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Introduction

Overview and Themes

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Over the years, a number of brilliant historical studies have appeared in my primary field of patent law. The nonprofessional but exceptionally devoted historian Edward Walterscheid comes first to mind.¹ His history of the earliest years of patent law (1790–1836) is an invaluable resource. Zorina Khan’s economic history of

¹ Edward C. Walterscheid, *To Promote the Progress of Useful Arts: American Patent Law and Administration, 1787–1836* (Littleton, CO: Fred B. Rothman & Co., 1998).

intellectual property law during the “long” nineteenth century (1789–1910)² is a tour de force of empirical and analytic rigor. Christopher Beauchamp’s history of the Bell telephone technology and legal controversy is a similarly outstanding book.³ Beauchamp’s article on the “first” patent litigation explosion is also one I refer to over and over.⁴ The same goes for Oren Bracha’s intellectual history of copyright and patent from 1790 to 1909, an essential reference for me.⁵ Likewise, research by the historian Kara Swanson on the evolution of the US Patent Office and the profession of patent agent/lawyer, among other topics, is the best and most thorough account of these crucial topics.⁶

Good as they are, none of these works try to cover the story of patents and patent law from 1790 (the first Patent Act) to the present. I have often thought that the field could use such an overview. I know I would have been glad to have it for a number of research projects in the past. Not seeing such a book, and Armed with a fat file of historical materials collected over the years, I (to quote one historian describing another) “found it necessary to refashion” myself into something I had admired since my college days – a *longue-durée* historian.⁷ Or to try, at any rate. So here we are.

1.1 PATENTS: PRIVATE RIGHTS AS INSTRUMENTS OF ECONOMIC POLICY

The government – our government – grants patents. But patents are mostly sought, held, and used by private businesses. As acts of a sovereign state, each patent grant comes wrapped in all manner of policy issues: to best serve society, how many patents should the government issue, what should they cover, how long should they last before expiring, and so on. But to their owners – companies and individuals – patents are only important insofar as they make some money or serve some other instrumental goal. Behind every patent is an owner who spent money to acquire it and who has (or had) some plan for it.

² Zorina Khan, *The Democratization of Invention: Patents and Copyrights in American Economic Development* (Cambridge: Cambridge University Press, 2009).

³ Christopher Beauchamp, *Invented by Law: Alexander Graham Bell and the Patent That Changed America* (Cambridge, MA: Harvard University Press, 2015).

⁴ Christopher Beauchamp, *The First Patent Litigation Explosion*, 125 *Yale L.J.* 848 (2016).

⁵ Oren Bracha, *Owning Ideas: The Intellectual Origins of American Intellectual Property, 1790–1909* (New York: Cambridge University Press, 2016).

⁶ Kara Swanson, *The Emergence of the Professional Patent Practitioner*, 50 *Tech. & Cult.* 519 (2009); Kara Swanson, “The Surprisingly Engrossing History of Patent Examiners,” *Slate.com* (May 7, 2014); Kara Swanson, *Rubbing Elbows and Blowing Smoke: Gender, Class and Science in the Nineteenth-Century Patent Office*, 108 *Isis: J. Hist. Sci.* 40 (2017); Kara Swanson, “Great Men,” *Law, and the Social Construction of Technology*, 43 *L. & Soc. Inq.* 1093 (2018).

⁷ The importance of long duration histories is the main theme of a much-discussed book by two historians. See Jo Guldi and David Armitage, *The History Manifesto* (Cambridge: Cambridge University Press, 2014). See also Deborah Cohen and Peter Mandler, *The History Manifesto: A Critique*, 120 *Am. Hist. Rev.* 530 (2015); David Armitage and Jo Guldi, *The History Manifesto: A Reply to Deborah Cohen and Peter Mandler*, 120 *Am. Hist. Rev.* 543 (2015).

In this book I tell the story of American patent law from the vantage point of patent owners. Beginning with the first Patent Act in 1790, I lay out the general economic trends that formed the background to invention and technological development. I describe some devices and techniques that characterize each era: technologies for harvesting and using wood, in the earliest period; the new machinery of the mid-nineteenth century, exemplified in fields such as wood working and shoe-making machines; the technologies of large-scale industry in the late nineteenth and early twentieth centuries, starting in steel and continuing to electrical power generation, telephony, and a host of other industries; characteristic products of the industrialization era, including electric lighting, bicycles, and agricultural equipment; then the chemical and auto industries, from the 1920s on; and ending with synthetic fibers, computer hardware and software, and biotechnology.

Throughout the book I also highlight new entrants and their use of patents. In this I am not so concerned with particular industries. Therefore, we touch on diverse fields such as farm equipment, coffin hardware, paper-making, auto parts, and vegetable canning. The primary point of these case studies is to show something of the state of each industry at a given time, the development of a specific invention, the patenting of that invention, and how patents fit into the business enterprises that owned and deployed them. I share my curiosity about what kinds of patents inventors were getting and what kinds of business enterprises the inventors were part of. I show how they and their colleagues *used* patents to pursue business goals – and how these patent strategies changed over time as industries and markets unfolded.

Only rarely did Congress have in mind a particular inventor or business when debating and passing patent legislation. But it did have in mind an overall picture: small grants of government power, to dispersed individuals, who would raise money to create, improve, and implement new inventions. This was just one part of an overall governmental imperative to rapidly grow and develop the economy. Indeed, as we will see (in this chapter, and at length in Chapter 2), invention patents were mentioned frequently through the first half of the nineteenth century as a cure for the shortage of labor in the new American nation. Patented inventions, it was hoped, would help to better leverage the labor of each working citizen. In parallel, liberal land grants – the land patent system – would attract immigrants, reducing the labor shortage on the supply side. Patents for land and inventions were thus important policy instruments in the early economic development state. Together, they represent a distinctive economic strategy.

This might be described as a democratic property strategy. By strategy here I mean an approach, almost a style. It was not a fully worked out government program whose steps and components were described in detail and implemented in a master sequence. This was instead a loosely theorized concatenation of distinct but compatible policies. Both invention and land patents intelligently leveraged the light but durable framework of the early federal government.⁸ In an era when the reach of

⁸ Acting to implement one of Hamilton's suggestions in his Report on Manufactures, early treasury official Tench Coxe actually proposed using land grants as a reward for new

visionaries such as Alexander Hamilton far exceeded the modest grasp of the new federal state, both types of patents injected federal development policy into all corners of the economy. But they did so by combining a small dose of federal power, the power to back up the federal right in court, with a large measure of private funding and initiative. Patents of both types were federally *granted* – bestowed or conferred on qualified individuals by act of the government. Once granted, these rights covered valuable assets whose use and development were in the hands of private parties. For each patent type, the most essential federal presence in the post-grant period was the local federal district court.⁹ It was in court that these rights could be enforced – if and when their owners decided to enforce them. The private ordering that they facilitated, together with reliance on a generalized and privately activated enforcement mechanism, were important aspects of these property grants.

Invention and land patents are unquestionably individual property rights. But why do I call policies behind these rights a “democratic property” strategy? The answer is breadth and reach. Both invention and land patents were granted to widely dispersed individuals in all corners of the country. Acquisition costs were low, and with work and good luck a land or invention patent might form the nucleus of a profitable farm or business.¹⁰

Patents, and technology promotion generally, are rightly associated with Alexander Hamilton and the Report on Manufactures. Yet because invention patents were available to all comers, and were inexpensive to acquire, they were much more congruent with early land development policy than with many of Hamilton’s grand, government-directed schemes. In fact, the patent world came in some respects to represent Jefferson’s vision of small, independent property owners making their own way without top-down constraints or guidance from the government. There never was any mention of a “yeoman inventor,” to go along with Jefferson’s idealized portrait of the yeoman farmer. Yet one could sometimes detect in the world of technology the Jeffersonian pattern of dispersed ownership spread among scattered small claimants. Because of this, the democratic property strategy

inventions. Edward C. Walterscheid, *Patents and Manufacturing in the Early Republic*, 80 J. Pat. & Trademark Off. Soc’y 855, 864 n.32 (1998):

[Tench Coxe’s] suggestion that land be used as the premiums [with which to reward inventors under a proposed “bounty” or reward system] was not based on European practice, but instead seems to have been derived from the recent requests made to the Continental Congress for land grants as a reward for invention.

⁹ These grants did necessitate an administrative structure, to be sure, but the agencies that ran both invention and land patent systems were profit centers: they brought in more money than they spent.

¹⁰ In light of the structural exclusion of slaves, most women, and other groups, this development strategy might more accurately be described as relatively democratic given the low standards of the times. See Section 1.1.2.

imparted a Jeffersonian twist to the essentially Hamiltonian idea of promoting technological innovation.

In keeping with the democratic spirit, acquisition costs for land and invention patents were intentionally kept low. Moderate acquisition costs were, however, accompanied by an additional requirement: To gain full title, the applicant had to prove an expenditure of time and effort sufficient to demonstrate a good faith intention to develop the asset underlying the right – a piece of land, or a new invention, as the case may be. Both land and invention patents (and federal mining claims as well) often have a two-stage vesting model. Stage one encourages a tentative legal claim, which is no more than a right to exert preliminary effort developing the asset. To secure actual title, land had to be “improved”: The would-be owner had to clear land, plant, harvest, etc., and also build a house, barn, or the like. This two-step procedure tries to steer expenditures and effort into actual development of the underlying asset, instead of speculative buying with quick resale to others. Only after proof of good faith development efforts at Stage One will formal title issue at Stage Two.

Why is speculation disfavored? What kinds of tactics are considered “unproductive” and so disfavored in Stage One? To answer that, a brief digression will help.

1.1.1 *A Short Digression on “Rent-Seeking”*

When I say rent-seeking I mean the effort one expends to shape or capture government favors that add to one’s profits. Government lobbying is typical. Strictly speaking, lobbying by itself is not an automatic sign of inefficiency, nor are the things lobbyists ask for. Inefficiency only results when a piece of legislation does nothing to stimulate additional production, and so contributes nothing to greater economic output or the encouragement of beneficial activity. A change in this direction creates what economists call a “rent,” which generally means a profit-making opportunity. I use the term in a narrower sense. For me it typically signifies a government-backed claim that is used by its holder to get money without contributing anything of real value.¹¹ The “seeking” usually takes the form of spending time

¹¹ This is not a universally accepted definition of a rent, but it is the most common one. For an overview of the issues, see Roger D. Congleton and Arye L. Hillman, eds., *Companion to the Political Economy of Rent Seeking* (Cheltenham: Edward Elgar, 2015). Before the modern study of political economy and rent-seeking, many of the same unproductive activities were called speculation. Like rents, however, speculation in general can be productive, as more risk-oriented or foresightful investors buy assets on the belief that they will rise in value. Nevertheless, particularly in the nineteenth century, a “speculator” was usually not considered productive. This is a consistent theme in the legal histories of J. Willard Hurst. See J. Willard Hurst, *Law and the Conditions of Freedom in the Nineteenth Century* (Madison: University of Wisconsin Press, 1967), at p. 6. Hurst said that nineteenth-century American citizens believed “[t]he legal order should protect and promote the release of individual creative energy to the greatest extent compatible with the broad sharing of opportunity . . . [and] they wanted . . . at least some affirmative legal preference of settlers over speculators.” For a critique of Hurst’s

and money to acquire a valuable government favor. Rent-seeking is almost always a pejorative in economic writing. That's because by definition the rent by itself adds little or nothing to productivity. And what is worse, the competition to capture the rent wastes money that might otherwise be spent on welfare-enhancing things like making new products or lowering the cost of existing ones.¹² Rents don't help society in any real sense. They do not increase overall welfare. And yet they are valuable to their holders – for use extracting value from other, typically productive, economic actors.¹³

In the general, non-IP, literature, a classic example of a rent is a government import quota, which restricts imports in favor of domestic producers.¹⁴ Assuming a robust market for imported products, there is real value in holding an official government license to import goods.¹⁵ If the quota is divided up into allotments, the number of imported products authorized by each allotment determines its value. The bigger an allotment's share of the total import quota, the more valuable that allotment is. The point to seize is the *competition* for the allotments. Each one is valuable; more than one firm wants each one; so, firms will spend time and money trying to increase the chance they'll get one, and the size (proportion of the overall quota) of any allotment they do get. The allotment is a rent; the competition for it is the “seeking.” Voila, rent-seeking 101.

historical work, especially in the way it leaves out minorities and the dispossessed, see Hendrik Hartog, *Four Fragments on Doing Legal History, or Thinking with and against Willard Hurst*, 39 L. & Hist. Rev. 835 (2021).

¹² There is a sizeable economic literature modeling rent-seeking as a game among contestants spending money in competition for a rent or a larger share of a rent. See, e.g., Ngo Van Long and Frank Stahler, *A Contest Model of Liberalizing Government Procurements*, 25 Euro. J. Pol. Econ. 479 (2009) (showing via an economic model how opening a country's government procurement process to foreign participants – which should increase competition and lower costs – may actually lead to a net waste of resources as firms collectively spend more on lobbying than the value of a procurement contract).

¹³ Judge (and Professor) Richard Posner, describing one of two focal policies animating the law of trade secret protection, said this about similarly unproductive effort: “The second [view of trade secret law] emphasizes the *desirability of encouraging inventive activity by protecting its fruits from efforts at appropriation that are, indeed, sterile wealth-redistributive – not productive – activities.*” *Rockwell Graphic Sys., Inc. v. DEV Indus., Inc.*, 925 F.2d 174, 178 (7th Cir. 1991) (Posner, J.) (emphasis added). The Judge here differentiates between two types of activity: one productive (“inventive activity”) and one unproductive or “sterile” (“appropriation”). The latter type of activity is not worth encouraging, and in fact should be discouraged. It redistributes, instead of adding to, existing wealth. What is worth encouraging is “productive . . . activities”: activities that increase collective, and not just individual, welfare. Said differently, rent-seeking investments increase one's slice of an existing pie. Productive investments make more pies.

¹⁴ This example comes from a foundational article, Anne O. Krueger, *The Political Economy of the Rent-Seeking Society*, 64 Am. Econ. Rev. 291 (1974).

¹⁵ Notice I said this holds for “the classic treatment of international trade.” Contemporary debate in this area embraces the costs to workers of replacing domestic with foreign production, possible ecological impacts (e.g., if the foreign manufacturers of a product produce more carbon than domestic ones do), and other factors such as national security that add complexity to trade theory.

It is easy to see how the patent system might be used to generate rents that fit the same pattern. A “patent” on all soft drinks, for example, would give its holder enormous economic power. The makers of Coke, Pepsi, and a host of other soft drinks would spend big to capture such a rent. Whichever government agency were in charge of granting this soft drink patent would be inundated with lobbyists, each armed with elaborate arguments and campaign contributions to match. From an economic point of view, little good can come from this spending. Every dollar paid to lobbyists is a dollar less to spend on consumer discounts, product improvements, and the like. The asset being sought is a government-backed right to lower competition. The higher cost to consumers and the competition *for* this “patent” right would both contribute to economic waste.

This is (I hope!) a fanciful scenario. The legal requirements of patentability – novelty, nonobviousness, adequate disclosure, and the like – were fashioned over time to prevent issuance of our hypothetical soft drink patent, and anything like it. Yet there are still at times opportunities for seeking smaller rents under the rubric of the patent system. The legislative extension of a patent otherwise due to expire is a simple case: The extra profit that would be earned during the extension period is an attractive prize, one that might well justify considerable expenditures for lobbying. A more common case is when an inventor tries to obtain a patent that covers more than he or she actually taught or disclosed, that is, an unduly broad patent. A number of patent requirements are in place to police this, but they do not always work as intended. Some overly broad patents slip through the system despite best efforts to stop them.

These expansive patents, combined with features of patent litigation, create good conditions for rent-seeking. Rents take the form of court decisions and private settlements that overvalue patents relative to the true merits of the inventions they cover.¹⁶ The extreme cases are the vague and overbroad patents that should never have been issued in the first place. Owners of these patents, often firms specializing in patent assertion and litigation, sometimes use them to extract considerable profit from innovative and efficient companies. Aggressive use of the patent system, including by those whose inventive contributions might be seen as minor, has been

¹⁶ On the analogy of the import quotas from the classic rent-seeking literature, the overbroad patents are like the import quota allotments. The cost of filing and pursuing useable, overbroad yet plausibly valid patents, or buying such patents held by others, the cost of re-shaping them (where possible) using various patent system maneuvers (amending pending applications, patent re-issues, etc.), the cost of figuring out which big companies might be infringing the patents, the cost of filing suit against several such companies, the costs of litigation and/or negotiation of settlements – all these expenditures are the equivalent of the allotment-seeking lobbying costs in the import quota example. It makes no difference, from the perspective of rent-seeking theory, that in litigation money is spent trying to use court procedures to capture a valuable prize (a damages award or negotiated settlement). These are still expenditures made to influence a government process (here, litigation) in pursuit of a government-backed right (a final judgment or court order, or the threat of one). In short, rents.

part of the patent system from the beginning. In the latter nineteenth century, there were enough specialist firms of this kind that they earned their own moniker: patent sharks. At the beginning of the twenty-first century, the popular name was patent troll. Whatever the era, whatever the label, the substance is the same. Patents are used not to further the traditional goal of promoting innovation. They act as a wasteful tax on true innovators, transferring money from active, productive firms to firms whose sole purpose is acquiring and making money from patents.

Anyone who reads IP cases, or falls into a debate over IP policy, knows this: In the realm of IP, the line between a rent and a beneficial incentive can be very thin.¹⁷ In those eras when the patent litigation-centric business model thrived, the perception of excessive, and excessively costly, patent litigation has signaled to some at least that legal reforms are in order. But those called sharks and trolls of course protest, so reform is usually a drawn-out, contested event. To the extent patent litigation-centered firms spend money defending the status quo, these expenditures too should be counted as part of their rent-seeking outlay.

1.1.2 *Productivity-Enhancing Conditions on Property Grants*

For federally granted rights, an applicant seeking title must first show some preliminary effort or investment. For land and mining claims, this means some minimum improvements (a building, planting of fields, beginning of mining operations, etc.). For an invention, the applicant must show enough research has been done to establish that the claimed invention is basically operative (i.e., meets the utility requirement) and that the inventor provides an informative description (in the patent specification) of the invention sufficient to teach others in the relevant field how the new invention works (enablement requirement). These are finely balanced policies. The required initial investment separates a land or invention patent from a mere “paper right.” A speculator cannot just acquire rights on the cheap and quickly resell them to those willing to do the real development work. On the other hand, the upfront investment level cannot be set too high; asking too much would put the rights out of reach of many people. The trick to policy design is to encourage and

¹⁷ This is true also of the line between land speculator and productive settler. See Seymour V. Connor, *Land Speculation in Texas*, 39 *Southwest. Rev.* 138 (1954):

As a matter of fact the difference between the land speculator and the land-owner seems to be one of degree rather than kind, and a really satisfactory definition for land speculation is hard to make. Was the pioneer not speculating who moved west with the frontier, buying forty, sixty, or eighty acres, clearing tract, living on it until civilization caught up with him, and selling out to move farther west.

In this example, the clearing of land and then living on it (presumably by cultivating it) constitute productive investments that were encouraged by the land patent regime. Selling the land at a profit does not take away the social benefits of these improvements, which puts this activity outside the definition of unproductive speculation.

support many individuals to develop the underlying assets (land and inventions) without transferring too much wealth to speculators and without excluding too many individuals of modest means from the chance to profit from their inventions. This in a nutshell is the democratic property strategy.

Each patent grant, however modest, represented a small dollop of federal power placed in the hands of a private citizen. While invention patents had been given as early as the fifteenth century (in Venice), and land grants were an ancient prerogative of monarchs and republics, there is a distinctly American flavor to the systematic grant of both to any ordinary citizen who meets the modest statutory requirements. The grants gave many people, most from humble origins, the right to invoke the power of the federal government to enforce their rights. The private ordering decisions that were enabled post-grant, and private control over whether and when to enforce their rights, made them property grants; the low barriers to acquisition and wide availability of the rights made them democratic.

Or, perhaps I should say, *relatively* democratic. Compared to government backing for elite-sponsored enterprises such as the Livingston steamboat (see Chapter 2), invention patents after 1820 were more democratic. But when viewed from the perspective of a black inventor, or in many cases a woman inventor,¹⁸ the patent system was of a piece with most other legal rights – it was off limits, out of reach.¹⁹ Patents were awarded to white citizens of even modest means, but until Emancipation in 1865, a slave, considered a non-citizen, could not obtain a patent in his or her own name. The short-lived Confederate Patent Office did permit patents on slave-created inventions, however; but with the predictable caveat that the same person who owned the slave also had ownership of a slave-invented patent.²⁰

¹⁸ Deborah J. Merritt, *Hypatia in the Patent Office: Women Inventors and the Law, 1865–1900*, 35 *Am. J. Legal Hist.* 235 (1991) (noting the relative dearth of female inventors in patentee lists from the nineteenth century). See also Leila McNeill, *These Four Black Women Inventors Reimagined the Technology of the Home*, *Smithsonian* (February 7, 2017) (scholars “can identify only four African-American women who were granted patents for their inventions between 1865, the end of the Civil War, and the turn of the 19th century.”).

¹⁹ See generally Kara W. Swanson, *Race and Selective Legal Memory: Reflections on “Invention of a Slave,”* 120 *Col. L. Rev.* 1077 (2020) (describing the origin and meaning of an 1858 U.S. Attorney General opinion concluding that no black person, slave or free, could be named as an inventor on a US patent); Shontavia Jackson Johnson, *The Colorblind Patent System and Black Inventors*, 11 *Landslide* (Am. Bar Assoc.) No. 4 (2019), available at www.americanbar.org/groups/intellectual_property_law/publications/landslide/2018-19/march-april/colorblind-patent-system-black-inventors/ (noting the many unacknowledged contributions of slaves to technical innovation, including the cases of the Eli Whitney cotton gin and the McCormick reaper, discussed in Chapters 2 and 3 of this book, respectively); Keith Aoki, *Distributive and Synergetic Motives in Intellectual Property Law (with Special Reference to Coercion, Agency, and Development)*, 40 *U.C. Davis L. Rev.* 717 (2007) (documenting widespread prohibitions on participation of slaves in property ownership, civil litigation, etc.).

²⁰ See Patricia Carter Sluby, *The Inventive Spirit of African Americans: Patented Ingenuity* (Westport, CT: Praeger Publishing, 2004), at pp. 227–228.

The trend set in the nineteenth century persists today, with black and women inventors still underrepresented in the patent rolls.²¹

1.1.3 *Patents and Business Enterprises: Adaptive Change over Time*

If anything in this book is more than a rehash of prior histories, or a litany of pet topics, it is this: a deep dive into the relationship between patents and business enterprises. In the earliest period, patents and related government franchises often covered entire economic markets (or even industries). Legal protection for a technology, in other words, translated (often intentionally) into an industry-wide exclusive franchise. The best example is the various steamboat franchises and patents, which gave legal rights not simply to a technology but to an actual market. (These are covered in Chapter 2, in the section on “Courtier Capitalism.”)

In these “franchises” or “privileges,” the scope of the exclusive grant was tied not just to technical features but also to entire new technologies, and hence the market that these technologies defined. Livingston’s grant from the State of New York, for example, 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.”²² A New York State court, in a decision from 1812, even took pains, while upholding the validity of a concurrent state franchise, to distinguish the New York State grant from a true federal patent right:

[T]he respondents [Van Ingen, trying to break into the New York steamboat business] show no patent, and the appellants [Livingston et al.] have not obtained their grant, as inventors of the steam-boat, and, therefore, the privilege is totally unconnected with the patent power. It seems to be admitted that [the U.S.] congress are authorized to grant patents only to the *inventor* of the useful art.²³

²¹ See Colleen V. Chien, *The Inequalities of Innovation*, Emory L.J. (2020), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3157983; Lisa D. Cook and Chaleamong Kongcharoen, *The Idea Gap in Pink and Black* (Nat’l Bureau of Econ. Res., Working Paper No. 16331) (September 2010) (identifying African American and women inventors using various methods, discussing under-representation of these groups in patent lists, but noting that black and women innovators have a better record in commercializing innovations than the patent data would suggest). Women inventors may have been rare, but they made important contributions, as we see in Chapter 3 with the story of Margaret E. Knight, a major inventive force in a number of nineteenth-century industries. Aside from her pioneering paper bag machine (about which Chapter 3 has much to say), she contributed other patented inventions in papermaking as well as other industries, including the shoe industry and the automotive field. See Henry Petroski, *The Evolution of the Grocery Bag*, 72 *Am. Schol.* 99, 101 (2003); Zorina Khan, “Not for Ornament”: *Patenting Activity by Nineteenth Century Women Inventors*, 31 *J. Interdisc. Hist.* 159, 184 (2000).

²² Camilla A. Hrdy, *State Patent Laws in the Age of Laissez Faire*, 28 *Berkeley Tech. L.J.* 45, 78 (2013) (citing and quoting the New York grant).

²³ *Livingston v. Van Ingen*, 1812 WL 1156 (N.Y. 1812) (defending right of states to grant privileges to entrepreneurs, and even to grant “patents of importation,” i.e., protection for technologies