press 1981).

101. See Patent Act of 1790, ch. 7, 1 Stat. 109 (repealed 1793). The Act was revised three years later. See Patent Act of 1793, ch. 11, 1 Stat. 318 (repealed 1836).

for them.¹⁰² As noted in the introduction, the prevailing assumption is that the enactment of a national patent law “was largely viewed as removing the need for state patents”¹⁰³ However, in light of the evidence, it is apparent that at the time of ratification states were perceived as retaining significant constitutional authority to grant patents alongside Congress and that these views persisted throughout the nineteenth century.

1. *The Text of the IP Clause*

The IP Clause, which is included in the list of powers expressly granted to Congress in Article I, Section 8 of the Constitution, provides that: “The Congress shall have Power . . . [t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries”¹⁰⁴

The Clause gives Congress an independent power to “secur[e]” the “exclusive Right” of “Inventors” in their “Discoveries[]” for a limited period.¹⁰⁵ However, it does not suggest that this power is exclusive to the federal government or that it excludes states from granting patents within their own jurisdictions.¹⁰⁶ As Maya Pollack has noted, the IP Clause “gives Congress ‘power,’ not ‘*the* power,’ to promote science and the useful arts by granting exclusive rights—even though ‘*the*’ had appeared in earlier drafts.”¹⁰⁷ This is the case for all of the powers listed in Article I, Section 8, and some were exclusive grants to Congress.¹⁰⁸ But unlike Clause 4, granting Congress power to “establish an *uniform* Rule of Naturalization, and *uniform* Laws on the subject of Bankruptcies throughout the United States,”¹⁰⁹ the IP Clause does not state or imply that American patent laws must be

102. See Bracha, *Owning Ideas*, *supra* note 7, at 408 n.23 (stating that 57 patents were issued under the 1790 act but that at least 114 applications were received); see also COX, *supra* note 21, at 15 (further discussing inventors’ interest in federal patents).

103. See WALTERSCHEID, THE NATURE OF THE INTELLECTUAL PROPERTY CLAUSE, *supra* note 18, at 436–37; see also *id.* at 76–77, 438–42; BUGBEE, *supra* note 7, at 102–03 (also suggesting that federal patents made state patents obsolete).

104. U.S. CONST. art. I, § 8, cl. 8.

105. *Id.*

106. *Id.*; see also *Gibbons v. Ogden*, 22 U.S. 1, 45 (1824) (noting Thomas Oakley’s oral argument that that the patent power is “not granted exclusively to Congress. No exclusive terms are used. The grant is affirmative and general, like all the other powers.”); *Goldstein v. California*, 412 U.S. 546, 560 (1973) (“[T]he language of the Constitution neither explicitly precludes the States from granting copyrights nor grants such authority exclusively to the Federal Government.”).

107. Pollack, *supra* note 17, at 301 (emphasis in original).

108. U.S. CONST. art. I, § 8, cl. 4 (bankruptcy and naturalization powers).

109. *Id.* (emphasis added).

“uniform.”¹¹⁰ Therefore, the simple fact of non-uniformity does not necessarily suffice to divest states of their authority to concurrently grant patents on inventions practiced in the state—just as it does not deprive states of the power to concurrently levy their own taxes on state residents.¹¹¹

2. *The Patent Act’s “Relinquishment” Provision*

The Patent Act, unlike the Copyright Act, has no express preemption provision,¹¹² but Congress added a provision to the second Patent Act in 1793 that explicitly addressed state patents.¹¹³ The provision did not preempt state patents or preempt states from granting patents.¹¹⁴ Instead, the provision only required inventors who obtained U.S. patents to “relinquish” any patents they possessed that had been granted by a state “*before its adoption of the [Constitution.]*”¹¹⁵ Edward Walterscheid contends:

The limitation proposed by Jefferson and accepted by Congress can only be explained on the supposition that they believed that once a state ratified the Constitution it no longer had authority to

110. See THE FEDERALIST NO. 32, at 156 (Alexander Hamilton) (Earle ed. 1938) (noting that, unlike with the concurrent power to levy taxes, the federal government’s power “to establish an UNIFORM RULE of naturalization throughout the United States[] . . . must necessarily be exclusive; because if each State had power to prescribe a DISTINCT RULE, there could not be a UNIFORM RULE.”); see also U.S. CONST. art. I, § 8, cl. 8 (granting Congress power “[t]o promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries.”).

111. See THE FEDERALIST NOS. 32 (Alexander Hamilton) (discussing the right of states to levy taxes).

112. The Copyright Act of 1976 has an express preemption provision. 17 U.S.C. § 301 (2011); see also 35 U.S.C. §§ 101–102 (2011) (Patent Act, lacking an express preemption provision).

113. Patent Act of 1793, Ch. 11, § 7, 1 Stat. 322 (Feb. 21, 1793). The provision was the brainchild of Secretary of State Thomas Jefferson, one of the trio of officials in charge of reviewing federal patent applications under the 1790 Act. Patent Act of 1790, ch. 7, 1 Stat. 109, 109–12 (repealed 1793) (naming three executive officers to review patents); see also WALTERSCHEID, THE NATURE OF THE INTELLECTUAL PROPERTY CLAUSE, *supra* note 19, at 437.

114. Patent Act of 1793, Ch. 11, § 7, 1 Stat. 322 (Feb. 21, 1793).

115. The provision stated:

Where 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, and such *relinquishment*, his obtaining an exclusive right under this act, shall be sufficient evidence.

Patent Act of 1793, Ch. 11, § 7, 1 Stat. 322 (Feb. 21, 1793) (emphasis added); see also WALTERSCHEID, THE NATURE OF THE INTELLECTUAL PROPERTY CLAUSE, *supra* note 19, at 437 (discussing the 1793 provision).

issue its own state patents. That is, they believed that the language of the intellectual property clause preempted state authority to issue patents (and presumably copyrights as well). Otherwise, there would have been no good reason to limit the surrender requirement to state patents issued before ratification and not include those issued after ratification.¹¹⁶

This assumption cannot safely be made. In this period, many contested the issue of whether, and to what degree, states could continue their prior patent practices.¹¹⁷ The simpler and better explanation is that Jefferson did not address the constitutional or statutory viability of state patents issued after ratification because he knew states might want to keep granting their own patents. Instead, the relinquishment requirement had a very specific and practical purpose. In 1790, many inventors who had several state patents that were still in force also eagerly sought U.S. patents for the same inventions.¹¹⁸ Congress did not feel empowered to simply void the inventors' vested state rights without voluntary action by state patentees, but this created a problem because it would be confusing and unfair if applicants for U.S. patents were allowed to rely on both state and federal patent rights simultaneously.¹¹⁹ Thus, Jefferson sought to make it clear in the Patent Act that applicants must choose between federal or state patent rights.¹²⁰ Jefferson could have decided to expressly preempt any state patents granted in the future if he believed preemption was warranted. But his decision to simply require a choice between the two regimes easily supports the opposite conclusion: that he

116. *Id.* at 438 (citations omitted).

117. As Walterscheid himself goes on to note, the state of New York did grant a patent *five years after the provision went into effect*. *See id.*

118. *See COX, supra* note 21, at 15 (noting four steamboat inventors with several state patents who applied for patents).

119. Supporting this view is that Van Ingen's attorneys, in arguing to invalidate New York's steamboat patent, conceded that Congress could not simply revoke vested state patent rights issued prior to ratification, at least not without a voluntary act by a patentee who chose to exchange his state rights for federal ones. *See Livingston v. Van Ingen*, 9 Johns. 507, 540–41 (N.Y. 1812) (Messrs. Wells and Henry Van Vechten for the majority, and Messr. Van Vechten concurring, finding in favor of Van Ingen et al.).

120. An earlier draft of the provision submitted by Jefferson shows that his reason for requiring relinquishment of a state patent was indeed to ensure that patentees under the new federal Act would obtain "equal benefits" and also be "subject to equal restrictions with the other Citizens of the United States . . ." *See WALTERSCHEID, THE NATURE OF THE INTELLECTUAL PROPERTY CLAUSE, supra* note 18, at 437 (citing Jefferson's early draft of the provision).

believed states possessed independent authority to grant their own patents under the Tenth Amendment.¹²¹

3. *The Decision to Limit U.S. Patents to Universally Novel Inventions*

Further evidence that states retained concurrent patent powers comes from the fact that, when drafting the Patent Act of 1790, the First Congress deliberately limited U.S. patents to universally novel inventions.¹²² When the Second Congress revised the Patent Act in 1793, they kept this limitation in place.¹²³ It is still in place today.¹²⁴ But as Justice Story pointed out in 1825, Congress required that inventors do more than facilitate “the *mere importation*

121. See U.S. CONST. amend. X; see also *infra* note 214 (discussing George Tucker’s comments on this subject—which directly contradict Walterscheid’s contention that the relinquishment provision did not apply to state patents granted after ratification).

122. See Patent Act of 1790, ch. 7, § 1, 1 Stat. 109, 109–10 (repealed 1793). As Walterscheid has documented, an early draft of the first Patent Act was read into the House on February 16, 1790. The proposed bill allowed inventors to obtain patents for inventions “not before known or used”; that is, only universally novel inventions. The phrase was thereafter modified by “in the United States,” which would have allowed patents over imported inventions; and a new section was thereafter added providing that “the first importer of any art, machine, engine, device or invention, or any improvement thereon” should be treated the same as an “original inventor or improver within the United States.” However, with no recorded discussion on the matter, these revisions were deleted, and the original rule allowing only patents for universally novel inventions was reinstated in the final version of the Patent Act. See Walterscheid, *Patents and Manufacturing*, *supra* note 33, at 872–73.

123. Compare Patent Act of 1793, ch. 11, § 1, 1 Stat. 318, 318 (repealed 1836) (stating that the applicant must submit a petition “setting forth, that he, she, or they, hath or have invented or discovered any useful art, manufacture, engine, machine, or device, or any improvement therein *not before known or used*.”) (emphasis added), with Patent Act of 1790, ch. 7, § 1, 1 Stat. 109, 109–10 (repealed 1793) (limiting applications to the invention of “any new and useful art, machine, manufacture or composition of matter, or any new and useful improvement on any art, machine, manufacture or composition of matter, *not known or used before* the application”) (emphasis added).

124. There was a period where Congress gave some allowance for prior foreign activities. See, e.g., Patent Act of 1836, ch. 357, § 8, 5 Stat. 117, 121 (repealed 1861) (providing that an “original and true inventor” could obtain a U.S. patent despite having “previously taken out letters patent therefor in a foreign country, and the same having been published, at any time within six months next preceding the filing of his specification and drawings.”); see also *O’Reilly v. Morse*, 56 U.S. 62 (1853) (upholding the validity of Samuel Morse’s patent on the electro-magnetic telegraph despite allegations of prior inventorship abroad because “[a] previous discovery in a foreign country does not render a patent void, unless such discovery or some substantial part of it had been before patented or described in a printed publication.”); MERGES & DUFFY, *supra* note 43, at 494–95 (describing various forms of “domestic bias” in the Patent Act of 1952). However, as of September 16, 2011, a person is not entitled to a U.S. patent “if the claimed invention was patented, described in a printed publication, or in public use, on sale, or otherwise available to the public before the effective filing date of the claimed invention” 35 U.S.C. § 102(a)(1) (2011).

of a known machine” in order to obtain a patent—distinguishing U.S. patent law from both England’s and the states’ prior practices, which allowed inventors to obtain patents on inventions imported from other countries.¹²⁵ The reason why Congress decided to change policies is not entirely clear. Walterscheid suggests that James Madison probably insisted on the universal novelty requirement based on the IP Clause’s statement that Congress had power to grant exclusive rights to “*Inventors*” in their “*Discoveries*.”¹²⁶ Secretary of the Treasury Alexander Hamilton, for his part, had no qualms about patents for inventions that were already known abroad. In his *Report on Manufacturers* (1791), Hamilton famously proposed a variety of national incentives to promote investment, including national patents for “introducers” of foreign technology, “a policy which [had] been practiced with advantage in other countries.”¹²⁷ But even Hamilton reluctantly concluded that the “National Government” lacked authority to grant patents beyond the means specified in the IP Clause.¹²⁸

Why did Madison and Hamilton believe the Constitution imposed this limitation? One reason may be the belief that only original inventions, and only true inventors, were deserving of patent rights,¹²⁹ and that allowing

125. See *Earle v. Sawyer*, 8 F. Cas. 254, 256 (C.C. Mass. 1825); see also Walterscheid, *Patents and Manufacturing*, *supra* note 33, at 859 n.15 (noting that “[t]he British policy of obtaining foreign technology by this means was perceived to be highly successful.”); Bracha, *Onning Ideas*, *supra* note 7, at 492–93 (on continuing British practice of granting patents to importers), 493 (America’s unique decision to exclude patents of importation).

126. U.S. CONST. art. I, § 8, cl. 8 (emphases added); see also Walterscheid, *Patents and Manufacturing*, *supra* note 33, at 868–78.

127. See HAMILTON, REPORT ON MANUFACTURERS, *supra* note 33, at 1014; see also *id.* at 988–92, 1008–34 (recommending a variety of national incentives). On Hamilton’s policy agenda for promoting domestic industry and manufacturing through a variety of means including prizes for inventions and direct payments to businesses, see Wood, *supra* note 30, at 102; RON CHERNOW, ALEXANDER HAMILTON 377 (2004).

128. Hamilton stated that while “it is desirable, in regard to improvements and secrets of extraordinary value, to be able to extend the same benefit to introducers, as well as authors and inventors . . . there is cause to regret, that the competency of the authority of the National Government to the good which might be done, is not without question.” HAMILTON, REPORT ON MANUFACTURERS, *supra* note 33, at 1014; see also WALTERSCHEID, TO PROMOTE THE PROGRESS OF SCIENCE AND USEFUL ARTS: AMERICAN PATENT LAW AND ADMINISTRATION, 1798–1836, at 148–56 (1998) (discussing Hamilton’s proposal in his *Report on the Subject of Manufacturers* to grant patents of importation and Hamilton’s concerns about the constitutionality of such patents).

129. There are various lines of evidence supporting this hypothesis. First, scholars have observed that the purpose of U.S. patents was no longer solely to promote local working of technology, but also to promote disclosure of *new information* in a specification. See Mario Biagioli, *Patent Specification and Political Representation: How Patents Became Rights*, in MAKING AND UNMAKING INTELLECTUAL PROPERTY: CREATIVE PRODUCTION IN LEGAL AND CULTURAL PERSPECTIVE 25, 31–32 (Mario Biagioli, Peter Jaszi & Martha Woodmansee eds.,

patents on known foreign inventions would needlessly interfere with public access to know-how that was already disclosed to the public.¹³⁰ However, some research suggests an alternative explanation: that the decision to impose a unique requirement of universal novelty in U.S. patent law was not based exclusively on fear of government power to grant monopolies; rather, it was also based on fear of the federal government encroaching on the sovereign powers of the *states* to do so.¹³¹ The strength of this hypothesis will become clear once we examine the arguments and legal opinions generated by New York's infamous steamboat monopoly—which, I will show, can actually be considered the last state patent granted in America.

IV. THE LAST STATE PATENT

The most straightforward evidence that at least some policymakers believed states retained the power to grant patents is that several states, including Pennsylvania, New York, New Hampshire, Connecticut, and New Jersey, continued to do so.¹³² There is no denying that once U.S. patents became available in 1790, inventors enthusiastically began applying for them

2011); *see also* MERGES & DUFFY, *supra* note 43, at 6 (explaining that during the Industrial Revolution in England patent applicants were more frequently required to describe their inventions in exchange for a patent, and associating this development with Judge Mansfield's 1778 opinion in *Liardet v. Jobnson*, (1780) 62 Eng. Rep. 1000 (K.B.)). Second, scholars have noted a growing fixation in this period with the somewhat romantic notion of the invention and the inventor. *See, e.g.*, Bracha, *Owning Ideas*, *supra* note 7, at 430–31 (describing new preoccupation with invention and inventors and new focus on technological innovation, displacing traditional British definition of invention as a trade or industry not used before in the jurisdiction).

130. Walterscheid has unearthed evidence that some American businessmen feared that allowing patents on known foreign inventions would interfere with their ability to imitate important English inventions already disclosed in English patent specifications and publicly available to copy. *See* Walterscheid, *Patents and Manufacturing*, *supra* note 33, at 875–76 (discussing Richard Wells' apparently unused petition to Congress, submitted March 4, 1790, in opposition to a proposed amendment to the Patent Act that would have allowed "first importers" to be treated as original inventors).

131. Hamilton recognized that the power to grant patents to foreign introducers would theoretically remain with the states if Congress could not do so, writing that if federal patents of importation were allowed, "many aids might be given to industry, many internal improvements of primary magnitude might be promoted, by an authority operating throughout the Union; which cannot be effected as well, if at all, *by an authority confirmed within the limits of a single State.*" HAMILTON, REPORT ON MANUFACTURERS, *supra* note 33, at 1014 (emphasis added). As this Article later discusses, many believed states did have this power. *See* discussion *infra* Section V.B.

132. Crockett has also noted this fact. *See* Crockett, *supra* note 15, at 37 (using a hypothetical dissent by J. Frankfurter) (citing to Prager and Federico).

and rarely applied to state legislatures.¹³³ However, there are several reported cases of state patents issued after the Constitution was adopted,¹³⁴ and even after the Patent Act went into effect in 1790. For instance, in 1791, New Hampshire granted a patent to John Young for his chimney design, providing that should Young choose to obtain a U.S. patent instead, his state rights would be void.¹³⁵ In the same year, New Jersey issued a patent on a grist mill.¹³⁶

After Congress clarified in the 1793 Patent Act that state patentees had to give up their rights when they obtained a U.S. patent for the same invention, states' concurrent patent practices might have continued unnoticed. But then something happened that changed the trajectory of patent law in America. On March 27, 1798, the New York Legislature and Council of Revision, whose members included several participants in New York's federal ratifying convention, passed the first in a series of laws granting the exclusive right to navigate steamboats in New York waters to Robert Livingston and Robert Fulton.¹³⁷

133. See Bracha, *Owning Ideas*, *supra* note 7, at 408 n.23 (stating that 57 patents were issued under the 1790 act but that at least 114 applications were received). On the eagerness of inventors to apply for federal patent rights, see COX, *supra* note 21, at 15.

134. For instance, in 1789, Pennsylvania granted a patent to Robert Leslie for improvements in the mechanism of clocks and watches, which were also patented later under the first federal patent act. See Federico, *State Patents*, *supra* note 42, at 167–68. As Federico writes:

The patent to Leslie, it is to be noted, was granted after the Constitution was adopted. This was common among the states for a few years after the adoption. As instancing the overlapping of state and federal functions, the action of Samuel Briggs is cited. In 1789 he petitioned both Congress of the United States, and the General Assembly of Pennsylvania for a patent for his machine for making nails, screws and gimlets, and deposited with the executive of the state a model of the machine in a sealed box pending the outcome of either petition. He, together with his son, received the first patent for nail machinery under the federal patent law.

Id.; see also Crockett, *supra* note 15, at 37 (noting that some states, such as Pennsylvania, New Hampshire, New York, Connecticut, and New Jersey, continued to issue patents).

135. To avoid any confusion or injustice that might result if Young were to subsequently get a patent from Congress, the New Hampshire grant contained a clause requiring that Young relinquish his state rights if he should choose to obtain a U.S. patent. See BUGBEE, *supra* note 7, at 102 (quoting 5 LAWS OF NEW HAMPSHIRE 791 (Henry Harrison Metcalf ed., 1916)); see also Federico, *State Patents*, *supra* note 42, at 168; WALTERSCHEID, THE NATURE OF THE INTELLECTUAL PROPERTY CLAUSE, *supra* note 18, at 437 (describing the “voidance clause”).

136. Federico, *State Patents*, *supra* note 42, at 168.

137. Although a few members of the Council of Revision, including Governor John Jay and Chancellor Lansing, objected to the Act, none objected on constitutional grounds. See *Gibbons v. Ogden*, 22 U.S. 1, at 80; see also *infra* note 161 and accompanying text.

A. UNCOVERING A STATE PATENT AT THE HEART OF THE STEAMBOAT MONOPOLY

At first glance, the New York grant does not appear to be a patent, and few scholars have described it as one.¹³⁸ Livingston was not an inventor—he was a wealthy and well-connected businessmen and the former Chancellor of New York.¹³⁹ Fulton was a skilled engineer and would eventually develop original steamboat designs, but he copied liberally from the designs of John Fitch—who invented one of the first working steamboats in America and obtained one of the first U.S. patents on a steamboat in 1791.¹⁴⁰ On its face, the New York law was not styled as a “patent” but as an exclusive right granted to a mere “*possessor of a mode of applying the steam engine to propel a boat on new and advantageous principles.*”¹⁴¹ However, the law was a direct continuation of the patent New York had granted to John Fitch prior to ratification, which indicated that Fitch was the “inventor” of the steamboat.¹⁴² In 1798, New York simply transferred Fitch’s patent to Livingston based on an implied local working requirement after learning that Fitch had made no “attempt, in the space of more than ten years, of executing the plan for which he so obtained the exclusive privilege.”¹⁴³ Like Fitch’s prior patent, Livingston’s grant covered, quite broadly, “the sole and exclusive right and privilege” of making, using 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*” and explicitly exempted any boat or watercraft “invented, or thereafter to be invented” that operated “by any other power,” such as wind powered sailboats.¹⁴⁴ Also, just like other state

138. *But see* Crockett, *supra* note 17, at 37–38 (arguing, in an invented dissent to *Bonito*, that the patent power was not meant to be exclusive and supporting this assertion with the fact that in *Gibbons* the Supreme Court ignored the patent preemption argument *even though* *New York’s grant to Livingston was based on a patent previously granted to Fitch*).

139. *See* Encyclopedia of World Biography – Robert R. Livingston, ENCYCLOPEDIA.COM, http://www.encyclopedia.com/topic/Robert_Livingston.aspx#2-1G2:3404703928-full (last visited May 1, 2013).

140. On John Fitch’s allegations of original inventorship and copying by Fulton, see THOMPSON WESTCOTT, LIFE OF JOHN FITCH: THE INVENTOR OF THE STEAM-BOAT 386–91 (1857); *see also* COX, *supra* note 21, at 1–16; JOHNSON, *supra* note 21, at 26–27. Fulton objected to these accusations. *See* COX, *supra* note 21, at 80.

141. *Livingston v. Van Ingen*, 9 Johns. 507, 583 (N.Y. 1812) (emphasis added).

142. *Id.* at 507 (“[O]n the 19th of March, 1787, the legislature of the state of New-York passed an act, entitled ‘An act for granting and securing to John Fitch the sole right and advantage of making and employing for a limited time, the steam-boat by him lately invented’”).

143. *Id.* at 509. The 1798 Act gave Livingston “privileges similar to those granted to John Fitch.” *Id.*

144. *Id.* at 507–08.

patents granted prior to ratification, this patent contained a fixed penalty for infringement, requiring operators of “offending” vessels to pay 100 pounds and forfeit their steamboats.¹⁴⁵

Thus, despite its comparably lax criteria for absolute novelty and original inventorship, everyone recognized that these exclusive rights were, in character if not in name, just like the patents states granted prior to ratification, and very similar to the patents Congress now granted to original inventors under the Patent Act.¹⁴⁶

B. THE FIRST COMMERCIAL STEAMBOAT ENTERPRISE IN AMERICA

The New York Legislature had learned from its mistake with Fitch and made quite clear in the 1798 law that, as a quid pro quo for the exchange, Livingston must actually implement functional steamboats in New York.¹⁴⁷ Specifically, he had to demonstrate to the Governor, Lieutenant-Governor, and Surveyor-General of New York, “or a majority of them,” that he had built a steamboat of at least twenty tons’ capacity that could travel not less than four miles an hour with or against the ordinary current of the Hudson.¹⁴⁸ Thereafter, for more than a year at a time, he had to have at least one of these boats travel between New York and Albany, lest his grant be retracted.¹⁴⁹ But thanks in part to Fulton’s efforts in experimenting with the designs of prior inventors and in part to Livingston’s wealth and political connections¹⁵⁰—and thanks to New York’s generous monopoly grant—Livingston and Fulton succeeded where Fitch failed.

After several extensions of their New York patent (and the inclusion of Fulton as a named grantee), they eventually satisfied the grant’s local working requirement. They dramatically showcased their boat on August 17, 1807, making the 120-mile trip from New York City to Albany in record time.¹⁵¹ Thereafter, they ensured that at least one steamboat was constantly

145. *Id.*

146. *See* *Gibbons v. Ogden*, 22 U.S. 1, 173–74 (1824) (discussing the argument that the New York law was simply a patent similar in character to U.S. patents).

147. *Livingston*, 9 Johns. at 509–11.

148. *Id.*

149. *Id.* at 509–10.

150. *See* JOHNSON, *supra* note 21, at 27 (noting the unique combination of political connections and financial patronage, which allowed Livingston and Fulton to succeed in turning their “discoveries into fully operational steamboats” as well as Fulton’s efforts in “por[ing] over recent U.S. patent filings” in 1806); *see also* COX, *supra* note 21, at 29 (“Together they succeeded where others had failed. Nonetheless, their work rested on the creativity and scientific knowledge of many who had come before.”).

151. On Fulton’s famous trial run up the Hudson, *see* COX, *supra* note 21, at 28; JOHNSON, *supra* note 21, at 27–28.

navigating the Hudson “except when the navigation of the river was interrupted by ice.”¹⁵² Their patent term was then extended, per its terms, to match the size of their fleet, increasing by five years for each additional boat they navigated on the river, but not to exceed thirty years.¹⁵³ Ultimately, as compensation for their willingness “to run the risk and hazard” of such an expensive experiment “which might prove so useful and beneficial to the community,”¹⁵⁴ Livingston and Fulton obtained the exclusive right to navigate steamboats on the Hudson for up to thirty years.¹⁵⁵

V. JUSTICE JAMES KENT’S CONCURRENT STATE PATENT SYSTEM

The constitutional validity of what may be the last state patent was tested when Livingston and Fulton attempted to enforce their rights against James Van Ingen and a group of twenty businessmen, who began operating their own steamboat called the “Hope” on the Hudson in contravention of Livingston and Fulton’s exclusive rights.¹⁵⁶

A. CHANCELLOR LANSING’S DISCOMFORT WITH STATE-SANCTIONED MONOPOLIES

In 1811, Livingston sued the prospective competitors in the New York Chancery court, only to have Chancellor John Lansing deny their application for an injunction.¹⁵⁷ As a member of New York’s Council of Revision, Lansing (along with John Jay) had previously objected to New York’s 1798 patent, though his reason for objecting was *not* that New York’s power to grant patents was extinguished by Congress’s powers to grant patents to inventors or to regulate interstate commerce.¹⁵⁸ Rather, Lansing asserted that New York simply lacked the sovereign authority to grant such a broad monopoly and had violated its duty to protect citizens’ common rights to navigate on public waterways.¹⁵⁹ Lansing recognized that monopolies might

152. *Livingston*, 9 Johns. at 511 (quoting Act of April 6, 1807 (5 LAWS OF THE STATE OF NEW YORK, ch. CLXV, 213–14)).

153. *Id.* at 511.

154. *Id.* at 508.

155. *Id.* at 510–12; *Gibbons v. Ogden*, 22 U.S. 1, 6–7 (1824).

156. *Livingston*, 9 Johns. at 512 (refusing to grant their *ex parte* application for an injunction, but entering an order that Van Ingen should provide a defense against an injunction).

157. *Id.* at 513; *see also* COX, *supra* note 21, at 55.

158. *See Gibbons*, 22 U.S. at 80 (explaining that Lansing and John Jay did not believe that laws passed by Congress had not eliminated state grants of exclusive rights).

159. *Livingston*, 9 Johns. at 519–20. Under contemporary notions of the “public trust doctrine,” the state held public waterways in trust for the people and had a duty to protect

sometimes be justified under the exceptional auspices of encouraging “the exertion of ingenuity and perseverance”; but he observed that in this case, steamboats had been known in America and in England for at least twenty-five years. “The combination of machinery, and the application of the power to give it effect, have been happily adapted to the propelling of vessels. It is a matter of public notoriety that they are now in a train of successful operation”¹⁶⁰ Therefore, Lansing concluded that, without any showing of true inventorship, or at least appropriate limits on the scope of the grant, New York lacked the power to transform commonly known subject matter into private property. This is very different from a declaration that states lacked the constitutional authority to grant patents. Indeed, some argued that Chancellor Lansing’s holding should be entirely disregarded as a precedent for determining the constitutionality of state patents.¹⁶¹

B. THE NEW YORK SUPREME COURT’S ENDORSEMENT OF STATE PATENT POWERS

Livingston and Fulton appealed Lansing’s decision to the New York Supreme Court (known in this time as the Court for the Trial of Impeachments and Correction of Errors, or simply the “Court of Errors”).¹⁶² The presiding Chief Justice was James Kent (1763–1847), appointed to the court in 1798 and made Chief Justice in 1804.¹⁶³ Kent was a self-proclaimed “zealous Federalist,” an admirer of Alexander Hamilton, who “got the

their rights to use and access them. See James L. Huffman, *Speaking of Inconvenient Truths—A History of the Public Trust Doctrine*, 18 DUKE ENVTL. L. & POL’Y F. 1, 96–98 (2007).

160. *Id.* at 520; see also COX, *supra* note 21, at 11, 15 (discussing U.S. steamboat patents), 16 (on steam engine publications); WESTCOTT, *supra* note 140, at 373–98 (discussing steamboat experiments in Europe and America).

161. Thomas Emmet argued in *Gibbons* that Lansing’s holding should be ignored because his prior objection at the Council of Revision (like the objection of Governor John Jay) was based “on principle” and showed that Lansing did not object to the law’s constitutionality. *Gibbons*, 22 U.S. at 80. Malla Pollack also asserts that Lansing’s objection to the steamboat monopoly was “on policy, not constitutional, grounds.” See Pollack, *supra* note 17, at 302 n.206 (citing Emmets’ comments in *Gibbons*, 22 U.S. at 80).

162. The Court of Errors at this time consisted of both state Supreme Court justices, who issued oral opinions explaining their reasoning, and New York senators, who had the final vote to affirm or reverse the judges’ decisions. It was the highest court of New York whose decisions could be appealed only to the U.S. Supreme Court. See WALTERSCHEID, *THE NATURE OF THE INTELLECTUAL PROPERTY CLAUSE*, *supra* note 18, at 438 n.11; see also COX, *supra* note 21, at 57–62.

163. On Kent’s life history, see JOHN THEODORE HORTON, *JAMES KENT: A STUDY IN CONSERVATISM 1763–1847* (1969). See also COX, *supra* note 21, at 57; Judith S. Kaye, *Commentaries on Chancellor Kent*, 74 CHI.-KENT L. REV. 11 (1998).

Federalist [Papers] almost by heart.”¹⁶⁴ Kent was also a well-read and meticulous legal scholar.¹⁶⁵ Before joining the New York Supreme Court, he had been a Professor of Law at Columbia College,¹⁶⁶ and his *Commentaries* (1826–1830) would become the foundational treatise on American law in the nineteenth century.¹⁶⁷ And Kent was no stranger to U.S. patent law: the *Commentaries* contain an entire section on the patent laws, which has been cited in patent disputes.¹⁶⁸ All sides recognized that Kent’s view of the case would be important. Not only was he the most distinguished of his colleagues and likely to be best prepared, but by his own account Kent dominated the New York court and wrote most of the opinions during stretches of his tenure.¹⁶⁹

In an erudite and thorough opinion, Kent reversed Chancellor Lansing and upheld the New York steamboat patent as a valid exercise of states’ sovereign powers under the Constitution.¹⁷⁰ In stark contrast to Lansing’s discomfort with legal monopolies, Kent began from the premise that “[t]he capacity to grant separate and exclusive privileges extends to every sovereign authority[]” and “is a necessary attribute of every independent government.”¹⁷¹ In England, the Crown had regularly granted monopolies to

164. See John Langbein, *Chancellor Kent and the History of Legal Literature*, 93 COLUM. L. REV. 547, 556 (1993) (quoting from Letter from James Kent to Thomas Washington, New York City (Oct. 6, 1828)); see also KUTLER, *supra* note 39, at 71 (describing Kent as “the unreconstructed Federalist” in opposition to Chief Justice Taney, a Democrat appointed to the Supreme Court by Jackson in 1836). On Kent’s great admiration for Hamilton and the lengthy letter he wrote to Hamilton’s wife upon Hamilton’s death, see MEMOIRS AND LETTERS OF JAMES KENT, LL.D. 227–29 (William Kent, ed. 1898).

165. On Kent’s preparation strategy, see FRIEDMAN, *supra* note 37, at 135–36; see also Kaye, *supra* note 163, at 13–15.

166. See COX, *supra* note 21, at 57; see also HORTON, *supra* note 163, at 95.

167. See Harold J. Krent, *Foreword: The Legacy of Chancellor Kent*, 74 CHI.-KENT L. REV. 3, 3 (1998) (noting that Kent’s “mammoth treatise on American law, Kent’s *Commentaries*, not only was the first full-fledged effort in this country, but also was the most extensively used throughout the nineteenth century, and is still widely cited today.”). As Cox writes, Kent’s “image as a brilliant and thorough jurist allowed him to become one of the foremost legal authorities in the early Republic, frequently using English common-law precedents to construct a distinctive American jurisprudence.” COX, *supra* note 21, at 57.

168. See Mossoff, *supra* note 44, at 982 n.136 (citing *Hotchkiss v. Greenwood*, 52 U.S. (11 How.) 248, 269 (1850) (Woodbury, J., dissenting)). Note that Kent wrote his COMMENTARIES after his opinion in *Livingston* in 1812.

169. Kent claimed to have written most of the opinions for certain years while he was on the bench, even those issued *per curiam*. See Kaye, *supra* note 163, at 19; see also FRIEDMAN, *supra* note 37, at 134.

170. See *Livingston v. Van Ingen*, 9 Johns. 507, 572–89 (N.Y. 1812).

171. *Id.* at 573.

those who invented or simply introduced new inventions into the realm.¹⁷² If the British Crown had these powers, then clearly so did the elected state governments, “for no one ever doubted (unless it be since the origin of this controversy) of the power of the Legislature to create an exclusive privilege.”¹⁷³ In fact, Kent noted, states exercised their power to grant exclusive rights all the time: “[a]ll our bank charters, turnpike, canal and bridge companies, ferries, markets, &c. are grants of exclusive privileges for beneficial public purposes.”¹⁷⁴ Surely, Kent reasoned, if states could grant a corporation the exclusive right to build a bridge, then states could grant a wealthy businessman like Robert Livingston the exclusive right to develop an expensive new invention like the steamboat for the sake of the public welfare.

Given states’ broad inherent authority to grant patents and other kinds of monopolies, the only question to address was whether states had ceded all or some of this authority to the federal government in ratifying the Constitution.¹⁷⁵ To answer this question, Kent drew on Alexander Hamilton’s famous test for constitutional preemption in *The Federalist No. 32*.¹⁷⁶ According to Hamilton, all powers not delegated to the federal

172. *Id.* at 584 (citing, among others, *Darcy v. Allen* (1602), 74 Eng. Rep. 1131, 1139 (K.B)).

173. *Id.* at 583–84. Indeed, Kent astutely noted that the Statute of Monopolies (1624), which otherwise limits the Crown’s powers to grant monopolies, exempted all grants by Parliament. *Id.*; see also Thomas Nachbar, *Monopoly, Mercantilism, and the Politics of Regulation*, 91 VA. L. REV. 1313, 1352 (2005) (explaining that Parliament retained power to grant monopolies).

174. *Livingston*, 9 Johns. at 573. In his role as Chancellor of New York, Kent would uphold these types of exclusive rights based on the theory that, without the prospect of a period of freedom from competition and the right to charge an “exclusive toll,” no one would “expend money upon great, and expensive, and hazardous public works, as roads and bridges,” or “become bound to keep them in constant and good repair.” See *Newburgh & C. Turnpike Road Co. v. Miller*, 5 Johns. Ch. 101, 106, 112, 116–17 (N.Y. Ch. 1821) (enjoining as a nuisance a rival bridge constructed close to a toll bridge that had been operating for over ten years); see also Joseph Dorfman, *Chancellor Kent and the Developing American Economy*, 61 COLUM. L. REV. 1290, 1293 n.16 (1961) (discussing Kent’s dissenting opinion in *Palmer v. Mulligan*, 3 Cai. R. 307, 318 (N.Y. Sup. Ct. 1805)).

175. *Livingston*, 9 Johns. at 573–74.

176. *Id.* at 576–77. See THE FEDERALIST NO. 32, at 155–58 (Alexander Hamilton) (Earle ed. 1938). The Tenth Amendment, added to the Constitution as part of the Bill of Rights in 1791, specifies that “[t]he powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people.” U.S. CONST. amend. X. See WOOD, *supra* note 30, at 72. Kent did not apply the Tenth Amendment directly, instead employing Hamilton’s preemption test. This may not have been unusual for the period. The Tenth Amendment was added to the Bill of Rights mainly to appease Anti-Federalists who were concerned that otherwise valuable rights would be given up “by implication” upon ratification of the Constitution. See WOOD, *supra* note 30, at

government in the Constitution remained with the states unless the Constitution expressly made a certain power exclusive to the federal government or prohibited the states from exercising it, or where “a similar authority in the states would be absolutely and totally *contradictory* and *repugnant*.”¹⁷⁷

In his actual holding for purposes of the steamboat controversy, Kent avoided answering the difficult question of whether a state patent power would create a “repugnancy” with the federal government’s patent power. Instead, Kent relied on the gap in Congress’s own patent-granting powers, lamented by Hamilton in his *Report on Manufacturers*.¹⁷⁸ All parties conceded that Congress lacked the authority to grant exclusive rights to “importers from abroad of any useful invention or improvement.”¹⁷⁹ Therefore, according to Kent, “[s]uch persons must resort to the patronage of the state governments, in which the power to award their expensive and hazardous exertions was originally vested, and in which it still remains.”¹⁸⁰ Because Livingston and Fulton had not obtained their rights from New York as “inventors of the steam-boat,” but merely as “possessors,” the “privilege [was] totally unconnected with the patent power.”¹⁸¹

Kent must have recognized the weakness of this conclusion. First, as discussed above, many federal policymakers, including Hamilton, Washington, and Tench Coxe, believed Congress should be able to grant patents to importers; and it is not entirely clear that the choice to restrict U.S. patents to universally novel inventions was due solely to an adherence to federalism and deference to states’ rights. Second, Kent did not limit this category of “importers” to foreign inventors. Neither Robert Livingston nor Robert Fulton was a foreigner; and any steam technology they possessed had likely been copied from John Fitch and other true inventors. Finally, like Chancellor Lansing, Kent was surely aware that steamboats were not new to the United States and that American steamboat inventors had by this time published treatises on their designs and disclosed them in patent specifications under the new federal patent laws. Thus, New York’s steamboat monopoly was not “unconnected” to U.S. patent laws; it simply covered subject matter that could not have been patented under the Patent

70–71. Wood has observed that after it was finally ratified in 1791 “most Americans promptly forgot about the first ten amendments to the Constitution. The Bill of Rights remained judicially dormant until the twentieth century.” *Id.* at 72.

177. THE FEDERALIST NO. 32, at 155–56 (Alexander Hamilton) (Earle ed., 1938).

178. HAMILTON, REPORT ON MANUFACTURERS, *supra* note 33, at 1014.

179. *Livingston*, 9 Johns. at 583; *see also* discussion *supra* Section III.B.3.

180. *Livingston*, 9 Johns. at 583.

181. *Id.*

Act because it was already disclosed to the public in America as well as abroad, and because it was not actually invented by the patentees.¹⁸²

Therefore, for the sake of completeness, Kent went on to explain in dicta that the Constitution also left states with broad concurrent powers to grant patents to original inventors so long as state patents not interfere with U.S. patent rights or interstate commerce.¹⁸³ According to Kent's reading, Hamilton's test required preemption of state patent powers only if they came "*practically in collision with the actual exercise of some congressional power.*"¹⁸⁴ Kent took this to mean that a state patent would be preempted only when it covered precisely the same invention as a valid U.S. patent during the same period of time; and the U.S. patentee was able to prove in federal court that the state patent infringed his exclusive rights.¹⁸⁵ But the mere possibility of a future conflict between state and U.S. patent rights did not create a "repugnancy" and did not prohibit states from granting their own patents "in a variety of cases, without any infringement of the congressional power."¹⁸⁶

182. *See also* *Gibbons v. Ogden*, 22 U.S. 1, 173 (1824) (Attorney General Wirt's oral argument). Wirt argued:

The privilege here granted by the State, is to an American citizen, who claims to be the inventor. The privilege is the reward of invention, not of importation, and this it is which brings it in conflict with the act of Congress. It is true, the law does not call him the inventor; it calls him merely the "possessor." But, can the constitution and laws of the United States be evaded in this manner? If he was not the inventor, why this unjust tax which has been levied upon our admiration and gratitude?

Id.

183. In his opinion in *Gibbons*, Chief Justice Marshall would suggest that the Commerce Clause preempts a state patent that interferes with interstate commerce. *See* discussion *infra* Section V.C (discussing Marshall's opinion in *Gibbons*). That said, Kent rejected the Commerce Clause argument in *Gibbons*, even though the facts there involved a conflict between the New York monopolists and steamboat operators from out-of-state in possession of a federal coasting license. *See* Williams, *supra* note 21, at 1409. Furthermore, Kent generally disagreed with Marshall's holding in *Gibbons* striking the monopoly. *See* WHITE, *supra* note 27, at 578.

184. *Livingston*, 9 Johns. at 576 (emphasis added).

185. *Id.* at 582–83. Notably, Kent later had the case reporter clarify in a footnote that he was not specifically holding that "a state grant could . . . be questioned or controlled by a [federal] patent right[]" before *any* tribunal, whether state or federal. *Id.* at 582 n.(a). In this period judges rendered their opinions orally. They were written up by a reporter who tried his best to capture accurately what the judge had said. *See* Langbein, *supra* note 164, at 577.

186. *Livingston*, 9 Johns. at 581. Kent's most detailed description of states' concurrent patent powers is as follows:

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

Therefore, if an inventor chose to apply to a state instead of Congress for an exclusive right to his invention, the state was free to grant it, creating a “complete and perfect” right within the state’s jurisdiction.¹⁸⁷

It is also clear from Kent’s opinion that he believed states had the power to independently determine the criteria for patentability and the terms and conditions of their own patents. Thus, state patents could last far longer than U.S. patents and extend to a much wider range of subject matter, including inventions like the steamboat that were to some extent known and free for all to copy and use.¹⁸⁸ At the same time, it is *not* clear from Kent’s opinion whether he believed these powers had any limits. Kent did state somewhat vaguely that a state’s power to grant monopolies was limited by “its own constitutional provisions, or by the fundamental principles of all government, and the unalienable rights of mankind.”¹⁸⁹ But his dicta on states’ concurrent patent powers, as well as his decision to uphold New York’s sweeping thirty-year monopoly grant to non-inventors, make clear that state patents would not be limited by the standards laid out by Congress in the Patent Act or by any restrictions that might be imposed upon Congress by the IP Clause.¹⁹⁰

Nor did Kent think states’ patent powers were limited by the general anti-monopoly principles that applied in England, where the Statute of

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. So a patentee under the act of congress may have the time of his monopoly extended by the legislature of any state, beyond the term of fourteen or twenty-eight years allowed by that law. 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.

187. *See id.* at 581. Kent further opined that states could even grant patent extensions to federal patentees whose patents had expired. *Id.* Kent was likely motivated by a belief, apparently common in this period, that U.S. patents were too short—a belief that ultimately prompted Congress to begin granting patent extensions. *See, e.g.,* *Evans v. Jordan*, 13 U.S. (9 Cranch) 199, 202 (1815).

188. Thomas Oakley made this argument in *Gibbons v. Ogden*, 22 U.S. 1, 51 (1824). Oakley, like Attorney General Wirt, did not use the term “public domain” but used the terms “common rights” or “public property” to refer to formerly patented subject matter that should be free for all to use. *Id.* at 171. On the origins of the “public domain,” see Tyler Ochoa, *Origins and Meaning of the Public Domain*, 28 U. DAYTON L. REV. 215, 217–22 (2002).

189. *Livingston*, 9 Johns. at 573.

190. *Id.* at 581–82.

Monopolies (1624) gave English courts powers to review the king's monopoly grants and check the monopolies of a free-wheeling, self-interested monarch.¹⁹¹ Instead, Kent believed state patents would be sufficiently limited by the democratic political process. In a brilliant turn of statutory construction, Kent pointed out that in America, state patents, like the colonial patents before them, were granted by the elected legislatures, not the Crown,¹⁹² and that under the Statute of Monopolies' express terms, "all grants of privileges by act of parliament were saved; for no one ever doubted (unless it be since the origin of this controversy) of the power of the legislature to create an exclusive privilege."¹⁹³ Unlike the royal privileges granted in England, each state patent had undergone review by various branches of state government and was enacted for the purpose of promoting the public good. It was therefore entitled to an "extremely strong" presumption of validity,¹⁹⁴ and should not be policed substantially by courts, even in those cases where they deemed the grant to be "inexpedient or unwise."¹⁹⁵

Ironically, in 1788 James Madison made exactly the same appeal to the protections of the democratic political process when defending the Framers' decision to give *Congress* the constitutional power to grant patents.¹⁹⁶ Why,

191. See Statutes at Large, 1624, 21 Jac., c.3 (Gr. Brit.), *supra* note 74; see also Bracha, *supra* note 7, at 47.

192. Bracha has also pointed out that it is notable that the colonial legislatures *rather than the governors or the councils* granted patents and this was thus not a "miniature version" of the English patent grants. See Bracha, *supra* note 7, at 98 n.224 (citing sources on colonial assemblies).

193. *Livingston*, 9 Johns. at 583–84. Section 7 of the Statute of Monopolies indeed exempts all grants by Parliament. See Nachbar, *supra* note 173, at 1352 (listing statute's provisions and exemptions). Kent's view that Parliament, versus the king, still had *carte blanche* to grant monopolies also has some historic support. In the decades following the passage of the Statute of Monopolies, Parliament permitted exclusive trade privileges to guilds and corporations to continue and also exercised its own powers to grant monopolies. See *id.* at 1358–63, 1360 n.224.

194. *Livingston*, 9 Johns. at 572.

195. *Id.* at 573.

196. In his response to Thomas Jefferson's request to constitutionally ban all government-sanctioned monopolies, Madison famously stated:

Is there not also infinitely less danger of this abuse in our governments than in most others? Monopolies are sacrifices of the many to the few. Where the power is in the few it is natural for them to sacrifice the many to their own partialities and corruptions. *Where the power, as with us, is in the many not in the few, the danger can not be very great that the few will be thus favored.*

Letter from James Madison to Thomas Jefferson (Oct. 17, 1788), in 1 THE REPUBLIC OF LETTERS: THE CORRESPONDENCE BETWEEN THOMAS JEFFERSON AND JAMES MADISON, 1776–1826, at 566 (James Morton Smith ed. 1995) (emphasis added).

Kent might have asked, should state patents be treated with any less deference, or any more skepticism, than the new patents granted by Congress—especially when each state patent was granted by an elected legislature with the specific goal of benefiting the public, and under the same procedures the states and colonies had been using for two hundred years? So long as the states did not directly interfere with Congress’s responsibility to “secure” inventors’ “exclusive rights” in their inventions, Kent saw no reason why states should not possess concurrent powers to grant patents on whatever terms and conditions they saw fit in order to promote economic development and technological innovation in their own territories.

C. STATE PATENT LAWS IN THE WAKE OF *GIBBONS*

Given how controversial the idea of state patents appears today, we might assume Kent’s position would prove untenable even in his own time and that courts would have quickly overruled it.¹⁹⁷ But the record supports the opposite. All of Kent’s fellow justices on the New York Supreme Court concurred with his decision.¹⁹⁸ His co-justice, Justice Smith Thompson, who would eventually serve on the U.S. Supreme Court alongside Justice Story and Chief Justice Marshall, wrote his own concurring opinion reflecting all of the same points.¹⁹⁹ The State Senate reinforced the holding by a unanimous vote of thirty to none.²⁰⁰ But the real test of concurrent state patent power came when, following the deaths of Livingston and Fulton, their licensee, Aaron Ogden, sued a competitor named Thomas Gibbons, who was running two steamboats between locations in New York and New Jersey, thereby violating Ogden’s exclusive right to navigate steamboats in New York. After Kent granted Ogden’s motion for an injunction, Gibbons appealed the case all the way to the Supreme Court, arguing that Ogden’s New York rights were preempted by Congress’s power to grant patents under the IP Clause and its power to regulate interstate commerce under the Commerce Clause.²⁰¹

197. Walterscheid takes this stance, at least with regard to state patents covering formerly patented inventions, concluding that Kent’s “statement that the Constitution did not take away from the states the power to enlarge the patent privilege, for example, by extending the term of a federal patent within their jurisdiction, was of doubtful validity in 1812 and most certainly would be deemed invalid today.” WALTERSCHEID, *THE NATURE OF THE INTELLECTUAL PROPERTY CLAUSE*, *supra* note 18, at 442.

198. Justice Spencer did not give an opinion as he was related to some of the parties. *Livingston*, 9 Johns. at 563.

199. *Id.* at 563–66, 567 (Thompson, J., concurring). On Thompson’s service as a justice alongside Marshall, see Kutler, *supra* note 39, at 55–56.

200. See COX, *supra* note 21, at 60.

201. *Gibbons v. Ogden*, 22 U.S. 1, 1–3 (1824); see also JOHNSON, *supra* note 21, at 55–57; Williams, *supra* note 21, at 1408.

In defending the steamboat monopoly, Ogden's attorneys reiterated Justice Kent's argument that states possessed concurrent power to grant their own patents in a variety of cases, particularly for costly inventions like the steamboat that had been "given to the public" but were not yet working in a particular state because "great expense must be incurred to put [them] into use" ²⁰² However, although Chief Justice Marshall struck down the New York law and ended Ogden's monopoly, he decided the case on narrow grounds, finding that because Gibbons possessed a federal coasting license authorizing him to navigate steamboats in U.S. waters, New York's law, which prevented Gibbons from doing so, directly conflicted with federal law and was therefore preempted by the Supremacy Clause. ²⁰³ Marshall also suggested in dicta that the Commerce Clause generated an implicit constitutional prohibition on state laws that interfered with interstate commerce. ²⁰⁴ But Marshall provided no guidance whatsoever on whether New York's law conflicted with Congress's power under the IP Clause and on whether or not states retained power to grant their own patents. Instead, he dispensed with the issue in a single sentence, concluding that "[a]s [preemption by the federal coasting license] decides the cause, it is unnecessary to enter in an examination of that part of the Constitution which empowers Congress to promote the progress of science and the useful arts." ²⁰⁵

Marshall's choice to abstain may simply have been a strategy for securing the votes of his fellow justices. ²⁰⁶ He also may have been wary of placing the

202. In his oral argument in *Gibbons*, Thomas Oakley, arguing on behalf of Livingston and Fulton, indicated that states retained the power to grant patents in a variety of cases, including where an invention had been "given to the public, and great expense must be incurred to put it into use . . ." *Gibbons*, 22 U.S. at 48 (emphasis added).

203. *See id.* at 176–79 (noting that the power of patenting is "exclusively vested in Congress," not in the States); *see also* Williams, *supra* note 21, at 1416–20, 1446 (outlining and analyzing Marshall's holding).

204. Marshall stated in dicta, though did not hold, that some aspects of commerce regulation are exclusive in the federal government. Marshall conceded that the "acknowledged power of a State to regulate its police, its domestic trade, and to govern its own citizens, may enable it to legislate on [the subject of regulation of commerce] to a considerable extent." *Gibbons*, 22 U.S. at 208. But he was particularly struck by Daniel Webster's argument that if state commercial regulations were allowed to "perform the same operation on the same thing" as federal commercial regulations, this might disrupt the federal scheme for fluid interstate commerce and require preemption even where there was no specific conflict. *See id.* at 209.

205. *Id.* at 221; *see also id.* at 239 (Johnson, J., concurring) ("I have not touched upon the right of the states to grant patents.").

206. *See* Williams, *supra* note 21, at 1422 (noting the common explanation that Marshall was trying to accommodate the views of the other justices). For another interpretation, *see*

Supreme Court at the center of a battle between state and federal authority to grant patents.²⁰⁷ However, I assert that the simpler explanation is that Marshall, a friend and fellow Federalist, *agreed* with Justice Kent's position that, generally speaking, states could continue granting patents alongside Congress. Marshall's dicta presaging modern "Dormant Commerce Clause" doctrine suggests that he might preempt a state patent that interfered with interstate commerce, as New York's steamboat patent arguably did. However, Marshall did not address or even mention the Attorney General's argument that concurrent state patent powers risked undermining the U.S. patent system and so must be completely abolished under the IP Clause.²⁰⁸ The reason, I suggest, is that Marshall, like Kent and Hamilton, required more than vague fears of conflict to completely divest states of their sovereign powers to grant patents. The fact was that Gibbons did not have a

WHITE, *supra* note 27, at 579 (suggesting that Marshall's decision was the result of "discomfort" with the idea of dual sovereignty).

207. See Williams, *supra* note 21, at 1498 (arguing that Marshall abstained from basing his holding directly on the preemptive power of the Commerce Clause because he was concerned about the political implications of placing the judiciary at the forefront of policing protectionist state legislation).

208. In his oral argument in favor of striking down the monopoly under the IP Clause, Attorney General William Wirt presented three major objections to allowing states to continue offering their own patents. See *Gibbons*, 22 U.S. at 167–71. First, state patents would compete with federal patents for applicants. See *id.* at 169 ("Who would apply to the power of Congress for a patent or a copy-right, while the States held up higher privileges?"). Second, states would compete amongst *one another* to offer the most attractive patent rights in order to convince inventors to locate in their territories. *Id.* ("This concurrent legislation would degenerate into advertisements for custom. These powers would be in the market, and the highest bidder would take all."). Finally, if states could grant their own patents this would interfere with Congress's authority to decide what must remain unpatented and free for future innovators to use (i.e., part of what we would call the "public domain"). See *id.* at 171. The Attorney General states:

The law of Congress declares, that all inventors of useful improvements throughout the United States, shall be entitled to the exclusive right in their discoveries for fourteen years *only*. The law of New-York declares, that this inventor shall be entitled to the exclusive use of his discovery for thirty years, and as much longer as the State shall permit. The law of Congress, by limiting the exclusive right to fourteen years, in effect declares, that after the expiration of that time, the discovery shall be the common right of the whole people of the United States. The law of New-York declares that it shall not, after fourteen years, be the exclusive right of the people of the United States, but that it shall be the exclusive right of this inventor for thirty years, and for so much longer as she, in her sovereign will and pleasure, may permit. If this be not repugnance, direct and palpable, we must have a new vocabulary for the definition of the word.

Id. (emphasis in original). On the evolving conception of a "public domain" in this period, see *supra* note 188.

U.S. patent for his steamboats to hold up against Livingston and Fulton's state patent rights; so, coasting license and Commerce Clause preemption aside, there simply was no conflict with the federal patent power.²⁰⁹ If Gibbons had possessed a U.S. patent, we might have witnessed the first infringement suit between state and federal patentees, and our patent system might be very different today.

This hypothesis becomes still more viable when we learn that, following the Supreme Court's edict in *Gibbons* striking the steamboat monopoly, courts continued to uphold Kent's opinion in *Livingston*.²¹⁰ The U.S. Supreme Court, though it never again had the chance to rule directly on the constitutionality of an actual state patent, frequently cited *Livingston* favorably.²¹¹ The Court's most extensive application of Kent's views on concurrent patent powers occurred in *Patterson v. Kentucky*, where the Court quoted from *Livingston* and held that the IP Clause did not preempt states' powers to restrict the exclusive rights of a federal patentee to sell a patented product for purposes of health and safety.²¹² Although the Court did not address the converse issue of states' powers to grant their own exclusive rights over inventions or ideas, the Court quoted Kent's comments in *Livingston* that the federal government's power to grant patents was "fully satisfied" so long as states did not interfere with patentees' federally protected period of exclusivity in their inventions.²¹³

209. See *Gibbons*, 22 U.S. at 171–72.

210. See, e.g., *North River Steamboat Co. v. Livingston*, 3 Wheeler C.C. 483, 3 Cow. 182 (1825) (Ch. J. Savage) (one in a series of cases refusing to enforce the New York monopoly in light of *Gibbons*, but citing *Livingston* as authority and declining to overrule its holding that the New York law was constitutional); see also COX, *supra* note 21, at 175–80. Thereafter, New York courts continued to cite to *Livingston* to support the state's power to grant individuals exclusive rights to use common property and waterways within the state's jurisdiction as a consequence of the state's sovereign powers over public property "within its limits." See *Langdon v. Mayor of N.Y.*, 93 N.Y. 129, 155–56 (1883).

211. In *Smith v. Turner*, 48 U.S. 283, 371 (1849), the Court cited to *Livingston*, *Gibbons*, and William Blackstone's COMMENTARIES (discussed in note 214, *infra*) for the principle that "[the power] to promote science and the arts by copy and patent rights" is not exclusive in the federal government, but rather, "to the extent of State limits, is believed to be concurrent." The Court also often cited *Livingston* for general principles of concurrent state and federal sovereignty. See, e.g., *Houston v. Moore*, 18 U.S. 1, 8 (1820); see also *Root v. Ry. Co.*, 105 U.S. 189, 192 (1889) (citing *Livingston* for Kent's rule on when an injunction should be granted in a patent case).

212. *Patterson v. Kentucky*, 97 U.S. 501, 508–509 (1878) (holding that state can prohibit sale of patented articles in the state if they are deemed to be a hazard to public health and safety).

213. "Chancellor Kent said that '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

The cases cited above provide no affirmative statement of the constitutional validity of state patents. However, notable legal commentators explicitly endorsed concurrent state patent powers in their legal treatises.²¹⁴ The most significant endorsement came from Kent's friend and fellow Federalist Justice Joseph Story (1779–1845), whose opinions between 1813 and 1845 provided the basic outlines for much of modern intellectual property law and doctrine.²¹⁵ Like Kent, Story believed that states must generally be able to grant exclusive rights in order to encourage investment in costly and risky enterprises.²¹⁶ And, like Kent, Story apparently extended this

laws of the several States, the property shall be deemed for toleration.” *Id.* at 508 (quoting *Livingston v. Van Ingen*, 9 Johns. 507, 582 (N.Y. 1812)).

214. In his 1803 edition of William Blackstone's *Commentaries on the Laws of England* (1765–1769), George Tucker suggested in comments about the U.S. Constitution that states had concurrent patent powers even though they were unlikely to use them given the lesser jurisdiction of state patents and the 1793 Patent Act's requirement that inventors choose between state and U.S. patents. *See* 1 ST. GEORGE TUCKER, BLACKSTONE'S COMMENTARIES: WITH NOTES OF REFERENCE TO THE CONSTITUTION AND LAWS OF THE FEDERAL GOVERNMENT OF THE UNITED STATES; AND OF THE COMMONWEALTH OF VIRGINIA APP. NOTE D 265–66 (Philadelphia, William Young Birch & Abraham Small 1803). Tucker writes:

This is another branch of federal authority, in which I presume the states may possess some degree of concurrent right within their respective territories; but as the security which the state could afford, would necessarily fall short of that which an authority co-extensive with the union may give, it is scarcely probable that the protection of the laws of any particular state will hereafter be resorted to; more especially, as the act of 2 Cong. c. 55, declares, that “where any state before it's 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 that act, but on relinquishing his right under such particular state, and of such relinquishment his obtaining an exclusive right under that act, shall be sufficient evidence.”

Id.; *see also* Pollack, *supra* note 17, at 301–02 (citing Tucker's 1803 edition of *Blackstone's Commentaries* to support her contention that “some authority exists for the proposition that the Intellectual Property Clause was intended, or originally considered, to be a non-exclusive grant to Congress”). Also note that Tucker's mention of the 1793 Patent Act's relinquishment provision, which he suggests would hinder most inventors from choosing state rather than federal patents, directly counters Walterscheid's suggestion that the provision did not implicitly extend to state patents granted after ratification. *Compare with* WALTERSCHEID, THE NATURE OF THE INTELLECTUAL PROPERTY CLAUSE, *supra* note 18, at 437–38.

215. *See* Frank D. Prager, *The Influence of Mr. Justice Story on American Patent Law*, 5 AM. J. LEGAL HIST. 254 (1961).

216. Story fought against the decision of Andrew Jackson's Democratic appointee, Chief Justice Roger Taney, to strike down Massachusetts' monopoly to the proprietors of the Charles River bridge. Like Kent, Story believed that allowing competition to develop in the market would destroy incentives to invest in public works and “arrest all public improvements, founded on private capital and enterprise” *Charles River Bridge v.*

rationale to states' powers to grant patents. In his *Commentaries on the Constitution of the United States*, Story cited to *Livingston* and to *Gibbons*, stating that “[i]t has been suggested, that [the IP Clause] power is not exclusive, but concurrent with that of the States, so always, that the acts of the latter do not contravene the acts of [C]ongress.”²¹⁷ Story allowed that concurrent patent powers remained a possibility; and then went on to conclude with confidence that, at any rate, “as the power of [C]ongress extends only to authors and inventors, a [S]tate may 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.”²¹⁸

This statement clearly indicates that Story believed states could continue to grant exclusive rights to introducers of inventions “from abroad.” Story’s use of the term “possessor” along with his citation to *Livingston* also shows his belief that states could even continue to grant exclusive rights to American citizens like Robert Livingston on technologies that were already known, if not yet in successful operation in a given territory.²¹⁹ Thus, in Story’s interpretation, states’ power to grant patents to first inventors remained an open possibility, so long as they did not “contravene” Congressional patent laws. Meanwhile, states’ power to grant patents to those *not* claiming to be first inventors, but who merely introduced an invention into the state for the first time, was an established constitutional reality based on the principles of federalism and states’ residual sovereign powers under the Tenth Amendment.

VI. JUSTIFYING CONCURRENT STATE PATENT POWERS

At this point I have laid out Justice Kent’s position that states possessed broad powers to grant patents alongside Congress, both to original inventors and to those who simply introduced a certain technology into the state. I have shown that, although they appear controversial to us, Kent’s views received widespread support throughout the nineteenth century. The question that now bears answering is *why* Justice Kent, Justice Story, and perhaps Chief Justice Marshall himself believed that the Constitution did not significantly restrict states’ powers to grant their own patents. One hypothesis, which I discuss briefly below, is that Justice Kent believed U.S. patents did not effectively protect inventors’ exclusive rights and that state

Warren Bridge 36 U.S. (11 Pet.) 420, 608 (1837) (Story, J., dissenting) (citing Kent’s opinion in the steamboat controversy); *see also* KUTLER, *supra* note 39, at 54–61.

217. STORY, COMMENTARIES, *supra* note 25, at 50.

218. *Id.* (emphasis added).

219. *See* *Livingston v. Van Ingen*, 9 Johns. 507, 583 (1812).

patents might therefore provide inventors with an important alternative or supplement to U.S. patents. But I argue that the real and lasting case for concurrent state patent powers came from a more fundamental, inherently Hamiltonian concern that U.S. patents, which are limited to universally novel inventions and are designed to be anti-regulatory incentives, did not fill the policy role of state patent laws. Thus, state patents might still provide necessary market correctives for encouraging investment in important new technology.

A. THE PERCEIVED WEAKNESS OF U.S. PATENTS IN THE EARLY NINETEENTH CENTURY

The first hypothesis for why people like Justice Kent believed state patents remained necessary is that they believed U.S. patents were of limited value and unlikely to be upheld by courts.²²⁰ Between 1793 and 1836, the period in which *Livingston* and *Gibbons* were decided, the federal patent system employed a registration system, meaning that there was no mechanism for screening patents even for the basic criteria of novelty and disclosure. Instead, the role of policing patent validity was left to courts after patents were challenged in litigation.²²¹ In his *Commentaries* (1826–1830), Kent expressed skepticism about the workability of such a system, stating that because the Secretary of State had no power to refuse a patent for want of novelty or usefulness, “a great many worthless and fraudulent patents were issued, and the value of the privilege was degraded, and in a great degree destroyed.”²²² However, in 1836 Congress reformed the Patent Act in an attempt to make U.S. patents more effective.²²³

After the 1836 reforms, patented inventions were increasingly licensed and deployed in markets across the country.²²⁴ Based on this situation, it

220. See WALTERSCHEID, TO PROMOTE THE PROGRESS OF SCIENCE AND USEFUL ARTS, *supra* note 128, at 243–44 (contending that until the Patent Act was reformed in 1832 and 1836, U.S. patents were of inconsistent quality and were not certain to be upheld by courts); Andrew P. Morriss & Craig Allen Nard, *Institutional Choice & Interest Groups in the Development of American Patent Law: 1790–1865*, 19 SUP. CT. ECON. REV. 143, 155 n.41 (2011) (citing some contemporary views that U.S. patents were of limited value); see also B. Zorina Khan, *Property Rights and Patent Litigation in Early Nineteenth-Century America*, 55 J. ECON. HIST. 58, 63 (1995) (noting that from 1800 to 1839, only 67 patents were litigated in 116 patent cases).

221. See Bracha, *Ownning Ideas*, *supra* note 7, at 416–17.

222. 2 JAMES KENT, COMMENTARIES ON AMERICAN LAW *366.

223. See Patent Act of 1836, ch. 357, § 18, 5 Stat. 117, 124 (repealed 1861).

224. See Naomi R. Lamoreaux & Kenneth L. Sokoloff, *Market Trade in Patents and the Rise of a Class of Specialized Inventors in the 19th-Century United States*, 91 AM. ECON. REV. 39, 39–41 (2001) (showing that within just a few years of the reforms of 1836, inventors increasingly began assigning the rights to practice their technologies to buyers in different geographic areas in the United States). On doctrinal developments in the federal laws associated with the

could be hypothesized that the only reason people like Justice Kent thought state patents were still necessary prior to 1836 was their low estimation of the value and quality of U.S. patents.²²⁵ If this were the case, we might decide that the 1836 reforms eliminated the need for state patents once and for all.²²⁶ I reject this hypothesis. Instead, I argue in the next Section that there was a more fundamental reason Kent and other jurists believed in the need for concurrent state patent laws.

B. U.S. PATENT LAW LEFT MAJOR GAPS IN AMERICAN INNOVATION POLICY

Everyone, including Kent, recognized the importance of U.S. patents for protecting inventors' exclusive rights in their ideas on a national level.²²⁷ However, no matter how strong U.S. patents were, they did not fulfill, or even *attempt* to fulfill, many of the policy functions performed by the colonial and state patents described above. Indeed, beyond a shared general concern for promoting innovation with the enticement of a limited monopoly, U.S. patents were entirely different. When compared to state counterparts, U.S. patent law generated three major policy gaps.

1. *No Concern for the Social Utility of the Subject Matter*

The first crucial policy gap left by U.S. patent law was its indifference to the social utility of the subject matter. As discussed above, the states granted patents in individualized statutes to incent the undertaking of worthy projects with the purpose of directly improving the welfare and standard of living of local inhabitants.²²⁸ In contrast, as early as 1817, it became established U.S.

nineteenth century transformation of patents into valuable and marketable general rights, see Bracha, *Owning Ideas*, *supra* note 7, at 401–518.

225. See COX, *supra* note 21, at 15 (commenting that inventors turned to the states to protect their work once they realized that the 1793 Patent Act “allowed applicants to secure patents for inventions regardless of how similar their discoveries might be”).

226. As noted, Walterscheid appears to take the view that U.S. patents largely removed the need for state patents. See WALTERSCHEID, *THE NATURE OF THE INTELLECTUAL PROPERTY CLAUSE*, *supra* note 18, at 76–77, 436–37, 438–42; see also BUGBEE, *supra* note 7, at 102–03 (suggesting federal patents made state patents obsolete).

227. Kent wrote in his COMMENTARIES that U.S. patents would encourage “ingenious men” to create “works useful to the country and instructive to mankind” by providing them the “hope of profit, as well as by the love of fame or a sense of duty.” He also wrote that inventors “should enjoy the pecuniary profits resulting from mental as well as bodily labor.” KENT, COMMENTARIES, *supra* note 222, at *365, *474; see also Mossoff, *supra* note 44, at 982 (arguing that Kent expressed a natural rights view of IP as indicated by his choice to title this section of his Commentaries “of original acquisition, by intellectual power”).

228. See Bracha, *Owning Ideas*, *supra* note 7, at 99–101; see also Biagioli, *Patent Republic*, *supra* note 9, at 1133–36 (describing the enhanced reduction to practice and utility requirements of early state patent laws in the United States, and contrasting these to federal patent rights).

patent law doctrine that so long as an invention worked for some purpose, it need not be better than prior technology or have any social utility at all.²²⁹ The value of the invention—the amount the patentee could charge for sale or licensing and the amount he could demand for an infringement—was determined through private exchanges based upon its perceived value in the marketplace.²³⁰ In theory, the public would benefit nonetheless because inventors would have an incentive to create inventions that could eventually be sold or licensed to others.²³¹ But Congress would play no role in ensuring that inventors create technologies of social value—let alone technologies of value to a particular community.

2. *No U.S. Patents for Previously Known or Used Technology*

The second policy gap was that U.S. patents were only allowed for universally novel inventions that were actually invented by the patentee.²³² As

229. See *Lowell v. Lewis*, 15 Fed. Cas. 1018, 1019 (C.C.D. Mass. 1817) (expressing Story's view that "[a]ll the law requires is, that the invention should not be frivolous or injurious to the well-being, good policy, or sound morals of society"); see also *Bedford v. Hunt*, 3 Fed. Cas. 37, 37 (C.C.D. Mass. 1817) (J. Story) (the law "does not look to the degree of utility; it simply requires, that it shall be capable of use, and that the use is such as sound morals and policy do not discountenance."). On courts' adoption of Story's view as stating the law on patent utility, see MERGES & DUFFY, *supra* note 43, at 246–47. Under the 2001 PTO guidelines, so long as the applicant shows "any particular purpose (i.e. a 'specific utility') and that assertion would be considered credible by a person of ordinary skill in the art," the PTO examiner should not reject the application based on lack of utility. MERGES & DUFFY, *supra* note 43, at 238 (quoting U.S. Patent and Trademark Office, *Utility Examination Guidelines*, 60 Fed. Reg. 36,263 (July 14, 1995)). In modern patent law, the utility requirement has served mainly as a "timing device" to ensure that an invention is ready for patenting, not to ensure that the invention has socially beneficial functions. See Rebecca S. Eisenberg, *Analyze This: A Law and Economics Agenda for the Patent System*, 53 VAND. L. REV. 2081, 2086–87 (2000).

230. This of course assumes no transaction costs, which is rarely the case in the context of bargaining over the rights to intellectual property. See generally Robert P. Merges, Comment, *Of Property Rules, Coase, and Intellectual Property*, 94 COLUM. L. REV. 2655, 2661 (1994) ("Despite a few brave attempts to assume away the obvious, those who have considered the application of the Coase theorem to IPRs have noted the pervasiveness of transaction costs."). On the development of the market-based conception of utility, see also MERGES & DUFFY, *supra* note 43, at 212–13.

231. As Justice Story put it: "[i]f its practical utility be very limited, it will follow, that it will be of little or no profit to the inventor; and if it be trifling, it will sink into utter neglect." *Bedford v. Hunt*, 3 F. Cas. 37, 37 (C.C. Mass. 1817) (J. Story); see also *Earle v. Sawyer*, 8 F. Cas. 254, 256 (C.C. Mass. 1825.) (J. Story) (C.C.D. Mass. 1825) ("[T]he degree of positive utility is less important in the eye of the law, than some other things, though in regard to the inventor, as a measure of the value of the invention, it is of the highest importance.").

232. The Act stated that the applicant must submit a petition "setting forth, that he, she, or they, hath or have invented or discovered any useful art, manufacture, engine, machine, or device, or any improvement therein *not before known or used.*" Patent Act of 1793, ch. 11, § 1, 1

noted above, this decision was based on a belief that the Constitution's use of the term "Inventors" prohibited Congress from granting patents to "introducers" of foreign inventions from abroad, and that Congress was "tied down" to a single means for "promot[ing] the Progress of Science and useful Arts."²³³ Although Hamilton conceded on this point of law, he disagreed with the policy and strongly favored granting patents to encourage "introduction" of foreign technology in the infant nation.²³⁴ America might already possess "*knowledge* of several of the most important [European machines,]" he stated; but actually deploying "all such machines as are known in any part of Europe, [could] only require proper provision and due pains."²³⁵ Patents covering imported technology could therefore provide a much needed market incentive.²³⁶

Congress appeared to some extent to bow to this view when it reformed the Patent Act in 1836 and made changes that specifically allowed inventors to obtain U.S. patents even if they had previously patented the subject matter in a foreign country.²³⁷ Furthermore, U.S. courts interpreted the Patent Act to allow an inventor to obtain a patent upon proving that he was an original inventor, despite some prior use of the invention in a foreign country.²³⁸ This "domestic bias" continued throughout the twentieth century: under the Patent Act of 1952, there remained various ways in which copying and

Stat. 318, 318 (repealed 1836) (emphasis added). The applicant had to "swear or affirm that he does verily believe, that he is the true inventor or discoverer of the art, machine, or improvement, for which he solicits a patent . . . before any person authorized to administer oaths . . ." *Id.*; see also WALTERSCHEID, THE NATURE OF THE INTELLECTUAL PROPERTY CLAUSE, *supra* note 18, at 327–35 (describing the unique universal novelty requirement in the United States patent laws).

233. See U.S. Const. Art. I, sec. 8, cl. 8; see also Walterscheid, *Patents and Manufacturing*, *supra* note 18, at 875 (quoting James Madison's response to Tench Coxe's request for a land premium scheme). Walterscheid believes, based on this correspondence, that the limitation was "because of a concern expressed by Madison that patents of importation were unconstitutional." *Id.* at 873; see also WALTERSCHEID, TO PROMOTE THE PROGRESS OF SCIENCE AND USEFUL ARTS, *supra* note 128, at 148–56 (discussing Hamilton's proposal in his *Report on the Subject of Manufacturers* to grant patents of importation and Hamilton's concerns about the constitutionality of such patents).

234. See Walterscheid, *Patents and Manufacturing*, *supra* note 33, at 860–78.

235. HAMILTON, REPORT ON MANUFACTURERS, *supra* note 33, at 992 (emphasis added).

236. *Id.* at 1014 (recommending patents for introducers of foreign technology).

237. See Patent Act of 1836, Ch. 357, § 8, 5 Stat. 117, 120–21 (repealed 1861).

238. In 1853, the Supreme Court upheld the validity of Samuel Morse's patent over the electro-magnetic telegraph, for which a patent was issued to him in 1840 and re-issued in 1848—despite allegations of prior inventorship in Germany in England. *O'Reilly v. Morse*, 56 U.S. 62, 62 (1853); see also *id.* at 128 (Grier, J., concurring with the result though dissenting on the issue of costs) (explaining that the "policy and spirit" behind the 1836 Act was in part "to encourage the introduction of foreign inventions and discoveries . . .").

importation of pre-existent foreign inventions was allowed.²³⁹ However, for better or worse, the rules favoring importation of foreign inventions have now largely been eliminated once and for all in the recent patent law reforms, which prohibit inventors from obtaining patents over inventions that were previously published, patented, in public use, on sale, or “otherwise available to the public” *anywhere in the world* before the application filing date.²⁴⁰ As in 1790, the assumption is that, so long as information is accessible to diligent copyists and profit-hungry entrepreneurs, someone will find it and put it to use.²⁴¹

3. *No Assurance of Local Working of Inventions*

The final piece of the U.S. patent laws’ unique, entirely “hands off” approach to promoting innovation in America was the abandonment of local working requirements. As we saw, under colonial and early state patent practices, patents had been tailored to the perceived risk and cost of the project and contained working clauses to ensure local working within an appropriate time frame. If the patentee failed to set up a working technology in the jurisdiction, the legislature could simply end the arrangement or transfer the patentee’s rights to another operator to ensure successful local implementation and commercialization.²⁴² In contrast, U.S. patents did not demand, let alone facilitate, the local implementation of patented technology. This is curious in light of the fact that the Framers believed a major goal of patents was to promote the *actual influx* of new technologies into markets throughout the country.²⁴³ Indeed, when the Framers decided to give Congress the constitutional power to grant patents, they also toyed with a variety of incentives besides patent rights, such as premiums and rewards, for ensuring the actual “advancement of useful knowledge and discoveries.”²⁴⁴

239. See MERGES & DUFFY, *supra* note 43, at 495, 500–03.

240. As of September 16, 2011, a person is entitled to a U.S. patent unless “the claimed invention was patented, described in a printed publication, or in public use, on sale, or otherwise available to the public before the effective filing date of the claimed invention.” 35 U.S.C. § 102(a)(1) (2011).

241. Possibly the most extreme example of this policy is the holding that a doctoral thesis held in a library in Germany (albeit indexed, cataloged, and shelved) that discloses the principles of an invention can count as prior art against a patent and destroy an inventor’s claim of novelty under § 102. See *In re Hall*, 781 F.2d 897 (Fed. Cir. 1986) (applying Patent Act of 1952).

242. See Bracha, *Onning Ideas*, *supra* note 7, at 102, 112.

243. See Vivian J. Fong, *Are We Making Progress?: The Constitution as a Touchstone for Creating Consistent Patent Law and Policy*, 11 U. PA. J. CONST. L. 1163, 1165 (2009) (exploring historical interpretations of the word “Progress” in the IP Clause).

244. See BUGBEE, *supra* note 7, at 126 (citing Madison’s proposal). As Merges and Duffy point out, early drafts of the IP Clause “called for both exclusive rights *and* outright subsidies

And when it was drafting the Patent Act in 1790, the Senate had proposed a set penalty of \$1000 for any patent infringement.²⁴⁵ This would effectively have forced inventors to license their inventions to others for a set fee even if they were not planning to implement them themselves—just as state patent laws had previously done.

Yet, for whatever reason, premiums, working clauses, and compulsory licensing never became a part of the U.S. patent system. Instead, the Patent Act of 1793 mandated full disclosure of the information required to practice an invention, but did not mandate local practice of the invention itself.²⁴⁶ The U.S. patentee certainly had a financial incentive to market or license out his invention in order to take advantage of his exclusive rights and had to disclose his invention sufficiently for another person to practice it upon expiration of his patent.²⁴⁷ But he was not under a statutory obligation to ensure the invention would be practiced anywhere—let alone within a particular state.

This is still the case today. The U.S. Patent Act requires, at most, only a “constructive reduction” to practice.²⁴⁸ Although the ostensible goal of this system is to improve the public welfare and enhance innovation and economic development generally, these rules are designed to only indirectly benefit the community by granting patentees economic incentives to bring potentially profitable inventions to market and by mandating disclosure of those ideas to the public. At the same time, non-practicing patent owners are

for new inventions.” MERGES & DUFFY, *supra* note 43, at 7; *see also* WALTERSCHEID, TO PROMOTE THE PROGRESS OF SCIENCE AND USEFUL ARTS, *supra* note 128, at 46–47 (discussing Madison’s and Charles Pinckney’s early proposals leading to the IP Clause).

245. *See* MERGES & DUFFY, *supra* note 43, at 6–7 (describing rejection of other proposals like a compulsory licensing provision to ensure local working, and stating that “following the somewhat ‘minimalist’ view of government involvement in the economy enshrined in the Constitution, the Convention endorsed exclusive rights only.”).

246. *See* Biagioli, *supra* note 9, at 1138; *see also* Jessica Silbey, *On the Mythical Beginnings of Intellectual Property*, 15 GEO. MASON L. REV. 319, 328 n.59 (2008).

247. *See* Patent Act of 1793, ch. 11, § 3, 1 Stat. 318, 321–22 (repealed 1836) (requiring disclosure sufficient to enable a “person skilled in the art” to practice the invention); *see also* Blanchard v. Sprague, 3 F. Cas. 648, 650 (C.C. Mass. 1839) (J. Story); Grant v. Raymond, 31 U.S. (6 Pet.) 218, 247 (1832). In *Grant*, Chief Justice Marshall wrote:

The third section [of the Patent Act of 1793] requires, as preliminary to a patent, a correct specification and description of the thing discovered. This is necessary in order to give the public, after the privilege shall expire, the advantage for which the privilege is allowed, and is the foundation of the power to issue the patent.

Id.

248. *See* Jeanne C. Fromer, *The Layers of Obviousness in Patent Law*, 22 HARV. J.L. & TECH. 75, 89–90 (2009).

free to bring infringement suits against infringers, even in localities in which the technology is not otherwise practiced.²⁴⁹ The overall effect of this policy is that patentees are not required to practice their inventions in a particular locality, yet are free to prevent others from doing so.

C. JUSTIFYING CONCURRENT STATE PATENT POWER IN THE AGE OF
Laissez Faire

Thus, no matter how strong they were, U.S. patents simply did not fill the role of their state counterparts for promoting investment in useful technology and innovation. In a nation of dual sovereignty, this left open the argument that state patents might still be necessary. Justice Kent made the case most clearly in *Livingston*. For whatever reason, Congress had decided to limit its powers to protecting inventors' exclusive rights in their original inventions. Yet it was obvious, Kent stated, that many "imported improvements, no less than original inventions, ought to be encouraged by patent"²⁵⁰ The power to wield patents to ensure local implementation of new and valuable technology was "important in itself" and, if "well and judiciously exerted," might "ameliorate the condition of society, by enriching and adorning the country with useful and elegant improvements."²⁵¹ If this power did "not reside in the states," Kent concluded, "it reside[d] nowhere, and [would be] wholly extinguished. *This would be leaving the states in a condition of singular and contemptible imbecility.*"²⁵²

In his oral argument before the Supreme Court in *Gibbons*, the lawyer Thomas Oakley built on Kent's position, highlighting the variety of circumstances in which state patents could help encourage deployment of useful technology in the states. What about importers of "useful machines or inventions from abroad?"²⁵³ he asked. How could the states attract the best foreign inventors without the power to give them patents?²⁵⁴ What about technology that, while invented in the United States, was never patented?²⁵⁵ Finally, and most broadly, Oakley prodded, what about technology that had been "given to the public, *and great expense must be incurred to put it into use*?"²⁵⁶ If states lacked power to grant patents in such cases, he concluded, the most

249. See Julie S. Turner, *The Non-Manufacturing Patent Owner: Toward a Theory of Efficient Infringement*, 86 CALIF. L. REV. 179 (1998).

250. *Livingston v. Van Ingen*, 9 Johns. 507, 584 (1812).

251. *Id.* at 584–85.

252. *Id.* at 584 (emphasis added).

253. *Gibbons v. Ogden*, 22 U.S. 1, 48 (1824).

254. *Id.*

255. See *id.*

256. *Id.* (emphasis added).

important new technologies of the day might never be put into working operation in the states. And Congress's policy for promoting innovation in America would be a failure.

The obvious objection to Kent's position was that profit-hungry capitalists did not need state patents to encourage them to develop valuable technology. After all, this was the heyday of *laissez faire* economics. Commercially viable projects, it was assumed, would be undertaken without government subsidy—let alone the protections of a legal monopoly.²⁵⁷ Jurists like Kent were quite familiar with Adam Smith's *Wealth of Nations* and its aversion to government interference in the market.²⁵⁸ Kent agreed with the conventional wisdom that monopolies generally checked the "free circulation of labour" and "enhance[ed] the price of the fruits of industry" by making goods and services more expensive than the free market would have allowed.²⁵⁹ For the most part, "competition and free entry would encourage innovation and expansion far more than the monopoly franchise would."²⁶⁰ However, despite the eagerness of jurists and policymakers to call themselves believers in the "invisible hand" of the markets, they continued to think government was necessary to stimulate development of costly and risky enterprises.²⁶¹

The most influential advocate for additional government subsidy was of course Alexander Hamilton himself. Hamilton, who was otherwise a firm believer in strong U.S. patents, was skeptical that patents for original inventions alone would be sufficient to ensure America stayed competitive in developing and adopting the newest and best technology of the day.²⁶² While

257. See Hovenkamp, *The Classical Corporation in American Legal Thought*, 76 GEO. L.J. 1593, 1594–95 (1988).

258. In his *Dissertations*, Kent concurred with Smith's proposition that the duties of the sovereign should be limited to three: "the duty of protecting the society from foreign violence, the duty of protecting every member from domestic injury, by establishing an exact administration of justice, and lastly the duty of erecting and maintaining certain public works and institutions." JAMES KENT, DISSERTATIONS 19 (1795).

259. 2 JAMES KENT, COMMENTARIES ON AMERICAN LAW *271; see also ASA KINNE, KENT'S COMMENTARIES REDUCED TO QUESTIONS AND ANSWERS 91 (2d ed. 1840).

260. Hovenkamp, *Technology, Politics and Regulated Monopoly*, *supra* note 37, at 1268.

261. See FRIEDMAN, *supra* note 37, at 177; see also Joseph Dorfman, *Chancellor Kent and the Developing American Economy*, 61 COLUM. L. REV. 1290, 1315 (1961). Dorfman speculated:

[Kent] would doubtless, like Jefferson, have called himself a strong believer in *laissez-faire*. However, in his day, *laissez-faire* meant, as a general principle, little more than that its advocates opposed, in most cases, any direct interference by government with the market determination of the prices of goods or of the factors of production.

Id.

262. See HAMILTON, REPORT ON MANUFACTURERS, *supra* note 33, at 1013–14, 1033.

he certainly recognized the argument that entrepreneurs would invest in new enterprises without subsidy, he believed private forces might not always be sufficient because various barriers stood in the way: “[t]hese have relation to the strong influence of habit and the spirit of imitation—the fear of want of success in untried enterprises—the intrinsic difficulties incident to first essays towards a competition with those who have previously attained to perfection in the business to be attempted.”²⁶³ Thus, Hamilton recommended that Congress adopt a strong national policy of encouragements and subsidies to overcome investors’ fear of failure and reluctance to enter new or highly competitive markets.²⁶⁴

I contend that Hamilton’s concerns were reflected at the state and local level in the apology for concurrent state patent laws. Historically, the job of promoting local economic development and construction of infrastructure in the nineteenth century did not fall to Congress. It fell to the states.²⁶⁵ With some exceptions—such as the National Road, the central bank (until Andrew Jackson abolished it in 1832),²⁶⁶ and (after the Civil War) the railroad system²⁶⁷—state governments were almost exclusively responsible for stimulating local economies and improving the standard of living of their constituencies by constructing internal improvements like turnpikes, roads, ferries, and bridges.²⁶⁸

Sometimes the states paid for these construction projects with cash, such as New York’s highly successful venture developing the Erie Canal at a cost of \$7,000,000, financed through collection of tolls.²⁶⁹ But to avoid bankrupting local treasuries and exposing taxpayers to the risk of failure, states more often chartered private companies to take on these projects,

263. HAMILTON, REPORT ON MANUFACTURERS, *supra* note 33, at 988; *see also* CHERNOW, *supra* note 127, at 377 (quoting and summarizing the Hamiltonian barriers to private incentives to invest).

264. HAMILTON, REPORT ON MANUFACTURERS, *supra* note 33, at 1008–34. On Hamilton’s policy agenda for promoting domestic industry and manufacturing through a variety of means including prizes for inventions and direct payments to businesses, *see* WOOD, *supra* note 30, at 102.

265. Lawrence Friedman writes that “[m]ost government intervention, and government regulation, was carried on, in 1800 or 1830, by the *states* not the federal government.” FRIEDMAN, *supra* note 37, at 177 (emphasis added).

266. *See id.* at 179.

267. As Friedman notes, the railroads were initially constructed by private investors or the states, and they were not fully nationalized until 1920. *Id.* at 178; *see also* Herbert Hovenkamp, *Regulatory Conflict in the Gilded Age: Federalism and the Railroad Problem*, 97 YALE L.J. 1017, 1018 (1988) (addressing the conflict of sovereignty that eventually occurred over which government was the optimal regulator of the railroads).

268. FRIEDMAN, *supra* note 37, at 178.

269. *Id.* at 181.

granting them monopolies and other exclusive privileges to encourage them to invest.²⁷⁰ In his role as Chancellor of New York, Kent frequently upheld state monopoly grants to operators of public works. The theory was that, without the prospect of a period of freedom from competition and the right to charge an “exclusive toll,” no one would “expend money upon great, and expensive, and hazardous public works, as roads and bridges,” or “become bound to keep them in constant and good repair.”²⁷¹ For this reason, they were considered constitutional and strictly enforced against states under the Contracts Clause.²⁷²

The analogy to state patents for developers of technology was obvious.²⁷³ Just like patents, state monopolies on bridges and roads provided, expressly or implicitly, the exclusive right to develop a risky enterprise and charge the public tolls for its use based on the theory that investors would not invest without a guaranteed period of freedom from competitive entry.²⁷⁴ As with patents, these grants were not seen as monopolies “in the odious sense of the

270. *Id.* at 180–81; see also Peter Karsten, *Supervising the “Spoiled Children of Legislation”: Judicial Judgments Involving Quasi-Public Corporations in the 19th Century U.S.*, 41 AM. J. LEGAL HIST. 315 (1997) (describing monopoly franchises that legislators granted to corporate entities offering to provide mills, ferries, toll roads and railways to communities in need of such entities, and arguing that courts generally protected the original grantees’ monopolies from later legislative alterations and prospective competitors).

271. See *Newburgh & C. Turnpike Road Co. v. Miller*, 5 Johns. Ch. 101 (N.Y. Ch. 1821) (enjoining as a nuisance a rival bridge constructed close to a toll bridge that had been operating for over ten years); see also Dorfman, *supra* note 174, at 1293 n.16 (discussing Kent’s a dissenting opinion in *Palmer v. Mulligan*, 3 Cai. 307, 314 (N.Y. Sup. Ct. 1805)).

272. See *In re Binghamton Bridge*, 70 U.S. 51 (1865) (upholding state’s legislative guaranty to a toll bridge company, making it unlawful for competitors to erect a bridge within a certain distance of the original structure, under the Contracts Clause); *Enfield Toll Bridge Co. v. Hartford & N.H.R. Co.*, 17 Conn. 40 (1845) (upholding state’s grant of the exclusive right of erecting a bridge and taking tolls in light of the public benefit resulting from the monopoly); see also Karsten, *supra* note 270 (describing courts’ willingness to protect legislative monopolies from later competitors). *But see* *Charles River Bridge v. Warren Bridge*, 36 U.S. (11 Pet.) 420 (1837) (C.J. Taney) (holding that a legal monopoly will not necessarily be *implied* in a corporate charter to bridge proprietors); see also Mossoff, *supra* note 44, at 966 n.58. In 1873, the Supreme Court famously held that a state can place a monopoly privilege in a corporate charter without violating individual rights. See *Slaughter-House Cases*, 83 U.S. 36, 83 (1873) (upholding a Louisiana law that allowed the city of New Orleans to charter a single private corporation with the exclusive right to control the slaughter-house business in the city for twenty-five years); see also Hovenkamp, *The Classical Corporation in American Legal Thought*, *supra* note 257, at 1602–03 (discussing *Slaughter-House Cases*).

273. I am not the first to make this analogy. See Oskar Liivak, *Rethinking the Concept of Exclusion in Patent Law*, 98 GEO. L.J. 1643, 1645 n.13 (2010) (citing several scholars of patent law who see a resemblance between the monopoly granted to the proprietors of the Charles River Bridge and modern patents).

274. See Hovenkamp, *Technology, Politics and Regulated Monopoly*, *supra* note 39, at 1268; see also KUTLER, *supra* note 39, at 18–21.

term” because they were given out “in consideration of expenses to be incurred by the grantees, and in contemplation of a public benefit . . . to reimburse such expenses,” and were granted only “within certain limits, for a limited time”²⁷⁵ Indeed, for Justice Kent, there was no difference between states’ authority to make these grants and states’ authority to grant patents for costly inventions like the steamboat.²⁷⁶ When viewed in the Hamiltonian economic framework, this stance makes perfect sense. Inventions, regardless of whether they were new or already employed in other localities, were costly, difficult, and time consuming to develop and market to the public.²⁷⁷ Besides the cost of conception itself, there was the cost of actually building the invention, requiring expensive materials and facilities; the cost of performing the experiments and real-world testing; the difficulty of gaining access to land or public waterways; and the cost of advertising and marketing something new to the public.²⁷⁸ Obtaining funding for such an operation would have been difficult. Additional government subsidy in the form of a period of freedom from competition would certainly have been justified.²⁷⁹

D. NEW YORK’S STEAMBOAT PATENT AS A MARKET CORRECTIVE

No contemporary technology better illustrates the Hamiltonian appeal for state patents than the steamboat and the efforts of American inventors to put it into practice. The problem had nothing to do with a lack of theoretical knowledge. When New York granted its patent to Robert Livingston in 1798, Europeans and Americans had been experimenting with steamboats for

275. *Enfield Toll Bridge Co.*, 17 Conn. at 40.

276. “The capacity to grant separate and exclusive privileges appertains to every sovereign authority. It is a necessary attribute of every independent government. All our bank charters, turnpike, canal and bridge companies, ferries, markets, &c. are grants of exclusive privileges for beneficial public purposes.” *Livingston v. Van Ingen*, 9 Johns. 507, 573 (1812).

277. Major categories of patented inventions in this period included bridges, boats, boilers, distilleries, methods for making iron, nail machines, stoves, salt-making machines, thrashing machines, machines for raising water, washing machines, steam engines, and vast varieties of mostly water-operated mills—including flax mills, flour mills, saw mills, and wind mills. See WILLIAM ELLIOT, U.S. STATE DEP’T. A LIST OF PATENTS GRANTED BY THE UNITED STATES, FOR THE ENCOURAGEMENT OF ARTS AND SCIENCES: ALPHABETICALLY ARRANGED FROM 1790 TO 1820 (Washington, D.C., S. Alfred Elliot, 1823), available at <http://hdl.handle.net/2027/loc.ark:/13960/t0ns1mn0z> [hereinafter LIST OF PATENTS].

278. See GAVIN WRIGHT, HISTORICAL FOUNDATIONS OF AMERICAN TECHNOLOGY 3 (Stanford University, 2007) (explaining that American manufacturing methods, in particular, were capital-intensive, relying on special-purpose machinery that required material inputs and fuels, and on unskilled labor).

279. See HAMILTON, REPORT ON MANUFACTURERS, *supra* note 33, at 988–90.

years.²⁸⁰ John Fitch allegedly conceived of his own idea for a boat propelled by steam-powered paddle wheels in April of 1785.²⁸¹ But Fitch spent the final thirteen years of his life trying unsuccessfully to raise the capital he required to put a steamboat into wide scale operation. He relied initially on wealthy friends.²⁸² But he soon sought larger investors, eventually forming a company of shareholders.²⁸³ They demanded quick success and grew impatient with the never-ending trial runs, at least one of which was an embarrassing failure.²⁸⁴ By 1790, Fitch had finally succeeded in developing a steamboat large and fast enough to efficiently transport people or freight from Philadelphia to Burlington and to run thousands of miles without a hitch.²⁸⁵ In 1791, he obtained a U.S. patent on his design, hoping to leverage his national patent rights into the capital he needed to monetize his steamboats by charging the public tolls for their use.²⁸⁶ Nonetheless, his investors gradually lost faith and shifted their support to other inventors like James Rumsey, whom they believed would make them a faster profit.²⁸⁷

But as of the year 1798, neither Fitch nor Rumsey nor anyone else had set up a single commercial steamboat on the Hudson River. People still had to rely on slower alternatives like sloops and ferries. This was a major problem for the New York government, entrusted with the responsibility of promoting local infrastructure and economic development in the state. So the Legislature decided to take matters into its own hands and grant its own patent to someone “more skilful in [the] business,”²⁸⁸ with the money,

280. See WESTCOTT, LIFE OF JOHN FITCH, *supra* note 140, at 373–98 (describing steamboat experiments in Europe and America).

281. For Fitch’s account of his conception, see *id.* at 120–22.

282. Westcott describes Daniel Longstreth’s account of Fitch’s efforts to develop his first model steamboat in the log shop of Cobe Scout. The “machinery was made of brass, with the exception of the *paddle-wheels*, which were made of wood by [an influential Pennsylvania politician] Nathaniel B. Boileau, whist on a visit during vacation from Princeton College.” Fitch tested the model “on a small stream on Joseph Longstreth’s meadow . . . and it realized every expectation.” *Id.* at 123.

283. In the spring of 1787, in an attempt to “carry [his invention] into an experiment” and turn his fledgling steamboat into an “effective use and service[,]” Fitch formed a company, dividing his interest in his eventual profits with several shareholders. See *id.* at 181–82 (quoting shareholder agreement), 183–84 (list of shareholders); see also COX, *supra* note 21, at 8.

284. See COX, *supra* note 21, at 13.

285. See WESTCOTT, *supra* note 140, at 376.

286. See LIST OF PATENTS, *supra* note 277, at 76 (Fitch’s 1791 patent); see also COX, *supra* note 21, at 15; WESTCOTT, *supra* note 140, at 327–28.

287. See COX, *supra* note 21, at 8, 13.

288. Oakley made this point during his argument in support of states’ powers to grant patents in *Gibbons*: “[M]ay not the State determine that it is against the public interest, that steam boats should be built or navigated, unless under the direction, or with the license; of

connections, and entrepreneurial spirit required to perfect steamboats and make them ready to service the New York public: Robert Livingston.²⁸⁹ True, Livingston was no inventor. But he was a “rich, enthusiastic, liberal, influential patron,” willing to supply Robert Fulton with “the very best machinery that could be made in Europe” and prepared to undertake the monumental task of building, testing, and operating a fleet of steamboats capable of competing in an unproven new market.²⁹⁰

According to the theory behind the U.S. patent law, New York’s patent to Livingston should not have been necessary. Fitch’s U.S. patent provided him the exclusive right to make, use, or sell his steamboats and the exclusive right to extract damages from infringers for fourteen years.²⁹¹ This should have given Livingston a monopoly-profit incentive to buy or license Fitch’s patent and introduce Fitch’s steamboat into markets throughout the country.²⁹² At the least, Fitch’s patent should have served as an important “signal” to investors and increased Fitch’s chances of securing the capital he needed to fund his operations.²⁹³ So what went wrong? The most obvious possibility is a breakdown in patent licensing.²⁹⁴ We can easily imagine a hypothetical scenario in which Livingston approached Fitch for a license, but Fitch refused to accept Livingston’s terms due to an irrational pride in his work or the parties’ failure to accurately estimate the future value of Fitch’s design.²⁹⁵

an individual, who may be thought particularly skilful in that business?” *Gibbons v. Ogden*, 22 U.S. 1, 57 (1824).

289. See *Livingston v. Van Ingen*, 9 Johns. 507, 572 (1812); JOHNSON, *supra* note 21, at 27 (noting that while “neither Fitch nor Rumsey possessed the political connections or financial patronage to fund the substantial capital investment needed to complete their experiments and turn their discoveries into fully operational steamboats,” Robert Fulton achieved this combination thanks to his partnership with Livingston).

290. WESTCOTT, *supra* note 140, at 390.

291. Patent Act of 1793, ch. 11, §§ 1 (exclusive rights), 5 (damages), Stat. 318, 322 (repealed 1836).

292. See Kitch, *supra* note 71 (describing the “prospect theory” justification for patents).

293. See Long, *supra* note 1, at 653.

294. Patent licensing can be hindered by a variety of transaction costs, especially in cases where a pioneering invention is not as profitable as subsequent derivations competing in the same market. See, e.g., Robert Merges, *Intellectual Property Rights and Bargaining Breakdown: The Case of Blocking Patents*, 62 TENN. L. REV. 75, 84–89 (1994) (describing several real and hypothetical examples of bargaining breakdowns between holders of blocking patents due to factors such as erroneous valuations of the future value of the pioneer technology or irrational motives such as the inventor’s pride in her invention, leading her to believe she is entitled to higher profits than might actually be warranted).

295. This is what happened with the British inventor James Watt, who held an early steam engine patent but refused to license it to improvers. See Shavell & Van Ypersele, *supra*

But the more likely possibility is that this was a pure market failure.²⁹⁶ A commercial steamboat operation was an incredibly risky and costly investment in 1798. No one knew for sure whether steamboats could ever be made to work efficiently and safely enough to outcompete cheaper, tried-and-true alternatives like the sailboat. Maybe Livingston crunched the numbers and decided that if he was going to take the risk, he demanded a patent with a much longer term and covering a much broader range of subject matter than Fitch's narrow U.S. patent would have allowed.²⁹⁷ Unlike Congress, New York was willing to give Livingston a thirty-year patent granting exclusive rights over "all and every species of boats or water craft, which might be impelled by force of fire or steam."²⁹⁸ What is more, as a legislative act, Livingston's patent would demand an "extremely strong" presumption of validity and be subject to minimal policing by state courts.²⁹⁹

In sum, New York's patent gave Livingston something U.S. patents did not provide: a guaranteed monopoly, specially designed to compensate him for the "uncertainty and hazard" of developing and commercializing "a very expensive experiment."³⁰⁰ Moreover, unlike a U.S. patent, it also gave Livingston an *obligation* to actually get the job done; if he failed to institute steamboats in the state, his grant would be retracted.³⁰¹ It is undeniable that Livingston's exclusive rights led to several years of higher steamboat fares.³⁰² But we might nonetheless look at the results and be inclined to agree with Justice Kent's conclusion that, thanks to New York's patent, "the experiment of navigating boats by steam has been made, and crowned with triumphant

note 67, at 543; *see also* Merges, *Intellectual Property Rights and Bargaining Breakdown*, *supra* note 294, at 84–89.

296. A "market failure," where government incentives may be required as a supplement to private funding, is generally defined in the context of innovation policy as cases where markets do not ensure investment in "long-range research, especially in high-risk technologies whose calculable value to a given firm is far smaller than their eventual social value." *See* Christopher Newfield, *Avoiding Network Failure: The Case of the National Nanotechnology Initiative*, in *STATE OF INNOVATION* 282 (Fred L. Block & Matthew R. Keller eds. 2010).

297. *See* COX, *supra* note 21, at 21–22 (recounting efforts of Livingston and others to obtain broader monopoly rights than federal patents afforded).

298. *Livingston v. Van Ingen*, 9 Johns. 507, 568 (1812).

299. *Id.* at 572–73.

300. In Kent's description, the 1798 law was "a new and original grant to [Livingston], encouraging him, by the pledge of an exclusive privilege for twenty years, to engage, according to the language of the preamble of the statute, in the '*uncertainty and hazard of a very expensive experiment.*'" *Id.* at 572 (quoting New York's 1798 grant to Livingston) (emphasis added).

301. *Id.* at 509–10.

302. *See* Williams, *supra* note 21, at 1420–21 (on decline in steamboat fares following *Gibbons*); *see also* COX, *supra* note 21, at 175–80.

success [promising] to become a great public blessing, by giving astonishing facility, despatch and safety, not only to travelling, but to the internal commerce of this country.”³⁰³ Maybe a savvier and more charming inventor than Fitch could have leveraged his national patent rights to attract investors, or a better businessman than Livingston could have obtained such a significant lead in the market that no monopoly would have been required to appropriate returns at all.³⁰⁴ But we will never really know, just as we do not know today whether pharmaceutical companies would bring life-saving drugs to market without the prospect of a limited period of charging monopoly prices.³⁰⁵ The fact remains that until the New York legislature got involved, no one had managed to do it.

VII. CONCLUSION

After reading this history of support for state patent laws, the rational question to ask is: could a state grant a patent today? The Supreme Court’s current statutory preemption doctrine, limiting states’ ability to grant “patent-like” rights, would seem to preclude the possibility of states granting exclusive rights for inventions that do not meet federal criteria for patentability, or for importers or “mere possessors” of new technology.³⁰⁶ However, as we have seen, this doctrine bears little resemblance to the principles articulated by Alexander Hamilton in the *Federalist No. 32*, requiring preemption only if concurrent state patent powers would create an

303. *Livingston*, 9 Johns. at 585.

304. On patents as signals to investors, see Long, *supra* note 1, at 653. According to this oft-cited empirical study, in most industries U.S. patents are not viewed as an effective incentive compared with other market advantages like lead-time and secrecy. Richard C. Levin, Alvin K. Klevorick, Richard R. Nelson, Sidney G. Winter, Richard Gilbert & Zvi Griliches, *Appropriating the Returns from Industrial Research and Development*, 3 Brookings Papers on Econ. Activity 783 (1987).

305. See A. Samuel Oddi, *Plagues, Pandemics, and Patents: Legality and Morality*, 51 IDEA 1, 12–14 (2011) (“Pharmaceutical enterprises developing drugs for the prevention or treatment of diseases rely heavily on the patent system. The development of such drugs is extremely costly, as is the governmental approval process. Without strong patent protection, the incentive to develop new drugs is considerably undercut.”); see also Jonathan M. Barnett, *Cultivating the Genetic Commons: Imperfect Patent Protection and the Network Model of Innovation*, 37 SAN DIEGO L. REV. 987, 989–90 (2000) (“Patent rights in genetic resources encourage private investors to sink funds into uncertain pharmaceutical projects that generate enormous development costs, take many years to yield a marketable product, and are often vulnerable to relatively low-cost imitators.”).

306. See *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 151–67 (1989). On Robert Livingston’s status as a “mere possessor,” see *Livingston*, 9 Johns. at 542.

“immediate constitutional repugnancy.”³⁰⁷ In this Article, I have shown that well-respected jurists in the nineteenth century did not believe such a “repugnancy” existed and that the Constitution therefore left states with broad residual authority to grant their own patents.³⁰⁸ As Kent put it in *Livingston*, there was no need to interpret Congress’s patent power more broadly than necessary to accomplish the goal “for which it was granted, which was to reward the beneficent efforts of genius and to encourage the useful arts.”³⁰⁹ So long as states respected the exclusive rights conferred by U.S. patents, Congress’s power was “fully satisfied”³¹⁰ In the modern world of patent licensing, this simply means that a state patentee would be wise to obtain a license before practicing a technology that potentially infringed a U.S. patent, or risk costly litigation in federal court and invalidation of the state patent under the Supremacy Clause.³¹¹

Due to the stark contrast between these views and modern presumptions of federal supremacy in patent law, I have taken the time to explain and justify them in contemporary context. I hypothesize that the perceived need for concurrent state patent powers was not based solely on the weakness of

307. See THE FEDERALIST NO. 32, *supra* note 110, at 157 (Alexander Hamilton). Hamilton stated with regard to the concurrent power of taxation:

The particular policy of the national and of the State systems of finance might now and then not exactly coincide, and might require reciprocal forbearances. It is not, however a mere possibility of inconvenience in the exercise of powers, but an *immediate constitutional repugnancy* that can by implication alienate and extinguish a pre-existing right of sovereignty.

Id. (emphasis added).

308. See U.S. CONST. amend. X; see also *Livingston*, 9 Johns. at 581–82 (stating that states have concurrent powers to grant patents); *Gibbons v. Ogden*, 22 U.S. 1, 171–72 (1824) (leaving Kent’s opinion on state patent powers intact); *Patterson v. Kentucky*, 97 U.S. 501, 508–09 (1878) (upholding Kent’s opinion in *Livingston* on concurrent state patent powers); HAMILTON, REPORT ON MANUFACTURERS, *supra* note 33, at 1014 (Congress lacked power to grant patents to introducers of inventions from abroad); STORY, COMMENTARIES, *supra* note 25, at 79 (states may have concurrent powers to grant patents to true inventors and certainly have independent powers to grant patents to “possessors” of technology); 1 WILLIAM BLACKSTONE, COMMENTARIES *265 (stating that patent powers are concurrent, even if states are unlikely to grant their own patents in most cases, given requirement that inventors choose between state or federal rights).

309. *Livingston*, 9 Johns. at 582.

310. *Id.* at 582–83.

311. *Id.* If the state patentee did obtain a license from any U.S. patent implicated by his or her technology, there would be no infringement, so the state patent would not be invalid in that scenario under Kent’s reading of the preemptive power of the IP Clause and the Supremacy Clause. As discussed above, we must assume the possibility that transaction costs, such as problems of valuation and inter-personal conflicts, might hinder the fluid licensing of U.S. patents to state patentees. See *Merges, Intellectual Property Rights and Bargaining Breakdown*, *supra* note 294, at 84–89.

U.S. patent rights in the early nineteenth century. Instead, the appeal for state patents was motivated by a more fundamental, inherently Hamiltonian concern that market forces, even when supplemented by U.S. patent rights—which, as we have seen, were themselves based on a uniquely *laissez-faire* approach to promoting innovation—would not provide sufficient incentive for inventors and their financial backers to develop and actually bring to market costly innovations. Therefore, state governments must retain autonomy to grant their own patents for technologies that they deemed to be of immense public value. This, I assert, is the main reason New York chose to grant a patent on the steamboat to Robert Livingston in 1798 and the main reason that Federalist jurists like Justice Kent supported New York’s decision and upheld states’ powers to grant similar exclusive rights in the future.

Based on this history, I suggest that we may wish to reexamine our assumption that states’ powers to grant their own patents are, or should be, preempted. Congress’s powers to grant federal patents (at least within the limits of the IP Clause)³¹² are not in serious doubt today.³¹³ This means that,

312. Whether Congress can rely on the Commerce Clause to do more than the IP Clause specifies is a hotly debated topic. See Paul Heald and Suzanna Sherry, *Implied Limits on the Legislative Power: The Intellectual Property Clause as an Absolute Constraint on Congress*, 2000 U. ILL. L. REV. 1119, 1183–87 (2000) (arguing that the IP Clause, when interpreted in its historical context, places absolute limits on Congress’s powers to grant patents or other exclusive rights over material otherwise in the public domain in some though not all circumstances); Jeanne Fromer, *The Intellectual Property Clause’s External Limitations*, 61 DUKE L.J. 1329, 1344 (2012) (“All in all, the IP Clause’s text and the constitutional structure volunteer a suggestive—but not ironclad—argument that the Clause’s unique construction operates externally to forbid Congress from using its other powers to promote the progress of science and useful arts beyond the means specified in the Clause.”). But see Thomas Nachbar, *Intellectual Property and Constitutional Norms*, 104 COLUM. L. REV. 272 (2004) (arguing that the limits of the IP Clause should not be read externally into other parts of the Constitution, that Congress could use the Commerce Clause to grant exclusive rights even in cases where it could not do so under the IP Clause, and that the Constitution generally offers little protection against rent-seeking).

313. The Supreme Court has held that Congress’s powers to regulate economic activity include the power to regulate the “channels of interstate commerce,” such as water travel, railroads, highways and hotels; the “instrumentalities of interstate commerce, or persons or things in interstate commerce,” such as suspects carrying contraband across state powers; and, most broadly, the power to regulate “those [economic] activities that substantially affect interstate commerce.” *United States v. Morrison*, 529 U.S. 598, 609 (2000). However, in recent years the Supreme Court has placed some limits on Congress’s power to regulate activity in the “non-economic” arena. See *United States v. Lopez*, 514 U.S. 549, 561 (1995) (striking a federal law prohibiting possession of firearms on school premises because gun toting in school zones “has nothing to do with ‘commerce’ or any sort of economic enterprise,” the law “is not an essential part of a larger regulation of economic activity” and the statute contained no “jurisdictional element that would ensure, through case-by-case

unlike in 1824, Congress probably has plenary power to preempt state patent laws entirely if it wished.³¹⁴ However, given America's long history of state patents and historic views that they should remain constitutional, it would be unwise for Congress, or federal courts, to nationalize patent law prematurely, without engaging in a thorough analysis of the benefits of state patent laws, on the one hand, and the potential for confusion, waste, and conflict, on the other.³¹⁵

The Supreme Court, although it has effectively prohibited states from granting patents, has never performed this analysis.³¹⁶ Chief Justice Marshall

inquiry, that the firearm possession in question affects interstate commerce.”); *see also Morrison*, 529 U.S. at 617–618 (invalidating the Violence Against Women Act, which provided a federal cause of action for victims of crimes of violence “motivated by gender,” on the ground that gender-based crime, though apparently a nationwide problem, involved “noneconomic, violent conduct,” and an essential aspect of states’ “police powers” is the “suppression of violent crime and vindication of its victims”; again, the statute had no jurisdictional element when it was challenged). Most recently, the Court placed limits on Congress’s power, at least under the Commerce Clause, to “regulate” inactivity by compelling individuals to buy health insurance they might not otherwise purchase or pay a fine. *See Nat’l Fed’n of Indep. Bus. v. Sebelius*, 132 S. Ct. 2566, 2587 (2012).

314. “By definition, preemption disputes involve lawmaking in an area in which both the federal government and the states have the power to legislate. It is generally accepted that if the federal government chooses to do so, it has the power to displace state law altogether in those areas.” Susan Stabile, *Preemption of Federal Law by State Law: A Task for Congress or the Courts?*, 40 VILL. L. REV. 1, 9 (1995) (citing *Garcia v. San Antonio Metro. Transit Auth.*, 469 U.S. 528, 554–56 (1985) (holding that the Commerce Clause permitted the federal government to preempt state and afford wage and hour protection to transit employees even though state also had this ability)).

315. As Susan Stabile explains:

When the preemption balance is struck incorrectly, negative consequences result. In some cases, there will be an improper interference with a state sphere of authority, preventing the state’s attainment of its goals without appropriate justification. Also, preempting state law without adequate federal justification limits the ability of states to act as innovators of change. “Experiments” conducted at the state level may lead to solutions to social problems that may later be adopted at a national level. Finally, improper preemption decisions give insufficient regard to the purposes and goals of Congress in passing federal legislation.

Stabile, *supra* note 314, at 10.

316. *See Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 167 (1989) (concluding—without mentioning any potential benefits of state laws designed to induce investment in innovation by granting exclusive rights—that because Florida’s antimolding statute “substantially restricts the public’s ability to exploit an unpatented design in general circulation, raising the specter of state-created monopolies in a host of useful shapes and processes for which patent protection has been denied or is otherwise unobtainable[,] [i]t thus enters a field of regulation which the patent laws have reserved to Congress.”) (citing *Rice v. Santa Fe Elevator Corp.*, 331 U.S. 218, 230 (1947)); *see also* discussion *supra* Part I (discussing *Bonito Boats*).

struck down the steamboat patent in *Gibbons* in 1824. But Marshall provided no insights on the potential consequences of concurrent state patent laws, instead relying on less controversial, and far less complicated, reasons for preempting the monopoly.³¹⁷ The steamboat patent covered a recent innovation that was essential to the transportation of goods and people across state lines and that would transform the entire American economy.³¹⁸ Livingston and Fulton's exclusive rights to operate steamboats in New York clearly affected interstate commerce and, by modern standards, produced a flagrant violation of the Dormant Commerce Clause³¹⁹—making it unnecessary for Marshall to address whether their monopoly would otherwise have independently interfered with Congress's power to grant patents under the IP Clause.³²⁰ Thus, the costs and, more so, the benefits of concurrent state patent regimes have never been fully examined.

Whether state patent laws make any sense in the modern economy is the subject of another article, in progress, where I suggest that in some cases state patents could provide cash-strapped state governments with a cheaper policy tool for promoting innovations that are of particular importance to certain states and that are connected to state resources.³²¹ Examples include technologies related to public utilities, local infrastructure, and region-specific industries like agriculture in California or natural gas drilling in Texas. At the same time, introducing “bottom-up” experimentation into the process of designing effective patents and effective patent laws could improve the efficacy of the American patent system and innovation policy as a whole.³²² Whether or not readers will agree with any of these arguments, it is nonetheless enlightening to learn that our predecessors recognized what we seem to have forgotten: that U.S. patents were never intended as a complete

317. See *Gibbons v. Ogden*, 22 U.S. 1 (1824). As said, in his actual holding, Marshall relied on Thomas Gibbons' federal coasting license to preempt the state law. See discussion *supra* Section V.C.

318. See discussion *supra* Section IV.A.

319. Under the modern Dormant Commerce Clause, courts will strike down any state law—whether a tax, a tariff, a licensing requirement, or presumably a patent—that overtly discriminates against out-of-state entities or that “unduly burdens” interstate commerce, “impeding free private trade in the national marketplace.” *Reeves, Inc. v. Stake*, 447 U.S. 429, 437 (1980).

320. *Gibbons*, 22 U.S. at 177–78.

321. The Supreme Court itself has suggested in dicta that states may have an interest in granting patents on innovations that are of “local importance.” See *Goldstein v. California*, 412 U.S. 546, 557 (1973) (“The patents granted by the States in the 18th century show . . . a willingness on the part of the States to promote those portions of science and the arts which were of local importance.”).

322. Hrdy, *State Patents as a Solution to Underinvestment in Innovation*, *supra* note 40. On the need for bottom-up reform in patent law, see Nguyen, *supra* note 41.

replacement for their state counterparts and need not represent the exclusive means for encouraging private investment in technology and innovation.

