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The Administration of Genius: Expertise and the Patent Bargain

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THE ADMINISTRATION OF GENIUS: EXPERTISE AND THE PATENT BARGAIN

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Abstract: This Article investigates the role of the patent clerk in the nineteenth century development of the patent system to provide a new history of the foundational metaphor of the patent system, the “patent bargain.” The “patent bargain” refers to the exchange represented by each issued patent, in which the inventor reveals a novel idea in return for a limited-term monopoly to exploit that idea. Today, critiques of the patent system focus on whether the patent bargain is a good deal, that is, whether the economic interests of inventors and the public are served by issued patents. Drawing upon nineteenth-century patent manuals and regulations, the annual reports of the patent office, and case law and statutes, as well as the history of technology and of the early administrative state, this Article resituates the patent bargain as a metaphor explaining the actions of patent bureaucrats when deciding which applications to grant. In a series of nineteenth-century experiments with the operation of the patent system, Congress adopted different approaches to the deployment of expertise within the executive branch in order to best serve the public and private interests at stake in patent applications. Each experiment raised a storm of controversy about the definition and use of expertise within a democratic republic. Deciding what patent clerks ought to be doing required consideration not only of the public interest in patents, but also of the role of the administrative state. The ultimate resolution of these controversies about the administration of genius depended both on the transformation of the patent office into the first modern federal agency and the development of a consensus that the patent bargain appropriately described the task of these executive branch experts.

THE ADMINISTRATION OF GENIUS: EXPERTISE AND THE PATENT BARGAIN

The patent clerk is not known for his genius. The genius of American technological innovation lies rather with the inventors, icons such as Samuel Morse, Thomas Edison, and Alexander Graham Bell, who transformed the world with their ideas. The patent clerk is also not often the subject of scholarship.¹ As Woodrow Wilson noted over one hundred years ago, scholars and political theorists have long put aside “as a ‘practical detail’ which clerks could arrange” the question of “how law should be administered with enlightenment, with equity, with speed, and without friction.”² When considering the development of the patent system during the nineteenth century, legal historians focus rather on jurists such as Joseph Story, who dominated the development of early patent case law, and on Congress, which experimented with no less than three distinct statutory schemes for patents during the first half-century of the new American republic.³ The patent clerk – the administrator of genius – is ignored as a tedious detail.

The Article argues rather than a detail, this ignored history is key to understanding the origins of the patent bargain, the foundational metaphor of the patent system. As a “bargain,”

¹ For the limited historiography of the patent clerk and the patent office, see ROBERT C. POST, *PHYSICS, PATENTS AND POLITICS: A BIOGRAPHY OF CHARLES GRAFTON PAGE* (1976) and Robert C. Post, *‘Liberalizers’ versus ‘Scientific Men’ in the Antebellum Patent Office*, 17 *TECH. & CULTURE* 24 (1976); EDWARD C. WALTSCHEID, *TO PROMOTE THE PROGRESS OF THE USEFUL ARTS: AMERICAN PATENT LAW AND ADMINISTRATION, 1787-1836* (1998); Kenneth Dobyns, *THE PATENT OFFICE PONY: A HISTORY OF THE EARLY PATENT OFFICE*, (1997); P.J. FEDERICO, ed., *OUTLINE OF THE HISTORY OF THE UNITED STATES PATENT OFFICE* (1936). For the legal history of the patent system, see, e.g., Adam Mossoff, *The Use and Abuse of IP at the Birth of the Administrative State* 157 *U.PENN. L. REV.* 2001 (2009); JEFFREY H. MATSUURA, *THOMAS JEFFERSON VS. THE PATENT TROLLS: A POPULIST VISION OF INTELLECTUAL PROPERTY RIGHTS* (2008); Adam Mossoff, *Patents as Constitutional Private Property: The Historical Protection of Patents under the Takings Clause* 87 *B.U. L. REV.* 689 (2007); Oren Bracha, *Owning Ideas: A History of Anglo-American Intellectual Property* (2005); Oren Bracha, *The Commodification of Patents 1600-1836: How Patents Became Rights and Why We Should Care*, 38 *LOY. L.A. L. REV.* 177 (2004), and Adam Mossoff, *Who Cares What Thomas Jefferson Thought About Patents? Reevaluating the Patent ‘Privilege’ in Historical Context*, 92 *CORNELL L.REV.* 953 (2003).

² Woodrow Wilson, *The Study of Administration*, 2 *POL. SCI. Q.* 197, 198-99 (1887).

³ See, e.g., CHARLES WARREN, *A HISTORY OF THE AMERICAN BAR* 458 (1911); Bracha, *Owning Ideas*, *supra* note 1, at 421-22, 440, 442 n. 159; B. Zorina Kahn, *Property Rights and Patent Litigation in Early Nineteenth Century America*, 55 *J. ECON. HIST.* 58, 73(1995); Frank D. Prager, *The Influence of Mr. Justice Story on American Patent Law*, 5 *AM. J. LEGAL HIST.* 254 (1961). The three statutory schemes were those created by the Patent Act of 1790 (April 10, 1790), 1 Stat. 109; the Patent Act of 1793 (Feb. 21, 1793), 1 Stat. 318; and the Patent Act of 1836 (July 4, 1836), 5 Stat. 117.

each patent is considered to be the result of an exchange in which the inventor discloses an innovation to the public in return for a limited-term exclusive grant to exploit the innovation. In this understanding of the patent system, the bargain, correctly struck, ensures the steady march of technological advance, as the “fuel of interest” stokes the “fire of genius.”⁴ This bargain metaphor has had incredible historical persistence, and shapes the contours of current patent policy.⁵ Current debates about the patent system focus on whether the patent bargain has been a good deal; that is, whether patents, once granted, provide public and private benefits measurable in economic terms.⁶ Returning to the nineteenth century, however, reveals that the patent bargain was not simply shorthand for translating the mandate of the Intellectual Property Clause to “promote the progress of . . . the Useful Arts”⁷ into reality, but itself the product of bargaining and compromise about the role of expertise in a representative democracy.

The modern consensus that patents are “bargains” arose out of the resolution of a series of controversies about patent clerks, as they struggled in their day-to-day actions to manage and contain the tensions in political theory exposed by the patent system. As the clerks sought to administer the practical details of the patent laws, they found themselves required to resolve, at least in an *ad hoc* manner, fundamental questions of property and governance, implicit in the federal creation of a private property right.⁸ Political theory became materialized through paper processing by patent clerks, and high order questions became controversies focused on how, precisely, the functionaries of the patent office should consider a patent application, and what sort of men were best suited to perform this job. Each aspect turned on expertise – what expertise was needed, how was it to be defined, who possessed it, and who should wield it. Not just invention, but the administration of the patent system seemed to need a touch of genius.

⁴ Abraham Lincoln, *Second Lecture on Discoveries and Inventions*, in ROY P. BASTER, ED., THE COLLECTED WORKS OF ABRAHAM LINCOLN, vol. 3, 363 (1953).

⁵ Shubha Ghosh, *Patents and the Regulatory State: Rethinking the Patent Bargain Metaphor After Eldred*, 19 BERKELEY TECH. L.J. 1315, 1319-21, 1387 (2004); and Mario Biagioli, *Patent Republic: Representing Inventions, Constructing Rights and Authors*, 73 SOC. RES. 1129 (2006).

⁶ See, e.g., JAMES BESSEN AND MICHAEL J. MEURER, PATENT FAILURE: HOW JUDGES, BUREAUCRATS AND LAWYERS PUT INNOVATION AT RISK 11-12 (2008).

⁷ United States Constitution, Article 1, Section 8, Clause 8.

⁸ See WILLIAM M. LANDES & RICHARD A. POSNER, THE ECONOMIC STRUCTURE OF INTELLECTUAL PROPERTY LAW 4-8 (2003); BESSEN & MEURER, *supra* note /6/ at 4-11, 29-34; Mossoff, *Use and Abuse*, and *Patents as Constitutional Private Property*, *supra* note /1/.

By the late nineteenth century, that genius was contained within a standardized anonymous bureaucracy charged with negotiating the patent bargain, one application at a time. The bargain metaphor was useful not as an economic predictor, but as a directive to clerks about how to accomplish their task. Through this history of the patent clerk focused on the problematic use of expertise within an early federal agency, I make two interrelated arguments. First, I argue that the patent clerk controversies, the resulting shifts in the patent system, and, ultimately, the consensus around the patent bargain, arose from clashing and changing perceptions of the public interest served by the patent system, and how to balance that interest, if at all, against private party rights in invention. The second, related, argument is that the need for expertise to consider public and private rights remained both desirable and almost unsustainably controversial for much of this period. The very size of the patent office by the late nineteenth century, requiring and allowing bureaucratization of expertise, helped reconciled the delegation of patent bargain-making to government experts.

Through these intertwined developments establishing the duties and qualifications of the patent clerk, the present-day dullness of the patent bureaucracy – what has been called a “grey, technical realm”⁹ – emerged. By the late nineteenth century, the patent clerk enacting the patent bargain subsumed within his balance of specialized expertise and standardized bureaucratic processing earlier conflicts over the role of the government in creating property, allowing the formerly provocative to become mundane. The patent bargain served to describe a way in which expertise could be wielded within a representative democracy. Whether patents, once issued, offered the value of the bargain they represented to either public or inventor was a separate question, left unresolved.

I begin my historical narrative in Part I with an eighteenth-century prologue, discussing the three years in which the Patent Act of 1790 was in effect and Thomas Jefferson, then Secretary of State, worked as a patent bureaucrat. Part II turns to a brief interlude when a patent registration system was implemented pursuant to the Patent Act of 1793, and patent processing was considered to be purely bureaucratic, with no room for any expression of expertise. In Part III I examine the controversies provoked by the first full-time patent official, William Thornton, who dominated the bureaucracy of patenting from 1802 to 1828. Next, I consider in Part IV the

⁹ Biagioli, *supra* note /5/ at 1130.

reaction to the new bureaucracy by the Patent Act of 1836, which both established the Patent Office as a formal entity and transformed patent practice by creating an examination system, in which the examining clerks became a substantial barrier between the inventor and a patent grant. Finally, in Part V, I consider the decades after the Civil War, when the patent office pioneered administrative techniques to standardize both clerks and their practices in the late 1860s and 1870s, and became the first federal agency to use merit-based hiring.

I. THOMAS JEFFERSON, THE FIRST PATENT CLERK

In March 1791, Thomas Jefferson was sitting in his Philadelphia office in the temporary quarters of the United States government. As Secretary of State, Jefferson was in charge of one of three executive departments.¹⁰ In his role as advisor to President Washington on foreign relations, he was concerned about the relationship between the United States and its first ally, France, the shaky peace with the former imperial ruler, Great Britain, and the status of Spain's North American territories. The new republic needed to be nurtured, strengthened, and established in a world of much more powerful sovereignties.¹¹

But on this March morning, all of these diplomatic issues were pushed aside as Jefferson welcomed his guests. The visitors, members of the Philadelphia natural philosophy community, were soon clustered around a table, on which Jefferson had set up a device which was claimed to turn sea water into fresh water. The question was whether this desalination device was "sufficiently useful and important" to the new republic to justify the grant of a federal monopoly prohibiting anyone other than the inventor and his licensees from making, using or selling the device for a term of years, that is, to justify the grant of a patent.¹² If the device functioned as

¹⁰ The other departments were that of Treasury and War. The Attorney General was considered merely a legal adviser, and there was no Department of Justice. DUMAS MALONE, 5 *JEFFERSON AND THE RIGHTS OF MAN, Jefferson and His Time* 269 (University of Virginia Press, 1951). Public administration under President Washington is discussed in detail in LEONARD D. WHITE, *THE FEDERALISTS: A STUDY IN ADMINISTRATIVE HISTORY, 1789-1801* (Macmillan, 1948).

¹¹ For a discussion of the major foreign policy issues in Jefferson's first years as Secretary of State, see MALONE, *supra* note /16/ at 307-15, and for Jefferson's career as Secretary of State, RICHARD B. BERNSTEIN, *THOMAS JEFFERSON* 81-104 (Oxford University Press, 2003).

¹² Patent Act of 1790 (April 10, 1790), 1 Stat. 109. By this Act, Americans began to use the previously broad legal term "patent" as shorthand for what had previously been known as "patents for invention."

claimed, the proposed navy might benefit, a matter of sufficient importance to the new nation to justify the award of private property rights to the inventor, Jacob Isaacs.¹³ The visitors, the best of the tiny and nascent American scientific community, watched a demonstration.¹⁴ The device failed to work as claimed, and Jefferson denied Isaac's application.¹⁵

Less than a year earlier, Congress had passed the first Patent Act, after much clamor for federal patents by petitioners.¹⁶ The new statute charged Jefferson (along with Attorney General Edmund Randolph and the Secretary of War Henry Knox) with reviewing applications for federal patents. Previously, patents had been granted by about half of the original thirteen colonies, under a loose approximation of British practice, and were issued at an accelerating pace by ten of the states during the period of the Articles of Confederation.¹⁷ Colonial patents had

For convenience, this Article uses the term "patent," for all time periods discussed, while acknowledging its ahistoricity.

¹³ For Jefferson's involvement in the debates over the formation of a navy, finally established in 1794, see Julia H. Macleod, *Jefferson and the Navy: A Defense*, 8 HUNTINGTON LIBRARY Q. 153 (1945); and HAROLD & MARGARET SPROUT, *THE RISE OF AMERICAN NAVAL POWER, 1776-1918* (Princeton University Press, 1939).

¹⁴ The visitors included David Rittenhouse, Caspar Wistar and James Hutchinson. MALONE *supra* note /16/ at 213-14. In 1791, the word "scientist" had not yet been coined, and any national intellectual community was still much more nascent than actual. For the historiography of colonial and early American science and the gradual formation of a scientific community see RAYMOND P. STEARNS, *SCIENCE IN THE BRITISH COLONIES OF AMERICA* (University of Illinois Press, 1970); BROOKE HINDLE, *THE PURSUIT OF SCIENCE IN REVOLUTIONARY AMERICA* (University of North Carolina Press, 1956); A. HUNTER DUPREE, *SCIENCE IN THE FEDERAL GOVERNMENT: A HISTORY OF POLICIES AND ACTIVITIES* (1957, rep., Baltimore, MD, 1986); POST, *PHYSICS, PATENTS*, *supra* note /6/; Clark A. Elliott, *The American Scientist in Antebellum Society: A Quantitative View*, 5 SOCIAL STUDIES OF SCIENCE 93 (1975); GEORGE H. DANIELS, *AMERICAN SCIENCE IN THE AGE OF JACKSON* (New York, 1968); Nathan Reingold, *Alexander Dallas Bache: Science and Technology in the American Idiom*, 11 TECH. & CULTURE 163 (1970); and SALLY GREGORY KOHLSTEDT, *THE FORMATION OF THE AMERICAN SCIENTIFIC COMMUNITY: THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, 1848-60* (Urbana, IL, 1976).

¹⁵ MALONE, *supra* note /16/ at 283. For a more full description, see ANDREW A. LIPSCOMBE & ALBERT ELLERY BERGH, EDS., 3 *THE WRITINGS OF THOMAS JEFFERSON* 1-8 (Thomas Jefferson Memorial Association, 1905), and letter to Caspar Wistar, Mar. 20, 1791 (LIPSCOMBE & BERGH, 8 at 151-152). Note that only three patents were granted in 1790, so by March of 1791, the experience with patent examination was still extremely limited. P.J. Federico, *Operation of the Patent Act of 1790*, 18 J. PATENT OFF. SOC'Y 71 (1936).

¹⁶ For the legislative history of the Patent Act of 1790, see WALTERSCHEID, *supra* note /6/ at 109-43 and *Proceedings in Congress During the Years 1789 and 1790, Relating to the First Patent and Copyright Laws*, 22 J. PAT. OFF. SOC'Y 363 (1940).

¹⁷ Counting colonial patents depends on what counts as a "patent for invention." Historian Bruce Bugbee identified true patents of invention in only 6 colonies; others have argued that 8 colonies issued monopolies for invention. BRUCE W. BUGBEE, *THE GENESIS OF AMERICAN PATENT AND COPYRIGHT*

been limited, scattered, and intermingled with other types of grants from the sovereign.¹⁸ Now, patents were among the responsibilities of the new government, as Congress had rapidly exercised its constitutional authority “to promote the Progress of Science and useful Arts” and established the first North American system for such exclusive rights.¹⁹ Jefferson himself had not been at the Constitutional Convention, and was perhaps among the least committed to the value of patents.²⁰ Jefferson combined a personal fascination with technology and invention with a commitment to a particular vision of republicanism that preferred agriculture to industry and was suspicious of the over-concentration of wealth.²¹ Yet on this day in 1791, as on many others during his first three years as Secretary of State, Jefferson was wholeheartedly taking on the role of “first patent bureaucrat.”²²

LAW 60-83; 84-103 (Public Affairs Press 1967); P.J. Federico, *State Patents*, 13 J. PAT. OFF. SOC'Y 166-176 (1931) and *Colonial Monopolies and Patents*, 11 J.PAT. OFF. SOC'Y 358-365 (1929), E. BURKE INLOW, THE PATENT GRANT, The Johns Hopkins University Studies in Historical and Political Science, Series LXVII, No. 2, 36-43 (Johns Hopkins Press, 1950). About fifty patents were granted in total during the colonial period and about 28 by the states during the 1780s. WALTERSCHEID, *supra* note /6/ at 15, 46.
¹⁸ See generally, BUGBEE, *supra* note /23/ at 57-103; P.J. Federico, “Colonial Monopolies and Patents,” in FEDERICO, *supra* note /6/ at 35-42. This distinguishes the American case from that of Europe, where several countries had developed a standardized form of patents for invention by the 18th century. See BUGBEE, *supra* note /23/ at 12-43. The limited period of state patents is discussed in FEDERICO, *supra* note /6/ at 43-54 (“State Patents”).

¹⁹ United States Constitution, Article 1, Section 8, Clause 8. The Clause in full reads: “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.”

²⁰ Jefferson, corresponding with James Madison from France in 1788 and 1789, first opposed the idea of monopoly grants for inventions (and never sought any protection for his own inventions), but eventually came to support the idea. See MALONE, *supra* note /16/ at 282 (citing letters of July 31, 1788 and Aug. 28, 1789) and JAMES MORTON SMITH, ED., 1 THE REPUBLIC OF LETTERS: THE CORRESPONDENCE OF THOMAS JEFFERSON AND JAMES MADISON, 1776-1826 545 (Norton, 1995). But see Letter of Aug. 13, 1813 to Isaac McPherson, LIPSCOMB & BERGH, *supra* note /21/ at 13: 333-35 (calling an “exclusive patent” an “embarrassment”).

²¹ Jefferson’s lifelong engagement with technology and its links to his political philosophy are discussed in Hugo A. Meier, “Thomas Jefferson and a Democratic Technology,” in CARROLL W. PURSELL, JR., ED., TECHNOLOGY IN AMERICA: A HISTORY OF INDIVIDUALS AND IDEAS, 2d ed. 17-33 (MIT Press, 1990) and in Matsuura, *supra* note /4/. The historiography of Jefferson, Jeffersonian republicanism, and the political philosophies of the Founding Fathers is too vast to survey here. Starting points include PETER S. ONUF AND LEONARD J. SADOSKY, JEFFERSONIAN AMERICA (Blackwell Publishers, 2002) and their annotated bibliography at 222-61; and DORON S. BEN-ATAR, THE ORIGINS OF JEFFERSONIAN COMMERCIAL POLICY AND DIPLOMACY (St. Martin’s Press, 1993)(literature review at 1-16). See also Mossoff, *Who Cares What Thomas Jefferson Thought*, *supra* note /4/, and Matsumara, *supra* note /4/.

²² While Jefferson’s role in the federal government was of course much greater than that of a patent bureaucrat, he is proudly claimed by modern patent examiners as their founding father. As part of the Centennial Celebration of the patent system, the Patent Office Society, the organization of patent clerks,

The Act required an inventive idea which was “sufficiently useful and important,” as well as a description of the invention “so particular, and said [accompanying] models so exact, as not only to distinguish the invention or discovery from other things before known and used, but also to enable a workman or other person skilled in the art or manufacture, . . . , to make, construct, or use, the same.”²³ Both these criteria emphasized the benefit to the public – the usefulness of the invention to the new nation, and disclosure such that, once the term of the patent had run, others could easily make or use the invention.

Under this regime, patent grants were not matters of right, but matters of privilege, dependent on the considered discretion of three high-ranking officials, just as they had been royal privileges in the colonies, and as they had begun in Great Britain.²⁴ But these were to be somehow republican privileges. The focus was on the new nation, and the benefit to its developing technological base. As Jefferson later described his work, he examined patent applications “[c]onsidering the exclusive right to invention as given not of natural right, but for the benefit of society.”²⁵ The public interest at stake was particularly a national interest, an imagined political economy the contours of which were the subject of heated debate within Washington’s administration.²⁶ Jefferson and his colleagues Randolph and Knox were chosen as patent bureaucrats for their particular ability to envision the national political economy. Their

dedicated a bust of Thomas Jefferson, claiming him as the first “Commissioner of Patents.” CENTENNIAL CELEBRATION OF THE AMERICAN PATENT SYSTEM, 1836-1936, 28-29 (United States Government Printing Office 1937).

²³ Patent Act of 1790, sec. 2.

²⁴ For a discussion of early federal patent practice and case law, and the transition from patent as a privilege to patent as of right, see Bracha, *supra* note /4/. See also BUGBEE, *supra* note /2/ at 149-54; P.J. Federico, *Operation of the Patent Act of 1790*, in FEDERICO, ED., *supra* note /6/ at 63-76. The origins and slow formalization of the British system is discussed in CHRISTINE MACLEOD, *INVENTING THE INDUSTRIAL REVOLUTION: THE ENGLISH PATENT SYSTEM, 1660-1800* (Cambridge University Press, 2002 [1988]).

²⁵ Quoted in FEDERICO, ED., *Operation of the Patent Act of 1790*, *supra* note /6/ at 69 (recollection of Jefferson some twenty years later).

²⁶ As has been often noted, the United States Constitution was not so much the product of consensus, but of compromise, and even a willful refusal to see internal contradictions in its framework. Jefferson, his colleagues in Washington’s administration, and the first Congresses were, in their daily acts and policy debates negotiating between the rhetoric and ideals of the Revolution and the realities of governance. The debates over the nature of the new nation, the interpretation of the Constitution, and the means of governing under that Constitution which erupted during the ratification debates and continued to become ever sharper with the emergence of partisan politics in the 1790s have been explored by many scholars, including, *e.g.*, JOYCE APPLEBY, *CAPITALISM AND A NEW SOCIAL ORDER: THE REPUBLICAN VISION OF THE 1790S* (New York University Press, 1984).

expertise laid in their ability to make a nuanced evaluation of “sufficient importance” as men who were well-acquainted with the entire range of the federal government, its concerns, and its weaknesses. And they did so as subordinates to Washington, who as president ultimately embodied the nation and personally signed each patent.²⁷ It was Washington’s position as a nationally elected leader that made the United States patent a republican privilege, and Jefferson as the first patent bureaucrat worked as his close representative.

Jefferson set a standard of careful examination and a high rate of rejection, rejecting perhaps over fifty percent.²⁸ He and his colleagues met frequently to discuss applications, having each reviewed the paperwork. Often, they invited an inventor to appear in person to discuss his invention.²⁹ As illustrated by the Isaacs example, at times Jefferson called upon the intellectual elite to provide additional expertise in evaluating inventions, adding representatives of the republic of letters to the discussion. In this enactment of patent practice, the inventor was a supplicant, pressed to provide as much information as possible to justify his claim to a monopoly, and the bureaucrats were men of specialized abilities.

II. DOING WITHOUT EXPERTISE, 1793 - 1802

In these first years, there was no dispute about the relationship among the government, the public, and property rights that Jefferson was enacting.³⁰ Just as in their other actions, Jefferson, Randolph, Knox and Washington were serving the national interest as a “natural aristocracy,” using their best understanding as property-holding, educated gentlemen, an approach which was broadly condoned by those who would soon be called Federalists as well as

²⁷ See LEONARD D. WHITE, *THE FEDERALISTS: A STUDY IN ADMINISTRATIVE HISTORY* 27 (Macmillan 1961).

²⁸ About 55 patents were issued under the Patent Act of 1790, with Jefferson’s biographer estimating that there were about twice that many applications considered. MALONE, *supra* note /16/ at 283; FEDERICO, ED., “Operation of the Patent Act of 1790,” *supra* note /6/ at 72 (at least 114 applications filed in 1790 and 1791 alone).

²⁹ See, e.g., WALTERSCHEID, *supra* note /6/ at 178-81, describing meetings in the spring of 1790.

³⁰ Note that Edward C. Walterscheid, *Thomas Jefferson and the Patent Act of 1793*, *ESSAYS IN HIST.* 40 (1998) (ejournal available at <http://etext.lib.virginia.edu.ezp-prod1.hul.harvard.edu/journals/EH/EH40/walter40.html#n4.9>) claims without citation that inventors must have objected to the time-consuming nature of this process and to the low issuance rates. As neither of these characteristics differed significantly from colonial and state practice, such disgruntlement cannot be assumed, although it may have existed.

those later known as Jeffersonian Republicans.³¹ It was not inventors, nor the wider community, who first despaired of this system, but Jefferson and his fellow officials. Jefferson's grand ideals quickly faltered against bureaucratic realities. Given his other responsibilities, Jefferson soon found himself "oppressed beyond measure" by the duties of patent examination.³² While the tight linkage between private property in invention and the specific needs of the nation as a whole as mediated by an elite class of men only one step from the president might be ideal, it was impractical. There had to be another way. Within a year of taking office, Jefferson had drafted a proposal for legislation that would move the United States to a patent system more like that in effect in Great Britain at the time, a simple registration system without any examination.³³ His proposal was for purely bureaucratic processing without application of expertise of any sort. The alternative of establishing an office of bureaucrats devoted solely to considering patent applications substantively was simply unthinkable given the strong political will to keep the federal government small.³⁴ Instead, Jefferson's proposal would shift responsibility for

³¹ In brief, Jefferson considered himself and his colleagues to be part of a natural aristocracy leading a nation of yeoman farmers, while the Federalists also advocated government for the people, but not of the people, agreeing that men of elite position should lead. For a more detailed discussion of the philosophies of administration in the early republic, see LEONARD D. WHITE, *THE JEFFERSONIANS: A STUDY IN ADMINISTRATIVE HISTORY, 1801-1829* 549 (Free Press, 1965), 549 and FEDERALISTS, *supra* note /33/ at 508, and Mashaw, *Recovering American Administrative Law, supra* note /10/ and *Reluctant Nationalists: Federal Administration and Administrative Law in the Republican Era, 1801-1829*, 116 *YALE L.J.* 1636 (2007).

³² Letter of TJ to Hugh Williamson, Apr. 1, 1792 (PAUL L. FORD, ED., 5 *THE WRITINGS OF THOMAS JEFFERSON* 492 (1895)). See also MALONE *supra* note /16/ at 281 (patents the most time-consuming of Jefferson's domestic duties).

³³ MALONE, *supra* note /16/ at 285. Ford, *supra* note /38/ at 5: 278-80 (Jefferson's draft bill). Note that Jefferson's draft did not become the 1793 Act. WALTERSCHEID, *TO PROMOTE THE PROGRESS, supra* note /6/ at 196. In fact, Jefferson's draft was much more protective of the public than the bill that was enacted. For example, it would have required a patentee to file a copy of his patent in every United States district court and to publish a copy in a newspaper in each district three times before the patent could be enforced, requirements which would have created a substantial burden on the inventor in the interest of the public. WALTERSCHEID, *TO PROMOTE THE PROGRESS, supra* note /6/ at 202. For a detailed discussion of the contemporary British system, see MACLEOD, *supra* note /30/ and BRAD SHERMAN & LIONEL BENTLEY, *THE MAKING OF MODERN INTELLECTUAL PROPERTY LAW: THE BRITISH EXPERIENCE, 1760-1911* (Cambridge University Press 1999).

³⁴ Note that when Jefferson became Secretary of State, he had a staff of only five. MALONE, *supra* note /16/ at 272. There was a contemporary proposal for a "patent officer" with the power to examine patents, but this proposal was unsuccessful. Frank D. Prager, *Trends and Developments in American Patent Law from Jefferson to Clifford (1790-1870), Part II*, 6 *AM. J. LEGAL HIST.* 45, 46-48 (1962); FEDERICO, ED., "The Patent Act of 1793," *supra* note /6/ at 80. The philosophical commitments of Jefferson and his contemporaries to a small federal government also reflected their commitment to a concept of a public

measuring patents against the legislative standard of “useful and important” to the federal courts, where judges appointed from the same natural aristocracy as Cabinet officials could make the determination.

Jefferson’s proposed change was adopted in 1793, when Congress passed the second Patent Act, establishing a registration system for patents under the supervision of the State Department.³⁵ In place of Cabinet-level officials, the few State Department clerks were given the task of processing patent applications in addition to their other duties. Instead of a consideration of the importance of a claimed device to the nation, perhaps in consultation with the best minds of the age, the clerks were charged with evaluating paperwork for procedural conformity. The Patent Act of 1793 attempted to eliminate the patent bureaucrat altogether by minimizing his role in mediating between the inventor and the public. The Act switched the locus of evaluation of the application from government officials to the inventor himself, by specifying that the applicant should submit a signed, witnessed oath that he was the “true inventor,” along with “a written description of his invention . . . in . . . full, clear and exact terms,” drawings, and a model if the invention permitted.³⁶ If the application met these requirements, and the inventor paid his fee, the patent was to be drafted, and forwarded to the Secretary of State for signature.

The Patent Act of 1793 thus implemented a radical change in the perceived responsibilities of the executive branch in the transformation of inventive ideas into property. By making the individual inventor the evaluator of his own patent application,³⁷ the new legislation tipped the balance dramatically from bureaucrats working in the service of the public to bureaucrats working in the service of the inventor, with no mandate or special ability to

composed of self-reliant, self-governing propertied men, a concept constantly in negotiation as the powers of the federal government grew. *See* sources cited *supra* note /37/.

³⁵ See Walterscheid, *Thomas Jefferson and the Patent Act of 1793*, *supra* note /36/.

³⁶ Patent Act of 1793, sec. 3. *See* Biagioli, *supra* note /8/ on the political ramifications of this shift. Note that by making the individual applicant to the government the interpreter in the first instance of whether the statutory requirements had been met, Congress chose a third path rather than the either of the two most commonly analyzed in contemporary administrative practice, that is, the trade-off between agency interpretation and judicial interpretation, as discussed in, e.g., Mathew C. Stephenson, *Legislative Allocation of Delegated Power: Uncertainty, Risk, and the Choice between Agencies and Courts*, 119 HARV. L. REV. 1038.

³⁷ Note, I do not mean to imply that the inventor was the evaluator of his own *patent*, merely of the *application*. While he could virtually guarantee issuance, the validity of the patent was a matter for judicial determination, as discussed below.

consider the public interest. The inventor was no longer a supplicant, but master of his own fate, the most important person in shaping and evaluating the requested patent. If he felt it was worth the application fee, he could obtain a patent. Further, Congress deliberately kept application fees low for United States citizens, in contrast to European patent systems.³⁸ In these changes that eliminated any role for expertise in patent application processing, the Patent Act of 1793 provided a legislative framework that facilitated a very different conception of the relationship among the inventor, the government, and the public, at odds with the assumptions of the Jeffersonian mode of patent administration.

At first, the new registration regime was, as planned, enacted by anonymous low-level State Department clerks. These clerks lacked any particular expertise not only in the “useful arts” but even in the processing of patent applications, since they were responsible for all the paper work of the State Department. There was certainly no pretense that in their paper-processing, the clerks were considering whether an invention was “important” to the developing nation. All the substance of the patent system was in the federal courts. If any one cared to challenge, or the inventor sought to enforce, the patent, it was the judiciary who would consider novelty, utility and importance.³⁹ An apparently simple scheme, but the devil, or at least heated controversy, lurked in the unspecified details.

III. IN THE SERVICE OF THE ‘TRUE INVENTOR,’ 1802 - 1828

³⁸ In contrast to the 1790 Act, the 1793 Act, sec. 1, limited patents to United States citizens, a limitation which was eventually lifted. By 1836, United States patents were once again available to any one, although aliens had to pay \$300 and citizens of Great Britain were assessed \$500. Patent Act of 1836, sec. 9. Americans paid \$30 for a patent pursuant to both the 1793 Act and the 1836 Act. Patent Act of 1793 (1 Stat. 318), sec. 11, 1836 Act, sec. 9. Walterscheid estimates that under the registration system, the average cost of obtaining a patent was about \$100, about 5 times less than the cost for an English patent. WALTERSCHEID, *TO PROMOTE THE PROGRESS*, *supra* note /6/ at 248-49.

³⁹Evaluating the role of the courts in the patent system during this period, and into the first decades of the nineteenth century, is difficult, as there were very few published patent cases. There were only six reported United States patent decisions between 1800 and 1809, and a further thirty-seven cases between 1810 and 1819. B. Zorina Kahn, *Property Rights and Patent Litigation in Early Nineteenth Century America*, 55 J. ECON. HIST. 63, 94-95 (1995). The situation did not change significantly in the next decades. Kahn finds thirty-six patent cases between 1820 and 1829 and thirty-seven cases between 1830 and 1839. *Id.*

Not surprisingly, the lowered barriers to a patent grant, as well as the growing population of the United States, correlated with an increase in applications. The patent workload became increasingly onerous for the small State Department staff, and in 1802, Jefferson, now President, appointed William Thornton as the first federal employee dedicated full-time to processing patent petitions, working within the State Department. The increase in patent applications also exposed difficulties with the many practical details which had been had been left to the arrangement of the clerks.

Thornton, an Edinburgh-trained physician, self-taught architect, and steamboat enthusiast, worked under the supervision of then-Secretary of State James Madison.⁴⁰ Thornton remained in the position, which he quickly designated as the Superintendent of Patents, until his death in 1828, dominating the development of patent practice during the registration period, which outlasted him by only eight years. During his quarter century of control over the patent process, Thornton was virtually the sole bureaucratic mediator between would-be patentees and the United States government, although the Attorney General was required to certify all patents, and the President continued to sign the final grants.⁴¹ Like Jefferson, Thornton regarded himself with justification as a member of the elite of the young nation. In addition to his training and experience in medicine, architecture, and mechanics, he was well-connected with federal politicians. He had been close friends with Madison since they roomed together in Philadelphia while Madison was attending the Constitutional Convention, and in Washington, they were neighbors and jointly owned racehorses.⁴² He had won the competition to design the Capitol

⁴⁰ For discussions of patent practice before and during Thornton's tenure, and of Thornton himself, see DOBYNS, *supra* note /6/ at 35, 39-57, 60-70; BEATRICE STARR JENKINS, WILLIAM THORNTON: SMALL STAR OF THE AMERICAN ENLIGHTENMENT (Merritt Starr Books 1982), ELINOR STEARNS & DAVID N. YERKES, WILLIAM THORNTON: A RENAISSANCE MAN IN THE FEDERAL CITY (American Institute of Architects Foundation 1976); William I. Wyman, "Dr. William Thornton and the Patent Office to 1836," in FEDERICO, ED., *supra* note /6/ at 83-87; and WALTERSCHEID, TO PROMOTE THE PROGRESS, *supra* note /6/ at 253-304. Walterscheid argues that Thornton's appointment was driven less by an increase in patent applications than by Jefferson and Madison's desire to provide a salary for Thornton, architect of the capitol building, who lost his position as Commissioner for the District of Columbia in 1801. *Id.* at 254. However, in 1803, 97 patents were issued, compared to 20 in 1793. *Id.* at 245-46. While Thornton may have been chosen out of cronyism, his arrival was probably welcomed by the State Department clerks.

⁴¹ Patent Act of 1793, sec. 1.

⁴² STEARNS & YERKES, *supra* note /46/ at 9, 24, 27; DOBYNS, *supra* note /6/ at 40.

Building, and he had served as a Commissioner of the District of Columbia.⁴³ By all accounts a strong-minded and forceful individual,⁴⁴ Thornton signaled by his self-designation as Superintendent of Patents that he refused to allow anyone to think of him as a mere clerk. He believed himself to have relevant expertise, and he intended to use it. In doing so, even within a statutory scheme designed to erase the clerk, he constantly provoked controversy.

In thrusting the patent bureaucrat into the public eye, Thornton exposed the theoretical contradictions between the “true inventor” of the 1793 Act who, based his oath that he had thought of something new and useful, claimed property by right, and Jefferson’s understanding that the promotion of the useful arts required careful consideration of property grants in view of the national public interest. The new Act had not been passed based on any consensus that the Lockean theory of property implicit in the Patent Act of 1793 was more reflective of the American republic than the Jeffersonian notion of a republican privilege, but rather based on the impracticability of the prior system and a belief in a limited federal government. The Jeffersonian image of the public as the beneficiary of the patent system retained support, both within the government and in the community of learned men upon which Jefferson had called during his years examining patents. While Thornton shared Jefferson’s elite status and his desire to be an active and conscientious patent administrator, he most decidedly did not share Jefferson’s views of the role of the patent bureaucrat. Thornton flatly rejected the idea that the patent system served the public interest in any way except incidentally, and instead believed that the government’s role was the protection of the value of each individual inventor’s rights in his invention. Reinterpreting the use of expertise in the patent system, Thornton drew criticism from the courts, but also developed models of bureaucratic behavior that formed the basis for later legislation.

⁴³ DOBYNS, *supra* note /6/ at 39-40. Note that while Thornton was hired when Madison was Secretary of State, by 1809 Madison had moved on to the Presidency. Thornton served under 4 Secretaries, and 4 presidents.

⁴⁴ One of the most-told tales about Thornton is his alleged role in preventing the burning of the patent office during the War of 1812 by convincing the invading British army that the loss of the patent models and records would be an irreplaceable blow to civilization. DOBYNS, *supra* note /6/ at 65; JENKINS, *supra* note /46/, WYMAN, *supra* note /46/. Civilization later did suffer such a blow in 1836 when the Patent Office Building burned, destroying almost all records of the early United States patent system, and again in 1877, when many models burned in another patent office fire. UNITED STATES PATENT OFFICE, AN ACCOUNT OF THE DESTRUCTION BY FIRE ON 24TH SEPTEMBER, 1877 TOGETHER WITH A HISTORY OF THE PATENT OFFICE FROM 1790 TO 1877 (Washington, D.C. 1877).

A. Agency v. Courts

The Patent Act of 1793 had left unspecified almost all administrative details, including how the patent application papers should look, how they should be delivered, how the government might communicate any insufficiencies or defects in the paperwork, and what might happen if errors in the paperwork were discovered after a patent was granted. Thornton made practical decisions to address all these issues, creating the beginnings of patent regulations in an assumption of authority that would be finally ratified by Congress in 1870.⁴⁵ By at least 1811, he had published rules for applicants that addressed formal questions such as the size of paper for applications, the preparation of drawings, the form of the application, and the sort of language to use.⁴⁶ Through his rules, Thornton did his best to create a streamlined process and standardized product, a qualitatively different type of bureaucratic processing than individualized consultation with experts in science and technology, followed by further deliberation among a high-powered group of government officials.

But Thornton refused to limit his activities to processing applications in accordance with his own regulations. He felt strongly that he was often asked to issue patents on applications that were formally in compliance, but blatantly in violation of the law which required the applicant to be the “true inventor.”⁴⁷ Often Thornton believed, based on his own experience and knowledge, that the described invention was not new, and sometimes it was even obviously copied from the files of the patent office itself.⁴⁸ In Thornton’s view, the government should not hand out legally invalid property to such false inventors, creating false patents to circulate with the imprimatur of the United States at the expense of true inventors. Thornton’s concern was all for the true inventor, most particularly about the market value of the true inventor’s patent. Thornton

⁴⁵ Patent Act of 1870, sec. 19 (giving Commissioner the authority to issue regulations).

⁴⁶ DOBYNS, *supra* note /6/ at 62; n.a., *Patents*, 6 J. PATENT OFFICE SOC’Y 97 at 97 (1923) (reprint of 1811 version of pamphlet); LEVIN H. CAMPBELL, *THE PATENT SYSTEM OF THE UNITED STATES: A HISTORY* 26 (Press of McGill & Wallace 1891)(describing 1828 Patent Office circular).

⁴⁷ Patent Act of 1793, sec. 3.

⁴⁸ The common occurrence of such copying during the registration period was noted in the 1836 Senate Report which led to the next major revision of the patent law, as discussed further below.

worried that false patents claiming all or some of the true inventor's invention would render the inventor's monopoly grant almost worthless, unless he engaged in expensive litigation.⁴⁹

Thornton enacted his concern for the true inventor by informing applicants when he believed their claimed inventions were not novel. He made no secret of his activities, outlining them for then-Secretary of State Robert Smith in 1810 as "labours perhaps . . . more . . . the duties of conscience than of office."⁵⁰ Needless to say, not all applicants were willing to accept Thornton's refusal to consider them within the "true inventor" category, and some went over his head to the Secretary of State. The Secretary sought an opinion of the Attorney General who reiterated the limited legislative mandate that required Thornton to issue patents without respect to his opinion as to their legal validity.⁵¹ Still, Thornton continued to warn applicants in correspondence that their inventions were not new or useful,⁵² but if the applicant insisted on pressing the petition, Thornton had no choice but to forward the paperwork to the Secretary. If forced to issue such patents, he sometimes changed the language of the patents he drafted to indicate his distrust of their claimed novelty, adding terms such as "alleged" to the iteration in

⁴⁹ Thomas Blanchard, a successful inventor of the registration period, did engage in extensive litigation to maintain and assert the value of his woodworking patents. See generally CAROLYN COOPER, SHAPING INVENTION: THOMAS BLANCHARD'S MACHINERY AND PATENT MANAGEMENT IN NINETEENTH-CENTURY AMERICA (Columbia University Press 1991). One can argue, and people later did, that the public interest too was harmed by these false patents, which might have slowed the rate of innovation by discouraging others, and raising the price of products to cover improperly levied license fees. Thornton, however, did not often make these arguments. But see Letter of June 10, 1817, Thornton to Caleb Kirk. Reproduced at C.M. HARRIS & D. PRESTON, "Papers Relating to the Administration of the U.S. Patent Office During the Superintendency of William Thornton, 1802-1828," Federal Documentary Microfilm Edition No. 1 (Washington, D.C. 1987)(quoted in Edward D. Walterscheid, *The Winged Gudgeon – An Early Patent Controversy*, 79 J. PAT. OFFICE SOC'Y 533-49, 540 (1997)(Thornton describing himself as "bound in conscience to defend the public against the direct and willful impositions of patentees").

⁵⁰ Letter from Thornton to Smith (Dec. 19, 1810), quoted in WALTERSCHEID, TO PROMOTE THE PROGRESS, *supra* note /6/ at 259-60. Walterscheid discusses specific examples of Thornton's refusal to issue patents at 260 n. 54.

⁵¹ Opinion of March, 1812, R. FARNHAM, I OFFICIAL OPINIONS OF THE ATTORNEYS GENERAL OF THE UNITED STATES 171 (Washington 1852) and Nourse's Case, 1 Opin. 575, Wirt, A.G. (1822); digested in STEPHEN D. LAW, DIGEST OF AMERICAN CASES RELATING TO PATENTS FOR INVENTION AND COPYRIGHTS 149, 5th and rev. ed. (Stephen D. Law and F.D. Linn 1877). This opinion limiting the State Department to ministerial rather than judicial action in consideration of a patent application, was reiterated after Thornton's death in Anon., 2 Opin. 455, Taney, A.G. (1831), digested in LAW, 5th ed. at 149.

⁵² See examples at WALTERSCHEID, TO PROMOTE THE PROGRESS, *supra* note /6/ at 263 n. 63.

the grant that the named recipient was the true inventor.⁵³ In one case, Thornton managed to provoke a patentee into bringing a libel suit against him for his continued public insistence that a patent claiming the beveling of one edge of a common piece of mill machinery, the “winged gudgeon,” was invalid for lack of novelty.⁵⁴

The federal judiciary showed itself sympathetic with Thornton’s starting premise that the purpose of the patent system, at least under the registration system then in force, was to protect the inventor and to allow him to reap the economic benefits of his ideas, without regard to the public. “[T]he intention of the law [is] to promote the progress of useful arts by the benefits granted to inventors; not by those accruing to the public.”⁵⁵ One judge also agreed that fraudulent patents were “evils of great magnitude.”⁵⁶ But the courts responded repressively to Thornton’s attempts to solve the problem of invalid patents by the exercise of his own expertise to evaluate applications substantively. While his regulatory pamphlets remained unchallenged, Thornton’s attempts to act as a gatekeeper by rejecting applications for legal invalidity were firmly rejected by the judiciary. In their opinions, judges repeatedly emphasized the ministerial nature of patent application processing under the Patent Act of 1793, and the lack of discretion in the Superintendent and the Secretary of State, rejecting any notion that patent bureaucrats should participate in the determination of whether a patent application met the statutory criteria.⁵⁷ Pursuant to the judicial interpretation of the Act, the appropriate locus for judgment of the worth of a patent as property was the courtroom, and the appropriate decision maker was a judge.

⁵³ For a summary of Thornton’s practice in this regard, and specific examples, see WALTERSCHEID, TO PROMOTE THE PROGRESS, *supra* note /6/ at 259-65, and Walterscheid, *The Winged Gudgeon*, *supra* note /55/ at 536-38.

⁵⁴ See Walterscheid, *The Winged Gudgeon*, *supra* note /55/.

⁵⁵ *Whitney v. Emmett*, 29 F. Cas. 1074, 1082 (C.C.E.D. Pa. 1831). Based on her review of almost 800 patent litigations, economic historian B. Zorina Khan concludes that the courts generally focused on the true inventor rather than the public welfare when considering patent cases in the antebellum period. *Property Rights and Patent Litigation in Early Nineteenth Century America*, 55 J. ECON. HIST. 58, 61 (1995). See also Kenneth J. Burchfield, *Revising the ‘Original’ Patent Clause: Pseudohistory in Constitutional Construction*, 2 HARV. J. L. & TECH. 155, 179-80 (1989)(discussing a pre-patent bargain concept of patents as solely a matter of private property rights).

⁵⁶ *Thompson v. Haight*, 23 Fed. Cas. 1040, 1041 (C.C.C.S.N.Y. 1826).

⁵⁷ See, e.g., *Grant and Others vs. Raymond*, 6 Peters 218 (1832)(in decision interpreting 1793 Act, “The Secretary of State in issuing patents is a mere ministerial officer, and can exercise no power which is not expressly given. If the forms of law are complied with, he can exercise no judgment whether the patent shall be issued or not.”), digested at LAW, 5th ed., *supra* note /57/ at 150.

B. Protecting the 'Poor Ingenious Patentee'

Thornton's focus on the "true inventor" revealed a set of assumptions about such individuals, the public at large, and the role of information in the developing patent system. To him, the "poor ingenious patentee[]"⁵⁸ was rare and vulnerable, needing the protection of his government in order to be able to reap the value of his innovations. While an inventor-centered patent system such as Thornton and the federal courts in the early nineteenth century imagined did not logically preclude a concern with the costs which worthless patents imposed on the public, Thornton also engaged in another series of actions which rejected any alignment of the private and public interest through the patent office. Rather than become a mediator of a "patent bargain," he chose to act as the federal protector of individual property rights from the public. Thornton's public was not the Jeffersonian public of yeoman farmers, using technical improvements to maintain their financial independence in an agrarian economy, but a grasping public of those seeking to profit from the ideas of others, akin to what became known in Jacksonian America as "speculators."⁵⁹

This oppositional view of individual property rights and the public was displayed and challenged through Thornton's policy of strictly limiting the circulation of patents. While the Patent Act of 1790 had provided for the availability of patents to the public,⁶⁰ this provision was almost meaningless given the inaccessibility of the handwritten documents to most Americans. Accessibility, of course, was crucial to the "patent bargain," and also a *sine qua non* for any meaningful claim to be the first and true inventor.⁶¹ Thornton took the position that the Patent Act of 1793 required him only to provide copies of disputed patents to litigating parties. Otherwise, he refused requests for copies of current patents, unless the inventor gave permission. He permitted only copies of expired patents to circulate outside the office. His goal was to bolster the property rights of the true inventor by warding off potential copycats within the rapacious public. To Thornton, the information contained in the patents was not a building block

⁵⁸ Letter, quoted at Walterscheid, *Winged Gudgeon*, *supra* note /55/ at 540.

⁵⁹ HARRY WATSON, *LIBERTY AND POWER: THE POLITICS OF JACKSONIAN AMERICA* (Hill and Wang 1990).

⁶⁰ Patent Act of 1790, sec 3.

⁶¹ Justice Story acting as circuit judge made this point as early as 1814: "It is a presumption of law that when a patent has been obtained, and the specification and drawings recorded in the patent office, every man . . . has a knowledge of the preceding patent." *Odiorne v. Winkley*, 18 F.Cas. 581, 582 (C.C.D. Mass. 1814).

for further American innovation, but a set of instructions to infringers that would allow them to set up competing businesses. Given the primitive state of internal transportation, and hence, information flow, there was some basis for Thornton's fear that a true inventor might lose potential licensing revenues to infringing competitors in distant states without any knowledge of such loss – and of course, the remedy even if such loss were discovered was expensive and time-consuming litigation. Thornton preferred to allow each inventor to control information flow about his own invention, rather than to consider the files of the patent office as a public resource.

The issue of information access came to a head in 1824 and 1825. Peter Browne, a co-founder of the Franklin Institute, an organization in Philadelphia committed to fostering and disseminating scientific and technical knowledge, requested copies of issued patents for publication in the Institute's journal. This proposal came out of the same natural philosophy community Jefferson had called upon, a community that shared his view of an American public peopled by intelligent mechanics that would be strengthened by the widespread public knowledge of inventions. The elite men of science who ran the Franklin Institute and supported its journal enacted this view of the public and its relationship to the patent system in other ways as well. Sharing Thornton's belief that the registration system allowed worthless patents to issue, they focused on correcting the costs to the public. They established an Institute committee to examine the worth of inventions, creating in essence an extra-governmental version of the elite committee of Jefferson, Randolph and Cox to perform the evaluative function eliminated in the registration system. They also sponsored prizes to help mechanics and inventors distinguish the truly useful and important inventions from the stream of worthless, copycat, and trivial patents the registration system produced. These actions were motivated by a belief that the American public would use this information to invest wisely in the best new technologies, for the benefit of the nation.⁶²

Thornton refused Browne's request. His refusal precipitated a months-long battle of correspondence that reached all the way to President John Quincy Adams. In his letters, Thornton articulated his view of the public. His imagined public was composed of false inventors poised to exploit the true inventor by filing invalid applications, using the described

⁶² See BRUCE SINCLAIR, *PHILADELPHIA'S PHILOSOPHER MECHANICS: A HISTORY OF THE FRANKLIN INSTITUTE, 1824-1865* (Johns Hopkins University Press 1974), 61-64 (Committee on Inventions); at 85-99 (prizes), and generally, for a discussion of the Franklin Institute, its journal, and Browne's role.

inventions without a license, and seeking patents of importation on other people's ideas in foreign countries. Again, Thornton was not alone, at least in his understanding of the patent system existing primarily to serve inventors, without regard to the broader public. The inventor was the one intended to receive the "exclusive right," and there was some appeal in the view that the federal government should attempt to protect the commercial value of that right, rather than undermine its value by taking away from the inventor the ability to control information flow about the invention. Attorney General Wirt initially supported Thornton's position that he had the discretion pursuant to the Act to refuse Browne. But after Browne persisted, Secretary of State Clay reverted to the terms of a previous Attorney General opinion, and ordered Thornton to produce the copies.⁶³ Finally, after an unsuccessful appeal to the president, Thornton was forced to capitulate, allowing for a new flow of information about patents to the public through the *Journal of the Franklin Institute*.

Thornton's attempts to protect the "true inventor" by keeping patent disclosures secret and screening out subsequent copycat applications were thus more successful in exposing the lack of consensus about the role of government in considering the public interest and private property rights than in reducing the issuance of legally invalid patents. Thornton had more success, however, in implementing other practices that served the same end. The reality of early-nineteenth-century office practices forced Thornton to develop solutions to address the inevitable errors which arose in a world of hand-copied documents, both errors of the inventors in preparing their paperwork, most significantly in misstatements or omissions in the description of the invention (the specification), and bureaucratic errors as the text of a petition was copied into the patent document. Working outside the boundaries of the enabling statute, and with the enthusiastic buy-in of the inventive community, Thornton developed the practice of reissuance,

⁶³ Letter from Wirt to Secretary of State Henry Clay (Apr. 16, 1825). R. FARNHAM, 1 OFFICIAL OPINIONS OF THE ATTORNEYS GENERAL OF THE UNITED STATES 719-20 (Washington 1852). Under pressure, Clay reverted to the terms of a previous Attorney General opinion (Anon, 1 Opin., Pinckney, A.G. (1812), digested at LAW, 5th ed., *supra* note /57/ at 206), which itself reiterated a previous unpublished 1809 opinion requiring Thornton to produce copies upon request (described at WALTERSCHEID, TO PROMOTE THE PROGRESS, *supra* note /6/ at 284-85). The back-and-forth of the correspondence is chronicled in WALTERSCHEID, TO PROMOTE THE PROGRESS, *supra* note /6/ at 289-304. See also, SINCLAIR, *supra* note /68/ at 42-45; Daniel Preston, *The Administration and Reform of the U.S. Patent Office, 1790-1836*, 5 J. EARLY REPUBLIC 331, 340-42 (1985). By 1845, it was well-established that "Papers or drawings on file in the Patent Office are public records." *Emerson v. Hogg*, 2 Blatchf. 12, Betts, J. (NY 1845), digested at LAW, *supra* note /57/ at 207.

allowing inventors to request a new, corrected, patent when they found an error in an issued patent.⁶⁴ This bureaucratic reaction to everyday reality proved so popular, despite the uncertainty which the transformation of a patent into an evolving document created in the business community, that it shaped legislation, becoming formalized as Section 13 of the Patent Act of 1836 which otherwise abolished the registration system.⁶⁵

In his intense focus on the individual inventor as the chief intended beneficiary of the patent system, Thornton endorsed a Lockean theory of patents as property, in which protecting private property rights was the primary duty of the executive. His battle with Browne over patent publication forced him to articulate an oppositional view of the public, revealing his belief that he could only serve one interest, either the public or the inventor, but not both. His understanding of the purpose of the patent system led him to use his expertise within the patent system very differently than had Jefferson. While Thornton had allies, the Philadelphians represented a significant group who rejected the exclusion of the public interest from the patent system, and maintained a more Jeffersonian vision of the public. Browne and his colleagues saw a public of informed citizens, who, knowing what new technology was being developed, and given guidance as to which inventions were the most useful and important through the Institute's prize system, could use this technology to fulfill the Framers' vision of technological progress leading to national strength. If other members of the public competed with patentees, it was only for the greater good. Thornton saw a crowd of lazy opportunists, ready to wield a copycat patent to extract license fees that should go to an unsuspecting true inventor. Thornton's imagined

⁶⁴ According to patent attorney and patent historian Levin H. Campbell, the practice of reissuance was first developed in 1817, and was not challenged in court until 1832, when it was confirmed in *Grant v. Raymond*. Levin H. Campbell, *Correspondence*, 65 SCIENTIFIC AMERICAN 69 (1 Aug. 1891).

⁶⁵ As "errors" came to include the realization in litigation that a patent could have been differently drafted in order to better protect it against the competition that subsequently developed, this practice in essence made American patents shifting, living, documents which in the early nineteenth century could change in legally significant ways over their lifetime, a highly significant result to inventors, the public at large, and the industrial development of the nation. While inventors and patent holders seeking to enforce their rights enjoyed this privilege, its use created a community of manufacturers and licensees dismayed by the instability of the commercial world the practice of reissuance created, and the practice was greatly limited by the Patent Act of 1870, Sec. 53, essentially restricting the practice to genuine mistakes in transcription (the current practice). The career of reissuance practice is discussed in Kendall J. Dood, *Pursuing the Essence of Inventions: Reissuing Patents in the 19th Century*, 32 TECH. & CULTURE 999 (1991). Note that while I do not include the story about Thornton's development of caveats and interferences, but it is a very similar story to the one I relate about reissuance practice. See WALTERSCHEID, TO PROMOTE THE PROGRESS, *supra* note /6/ at 275-80.

public was distinctly more pessimistic, lacking the qualities necessary to achieve the Framers' vision.

Despite the triumph of the Philadelphians in the battle over information access, there was enough truth in Thornton's view of the public (as implicitly recognized by the Franklin Institute itself in its attempts to act as a signaling device to point out the most valuable patents), that the registration system became increasingly destabilized. After Thornton's death, there were four Patent Superintendents in rapid succession between 1828 and 1836. Each of the first two, Thomas Jones and John Craig, were highly controversial and were eventually removed from office, and each of the second two served less than one year.⁶⁶ These successors refused to continue Thornton's civil disobedience in resisting the issuance of invalid patents. As the limited barriers Thornton had created to invalid patents disappeared, the clamor for reform grew much louder as the problems of the registration system thus became more apparent.⁶⁷ While Thornton's particular approach to wielding expertise was problematic, the lack of any expertise was more problematic still.

Thornton's jousting with the federal bench revealed a disagreement about which branch of government had the power to affirm the value of patents as property. The registration system, as interpreted by the courts, effectively separated the creation of property as a matter of grant issuance from the establishment of value in the property, no longer automatic with issuance, but in a world of easy granting and frequent copying, a legal determination in the federal courts. During the registration period, federal judges endorsed their own role as the sole patent evaluators, *ex post*, greatly increasing the cost in time and money to those who wished to commercialize their inventions and rely on patents to exclude competition. Thornton's concern with the value of the true inventor's patent, coupled with almost exclusive judicial control over that value, led to a reconsideration of the relationship of the clerk to the patent *ex ante*. Should an issued patent be of indeterminate, and therefore, low value, or should it be of relatively

⁶⁶ For an overview of the Superintendents in this period, see DOBYNS, *supra* note /6/ at 80-93; Preston, *supra* note /69/ at 351. Jones and Craig's problems seemed to stem in part from their difficult personalities, but the rapid turnover also may reflect their lack of high level political connections which had surely helped Thornton to survive his many disputes. Jones and Craig each were members of the scientific elite, rather than the political or social elite.

⁶⁷ For the path to patent reform, see WALTERSCHEID, *TO PROMOTE THE PROGRESS*; *supra* note /6/; Daniel Preston, *The Administration and Reform of the U.S. Patent Office, 1790-1836*, 5 J. EARLY REPUBLIC 331 (1985).

determined, and therefore, high value? This question led those interested in reforming the system to consider whether a formalized expert bureaucracy would do a better job than judges at striking the balance between the inventor and the public.⁶⁸

IV. EXAMINING EXPERTISE, 1836 - 1860

Just as the Patent Act of 1793 was stimulated by Jefferson's reform proposals based on his intimate knowledge of patent practice, reform of the registration system began in earnest in 1835 when a patent clerk was able to get the ear of a sympathetic senator. John Ruggles, a recently appointed senator from Maine and aspiring patentee, visited the patent office upon his arrival in the District of Columbia. A patent office employee seized the opportunity to regale Ruggles with his bureaucrat's view of the problems with the patent system,⁶⁹ and Ruggles promptly obtained authorization to chair a Senate committee to look into the matter.⁷⁰ In his report to the Senate detailing the troubles with the existing patent system, and recommending an overhaul, Ruggles noted: "The most obvious, if not the only means of effecting [the prevention of these evils], appears to be to establish a check upon granting of patents, allowing them to issue only for such inventions as are in fact new and entitled, by the merit of originality and utility, to be protected by law."⁷¹ Ruggles identified three questions that this "obvious" solution raised: (1) what the nature of the "check" on patents to limit them to the new and useful should be, (2) "in whom the power to judge of inventions before granting a patent can safely be reposed," and

⁶⁸ For a contemporary analysis of this issue in other agencies, see Mathew C. Stephenson, *Legislative Allocation of Delegated Power: Uncertainty, Risk, and the Choice between Agencies and Courts*, 119 HARV. L. REV. 119, 1038.

⁶⁹ Of course, there was not a formal patent office at the time, as Congress had authorized only the position known as "Patent Superintendent." The employee who took it upon himself to inform Ruggles of the problems was Charles Keller, who was keeper of the exhibit of patent models, a display open to the public. Keller then was hired as the first examining clerk under the new Act. Post, '*Liberalizers' versus 'Scientific Men'*', *supra* note /6/, at 27, 29.

⁷⁰ See WALTERSCHEID, TO PROMOTE THE PROGRESS, *supra* note /6/ at 421-426. Ruggles was granted the first patent under the 1836 Act. (USPN 1, July 13, 1836).

⁷¹ Quoted at FEDERICO, ED., "The Patent Act of 1836", *supra* note /6/ at 94. Ruggles continues: "The difficulty encountered in effecting this is in determining what that check shall be, in whom the power to judge of inventions before granting a patent can safely be reposed, and how its exercise can be regulated and guarded to prevent injustice, through mistake of judgment or otherwise, by which honest and meritorious inventors might suffer wrong." The entire Senate Report is reprinted in *1836 Senate Committee Report*" 28 J. PAT. OFF. SOC'Y 853 (1936).

(3) how these judge-like actors could be “regulated and guarded to prevent injustice.”⁷² These questions became the dominant issues surrounding the patent office for the next decades, all swirling around the patent bureaucrat, the figure made more significant in the reformed patent system, and yet feared by its creators as a possible source of “injustice” to “honest and meritorious inventors.”⁷³

The question of the public to be served in the daily acts of the patent clerks and the nature of the experts selected to act as clerks was heightened by the broader debates of the Jacksonian period.⁷⁴ Clerks and inventors met in the context of the new examination system at the same time as the public was rhetorically separated by the crucible of partisan politics into “aristocratic elites,” considered corrupt and self-interested, and the majority of “common men,” whose collective wisdom was the source of continuing republican virtue.⁷⁵ Further, any form of “monopoly” or special privilege was also seen as anti-democratic, requiring the boosters of the patent system, such as Ruggles, who was also a staunch Jacksonian,⁷⁶ to position federal patents carefully within a politics in which support for monopolies was untenable. In the Patent Act of 1836, Congress simultaneously limited access to patents, thus increasing their similarity to monopolistic special privileges, and created an elite civil servant, the examiner, called upon to apply his expertise and stand between honest and meritorious inventors and their property right in their ideas.⁷⁷ Reconciling this change with Jacksonian democracy would be the focus of the next period of controversy about the patent clerk.

⁷² Id.

⁷³ Id.

⁷⁴ Note that Andrew Jackson served as President from 1829 to 1837, although historians often refer to the period from 1829 to the outbreak of the Civil War as the Age of Jackson. See, e.g., WHITE, THE JACKSONIANS, *supra* note /37/.

⁷⁵ For a detailed discussion of Jacksonian political theory, see, supra note /65/.

⁷⁶ BIOGRAPHICAL DIRECTORY OF THE UNITED STATES CONGRESS, 1774-2005 (United States Government Printing Office, 2005).

⁷⁷ The strengthening of the patent bureaucracy in 1836 by adding specialized experts, and the limitations on patent grants which examination imposed, thus provides a counterexample to some of the dominant narratives in the historiography of Age of Jackson, and in particular to the historiography of Jacksonian government administration, such as set forth WHITE, THE JACKSONIANS, *supra* note /37/. I leave further development of this issue to another Article.

A. *The New Examination System*

The Patent Act of 1836 which resulted from Ruggles' efforts is considered to be the founding legislation of the contemporary patent system.⁷⁸ It brought a return to an examination system, but this time through an official Patent Office as a distinct administrative entity with the State Department. The lone self-titled Superintendent of Patents was replaced by a Commissioner of Patents, who was granted a staff of a chief clerk, an examining clerk, a machinist, two draftsmen, an inferior clerk, and a messenger.⁷⁹ The act thus not only founded the modern examination system, but as an intrinsic part of that system, created the modern patent bureaucracy.⁸⁰ This bureaucracy continued to grow, with most Commissioners requesting additional staffing from Congress, and the passage of repeated legislative amendments authorizing more patent office clerks. The one examining clerk became a "scientific corps" of examiners and assistant examiners, with eight examiners and eight assistant examiners by 1848, and twelve of each by 1853, with corresponding numbers of supporting staff.⁸¹

During this period of constant expansion, the Commissioner and his staff struggled to implement their mandate to create "due proceedings" for the examination of patent applications for novelty, utility, and importance.⁸² The driving motivation for the Patent Act of 1836, after all, had been to curb the abuses of the registration system by eliminating fraudulent or otherwise invalid patents through a careful consideration of existing technologies. The generation of patents as property and the determination of the value of that property were to be reunited in the executive branch, in what the courts now recognized as the "quasi-judicial" *ex ante*

⁷⁸ WALTERSCHEID, TO PROMOTE THE PROGRESS, *supra* note /6/ at 3; BUGBEE, *supra* note /23/ at 152; Wyman, *supra* note /46/ at 96-98; but see Oren Bracha, Owning Ideas: A History of Anglo-American Intellectual Property 424 (S.J.D. Thesis, Harvard Law School, 2005).

⁷⁹ Patent Act of 1836, sec. 2.

⁸⁰ The patent system thus joined the general shift of the American government in the early nineteenth century from a "prebureaucratic" government of gentlemen, to a bureaucratic state with more formal rules and regulations for federal functions. MATHEW A. CRENSON, THE FEDERAL MACHINE: BEGINNINGS OF BUREAUCRACY IN JACKSONIAN AMERICA x, 4 (Johns Hopkins University Press, 1975).

⁸¹ Annual Reports of the Patent Office.

⁸² Patent Act of 1838, Sec. 6-7. For a discussion of the relative emphasis placed on novelty, utility and importance, with a diminution of focus on the utility and importance so central to Jefferson, and the growing doctrine of "non-obviousness" as a criterion for patentability, see Bracha, Owning Ideas, *supra* note /84/ at Chapter 4.

determination of the legal validity of a patent application by the new patent office bureaucrats.⁸³ Just as Thornton had to devise practices and procedures to make the registration system function, the new Commissioner and his examiners had to create an examination procedure. The Patent Office had both to continue the ministerial acts of the registration system, such as checking each application for formal compliance and matching drawings, models, and fees with their associated paperwork, and to devise a system of examination, searching issued patents and the patent office scientific library for earlier inventions that precluded the applicant from being the “original and true” inventor.⁸⁴

For over two decades as the Patent Office clerks struggled to enact this new form of the patent system, they provoked criticism as both the process of examining and the appropriate hiring practices for examining clerks were contested. The tensions surrounding the patent clerks’ qualifications and duties were played out in arguments over the power to hire and fire patent office employees, the ideal qualifications for such employees, and the patent allowance rates.⁸⁵ Taken together, these controversies renewed the debate about how the patent office clerks should embody theories of property and governance, as they mediated between public and private in a gatekeeping role, deciding just who among the common men should receive the valuable property of a patent. The Lockean theory of property embodied in the registration system fit well with the prevailing political winds. In order for the new examination system to become accepted along with its concomitant refusal of patents to applicants who would have received them in earlier years, a new conception of the public interest in patents was necessary, linked to a new way of understanding the role of expertise within a government office processing their applications.

The new system had immediate, highly visible ramifications. The number of patents issued per year immediately dropped, from 737 in 1835 to 435 in 1837, with the Commissioner

⁸³ See, e.g., *Wilson v. Barnum*, 1 Wall., Jr., 349, Kane, J. Pa., 1849, digested in LAW, *supra* note /57/ at 151; *Goodyear v. Day*, MS., Grier, J., NJ (1852), digested in LAW, *supra* note /57/ at 151.

⁸⁴ Patent Act of 1836, sec. 7 authorized the patent office scientific library to support the new examination system.

⁸⁵ “Patent allowance rate” is a contemporary metric, which I am anachronistically applying to a time when patent office statistics were less formal, and it was more common to talk about rates of rejection rather than rates of allowance. By using allowance rates, I am facilitating comparison with the present-day statistics discussed in Part VI.

estimating that allowance rates had dropped from nearly 100% to about 66%.⁸⁶ The perception of patents also shifted, with an apparent increased confidence in their commercial value.⁸⁷ Yet, just as this system had to be created through patent office procedures, its public acceptance also had to be negotiated. At first, with the abuses of the registration system fresh in the public's memory, this new system was praised for its ability to generate fewer, but more robust patents. But it also became glaringly obvious to the participants in the patent system – inventors, patent owners/manufacturers, and the new patent agents⁸⁸ – that the day-to-day actions of these officials, the patent examiners, were directly related to the type of intellectual property generated by the patent office, making internal personnel issues matters of national discussion. As Charles Page, a former patent examiner turned patent agent, complained in 1853, the patent office bureaucrats functioned by a welter of “unwritten rules,” an “evil” which led applicants, most understandably relying on the written publications of the office, to become “mortified and disappointed upon meeting obstructions in the office which they could not have anticipated.”⁸⁹ The interposition of officials between the inventor and his property grant threatened to turn back into a privilege what had become a right under the nearly half century of the registration regime. The power residing in such officials led to considerable controversy about the best type of man for this gatekeeper position. How could the potential for “injustice” noted by Ruggles be avoided? The answers all turned on questions of expertise.

The initial support for rigorous examination translated into support for highly qualified, scientifically trained examining clerks, heirs to the March, 1791 gathering in Jefferson's office. In the legislative history of the 1836 Act, and in the subsequent annual reports by Patent

⁸⁶ Annual Report for 1837. The rate of rejection or allowance is always a difficult measure, as it cannot be simply calculated from the number of applications and issuances each year, due to the time applications spend pending, resissuance practice, and, in the contemporary setting, refiling of applications as nominally new. See discussion of this problem in JAFFE & LERNER, *supra* note /5/ at 12.

⁸⁷ B. Zorina Khan & Kenneth Sokoloff, *History Lessons: The Early Development of Intellectual Property Institutions in the United States*, 10 J. ECON. PERSPECTIVES 233, 239 (2001)(arguing that an increase in patent assignments after 1836 indicates an increase in the commercialization of patents, and therefore in their perceived commercial worth).

⁸⁸ The development of the profession of patent practitioner, which was largely a product of the establishment of a bureaucracy of examination in 1836, is examined in Kara W. Swanson, *The Emergence of the Professional Patent Practitioner*, 50 TECH. & CULTURE 519 (July 2009).

⁸⁹ Charles G. Page, *The Patent Office*, 1 AM. POLYTECHNIC J. 25, 27 (1853).

Commissioners,⁹⁰ the qualifications of an examiner were described in a way that limited potential examiners to a very few well-educated men, versed in all aspects of science, as well as in foreign languages:

A efficient and just discharge of the duties, it is obvious, requires extensive scientific attainments, and a general knowledge of the arts, manufactures, and the mechanism used in every branch of business in which improvements are sought to be patented, and of the principles embraced in the ten thousand inventions patented in the United States, and of the thirty thousand patented in Europe. . . . Suitable qualifications for these duties are rare⁹¹

These sentiments were also echoed by legislators in 1848 when debating the bill that added four examiner positions. For example, Congressman Dickinson of New York separated the appropriate candidates for the examiner position from those he called “mere politicians or mere clerks.” Rather, he thought that college professors were the appropriate applicant pool, men who could be deemed “an encyclopedia of science.”⁹² Only such men could compare new inventions to the sum total of prior human knowledge. With support from the Commissioners and political patrons in Congress, in the early years of the examination system, the notion of an examiner qualified in the most formal ways possible in nineteenth century America prevailed in employment decisions.⁹³ Applicants for the job sought recommendations from the scientific elites, the same type who had been involved in the Franklin Institute in its early decades.⁹⁴ The Patent Office came to hold a significant concentration of the still-tiny American scientific community, at a time when men of science were struggling to support themselves. As these men

⁹⁰ As required by the Act of March 3, 1837, sec. 14, the Commissioner of Patents was required to submit to Congress, every January, a report on the Patent Office. These Annual Reports were published (often with some delay) by Congress and distributed by Congressmen and the Patent Office to constituents, libraries, and the interested public. See DOBYNS, *supra* note /6/ at 110. In his annual reports from 1838 to 1845, Henry Ellsworth, the first Commissioner of Patents reiterated this view of examining clerks.

⁹¹ From the report of the Senate Committee chaired by Ruggles. Reprinted in full at *1836 Senate Committee Report*, J. PAT. OFF. SOC’Y 853 (1936).

⁹² *Debate on a Bill to Increase Force and Salaries in the Patent Office, Thirtieth Congress, 1st Session (Extracts from the Congressional Globe)*, 1 J. PAT. OFF. SOC’Y 588, 590-91 (1919) (reprinting the debates as excerpted from the Congressional Globe). Note that the pool of college professors at the time was quite small.

⁹³ For a discussion of the qualifications of examiners in the 1830s-50s, see Post, *‘Liberalizers’ versus ‘Scientific Men’*, *supra* note /6/.

⁹⁴ For example, when William Langdon applied for a position in 1851, he got a recommendation from Alexander Dallas Bache, one of the preeminent men of science of the day. DOBYNS, *supra* note /6/ at 142-43, 146. See also Post, *‘Liberalizers’ versus ‘Scientific Men’*, *supra* note /6/.

developed examination procedures in the Patent Office, patent allowance rates continued to drop, reaching less than fifty percent for some examiners, a sharp provocation to the Jacksonian inventor.

B. Fears of Illiberality

By the 1850s, there was increasing discussion within the patent community⁹⁵ about whether specialized, formal scientific expertise was desirable in the examining clerks, and whether the low rate of patent allowance was desirable, or even tolerable. Government by the scientific elite was resulting in a patent system that perpetuated Thornton's vision of the inventive elite, keeping the legally certified true inventor rare. The fact that any application faced a significant chance of rejection was a painful reality for aspiring inventors, and was even more threatening to the growing body of repeat players in the patent system – the patent agents. Those who made it their business to draft patent applications for inventors and shepherd them to acceptance both experienced the low allowance rates more profoundly than the majority of inventors, who only sought one or a handful of patents in a lifetime,⁹⁶ and were more economically threatened by rejection, which tended to discourage their clientele. The trade-off between wide distribution of patents under the registration system, and the limited distribution of fewer, but more valuable, patents, became less obviously weighted to the side of value. For the first time, criticism of the patent system fell heavily not on the law, but on the clerks.⁹⁷

By mid-century, the most broadly circulating periodical on patents and invention was the *Scientific American*, which was the mouthpiece of the largest patent agency of the period, the New York-based Munn & Co.⁹⁸ In the pages of the *Scientific American* in the 1850s, its editors

⁹⁵ By “patent community,” I mean those with a stake in the patent process – inventors, patent applicants, patent holders, licensees, assignees, agents, journal editors. There were no significant patent associations at this period, of inventors or of patent practitioners. (A few short-lived societies are described in WALTERSCHEID, TO PROMOTE THE PROGRESS, *supra* note /6/ at 309, 312). The *Scientific American*, with its wide readership, may have come closest to defining this community at mid-century, but I recognize that it is an imprecise term.

⁹⁶ B. ZORINA KHAN, THE DEMOCRATIZATION OF INVENTION: PATENTS AND COPYRIGHTS IN AMERICAN ECONOMIC DEVELOPMENT, 1790-1920 (Cambridge University Press 2005)(detailing the number of patentees who held more than one patent).

⁹⁷ Thornton was the subject of criticism, as described above, but the thrust of calls for reform during his tenure centered on the registration system, not on his replacement.

⁹⁸ After their purchase of the year-old periodical in 1846, Albert Beach and Orson Munn quickly focused the *Scientific American* on patent issues, and opened their own patent agency, which they advertised

reported on each change of Commissioner and examiner, and frequently commented on the qualifications and performance of each.⁹⁹ In an increasing outcry, the “scientific men” in the patent office were linked to an unacceptable rate of patent allowance.¹⁰⁰ On an individual basis, some examiners were derided as “illiberal,” that is, too apt to misuse their expertise to deny patent applications that any mechanically minded man would find novel. Charles Page again found “evil” in the patent office: “There are now seven examinerships, and we . . . have seven incumbents, each possessed of different qualifications, of differently constituted minds and temperaments, and each a judge within his own precincts.”¹⁰¹ The examiners’ idiosyncrasies were a source of frustration to agents like Page, seeking predictability in the system. In addition to its characterization of the elite examiners as “illiberal,” the *Scientific American*’s campaign to increase allowance rates included a vision of inventing as the opposite of an elite activity. Rather, invention was the province of every man.

This critique, then, involved a reconceptualization of the inventor, the public, and the bureaucrat. Not only was a bureaucracy drawn from Jefferson’s governing elite rejected – a position consonant with the general tenor of Jacksonian America, but so was Thornton’s implicit characterization of the “true inventor” as a limited group surrounded by clamoring throngs of undeserving imitators. Drawing upon long-standing cultural tropes, the imagined American public described within the pages of the *Scientific American* was inventive and ingenious as a national trait, making a patent the right of almost every one. Thereby the danger of a monopoly as a special privilege could be avoided by considering patents as a monopoly available to all. The national interest remained an aspect of the patent system, but this time it was the inventive

heavily in their journal. Although these numbers are undoubtedly inflated, circulation was claimed to be 10,000 by 1848, 20,000 by 1852, and 30,000 by 1853, and 300,000–400,000 readers by 1876. The story of the *Scientific American* is told in Michael Borut, “The *Scientific American* in Nineteenth Century America,” (Ph.D. Thesis, New York University, 1977).

⁹⁹ The multiple *Scientific American* articles on the patent office during this period are summarized and cited in Post, ‘*Liberalizers*’ versus ‘*Scientific Men*’, *supra* note /6/.

This close attention to patent office personnel decisions was also evident in other more short-lived technical publications, such as the *American Polytechnic Journal* (1853-54), and in general interest publications, like the *New York Times*.

¹⁰⁰ This contestation is the subject of Post, ‘*Liberalizers*’ versus ‘*Scientific Men*’, *supra* note /6/, a study of the fluctuating rates of rejection in these decades. The following discussion draws upon this article as well as the other sources cited below. Cf. contemporary complaints about the “culture of rejection” at the patent office in the patent practitioner blogosphere after the USPTO announced that patent allowance rates dipped to 54% in 2006. See ipbiz, July 29, 2008 post (by NJ patent lawyer).

¹⁰¹ Charles G. Page, *Rules of the Patent Office*, 1 AMERICAN POLYTECHNIC JOURNAL 174, 176 (1853).

public itself, a mass of potential patentees, who would ensure technological progress, the broad distribution of wealth, and international prominence for American business if all members of the public were only provided with the patents which were theirs by right, almost as a birthright. The individual inventor's interest and the public interest merged in this triumph of the common man as the focus of the patent system, and the antagonist became the government itself, in the person of examiners who were improperly using their elite knowledge to make distinctions among applicants that might be "scientific" but had no place in the a "liberal" world of mechanically minded Americans. The proper means of governance, the *Scientific American* suggested, would be to promote the public interest of a sovereign people by granting patents liberally among them. The best source of expertise for patent examiners was not formal credentials, but practical, mechanical experience.

Despite this strong critique, the examiners and the Commissioner persisted in advocating and embodying the role of patent bureaucrat as mediator between a limited pool of inventors and the wider public. An examiner, Henry Renwick,¹⁰² who was attacked by name in the *Scientific American* for his illiberality, stated in the Annual Report for 1850:

[I]t is a common misapprehension for these men [who quarrel over rejection] to suppose that this office is established to protect and encourage invention, and to afford facilities to inventors, meaning by that term, not those who have contributed to the arts, but every person who may find it convenient to make application for a patent. When the term is employed in its true sense, then is their opinion a correct one, provided the duties that this office under the law owes to the public are also taken into consideration.¹⁰³

Rejecting Thornton's analysis that it was impossible to consider the public interest while also preserving inventor's rights, Renwick informed the public that: "This office stands in fact between the public on the one side, and the inventor on the other." To the former, it owed the duty of ensuring that no "monopolies" were granted except for things "new and useful [and] heretofore undescribed." As for the inventor, the office would "aid[] and assist[] him, as far as possible, to cover every inch of ground to which

¹⁰² Renwick was a Columbia graduate with advanced engineering training, and previous experience working as a civil engineer. His formal education separated him from the mass of patent seekers. See POST, PHYSICS, PATENTS, *supra* note /6/ at 116-117. Post discusses the multiple attacks on these examiners at 127-128.

¹⁰³ Annual Report for 1850 at 324.

he has clear title, and when the deed for that title is granted, seeing as far as the law will permit, that he is not harassed and ruined by the grant of other titles.”¹⁰⁴

This renewed debate about whether and how the patent bureaucracy could serve all who considered themselves to be inventors as well as some other public was taking place not only after the demise of Jefferson himself, but as any possibility of his agrarian republic disappeared under the growing networks of railroad tracks and telegraph lines, signaling the robust industrialization and commercial expansion which would, in the second half of the nineteenth century, move the United States to the forefront of industrialized nations. In this changing world, the scrupulous attention of the Commissioner and his examiners to their duty to reject non-novel applications became ever more unappreciated by a growing manufacturing sector learning to rely on patents,¹⁰⁵ and, as mentioned above, by the growing numbers of professional patent agents, who dominated the popular discussion about allowance rates. Critics charged that rather than a strict adherence to legislatively defined duty, examination turned on the “will and whim of individuals,” a return to the monarchical way of granting monopolistic privileges rather than a democratic process in action.¹⁰⁶ The easy assumption of a patent as a discretionary privilege granted by a wise sovereign acting in the national interest, an assumption which had supported rigorous examination of patent applications by Jefferson and his colleagues, had been displaced during the years of the registration system with the notion of a patent as an individual right.¹⁰⁷ Now tied to liberal notions of the citizen as independent actor, the patent as right concept existed only uneasily within the reinstated examination system with its perceived tendency to “illiberality.”

The examiners were expressly portrayed as anti-democratic in their role as unelected officials thwarting the rights of the people. Perhaps, like other government officials, they should at least be rotated in office, and drawn from the average sort of citizen, the rallying cries of the Jacksonian era. The critics of the office proposed a different basis for expertise, based on lived

¹⁰⁴ *Id.* at 325.

¹⁰⁵ One of the first patent pools was set up by sewing machine manufacturers in 1856. Steven W. Usselman, *Patents Purloined: Railroads, Inventors, and the Diffusion of Innovation in 19th-Century America*, 32 *TECH. & CULTURE* 1047, 1048 (1991); FLOYD L. VAUGHAN, *THE UNITED STATES PATENT OFFICE: LEGAL AND ECONOMIC CONFLICTS IN AMERICAN PATENT HISTORY* 39-41 (University of Oklahoma Press 1956).

¹⁰⁶ Charles G. Page, *The Patent Office – No. V*, 1 *AM. POLYTECHNIC J.* 327, 328 (1853).

¹⁰⁷ Bracha, *Commodification of Patents*, *supra* note /4/.

experience and lack of specialized credentials, the type of expertise which a jury of peers supposedly brought to the courtroom. This outcry for “liberality” in the granting of patents and for the rejection of scientifically qualified examiners was a constant source of tension in the patent office during the tenure of Charles Mason as Commissioner of Patents (1853-57). Mason was an expert administrator, managing to expand the staff of the Patent Office by using temporary appointments, and new job categorizations, as well as by continuing to prevail on Congress for more staff and higher salaries.¹⁰⁸ However, Mason was involved in constant battles with his superior, Secretary of the Interior Robert McClelland, over control of all positions in the patent office.¹⁰⁹

In Washington in the 1850s, the “spoils system” for the allocation of government jobs was firmly entrenched, supported by a powerful blend of raw political self-interest and high-minded Jacksonian philosophy advocating government by the common man and rotation in office.¹¹⁰ McClelland wanted control of Patent Office personnel to expand his patronage network. Each job he controlled was a source of power. Commissioner Mason, a former Iowa judge whose Washington tenure was only a brief sojourn in a long career, was much less interested in political spoils and much more interested in firing incompetents and hiring qualified workers to improve the functioning of the office.

With the goals of the spoils system (consideration of patent office clerkships as political plums) and the goals of patent agents (less scientifically-minded examiners, in order to increase the rate of application acceptance) in alignment, Mason was fighting a losing battle to hire and retain scientific men. He resigned twice in disgust over McClelland’s interference in personnel decisions, once returning to Iowa for several months during which time McClelland rearranged the office personnel. When Mason left office for good with a change in presidential administration in 1857, most of his examiners were fired and replaced by political appointees,

¹⁰⁸ Dobyns characterizes Mason as “perhaps the most effective Commissioner in the nineteenth century.” DOBYNS, *supra* note /6/ at 142.

¹⁰⁹ Mason’s tenure is chronicled in DOBYNS, *supra* note /6/; Leila Sellers, *Commissioner Mason and Clara Barton*, 22 J. PAT. OFF. SOC’Y 803 (1940); and N.J. Brumbaugh, *Charles Mason, Commissioner of Patents, 1853-57*, 2 J. PAT. OFF. SOC’Y 122 (1919). The following discussion draws on these sources as well as those cited below.

¹¹⁰ For description of the “spoils system,” see MARTHA BARRIS TAYLOR, *HISTORY OF THE FEDERAL CIVIL SERVICE, 1789 TO THE PRESENT* 16-31 (Washington, D.C. 1941); ROBERT MARANTO & DAVID SCHULTZ, *A SHORT HISTORY OF THE UNITED STATES CIVIL SERVICE* 18 (Lanham, MD 1991); PAUL P. VAN RIPER, *HISTORY OF THE UNITED STATES CIVIL SERVICE* 41 (Evanston, IL 1958).

and patent allowance rates rose, not to drop below fifty percent again until the twentieth century.¹¹¹ The *Scientific American* model of the public as little more than a collection of inventors, leaving virtually no competing private/public interests to be mediated, seemed to have triumphed, in the liberality of examination of every man's invention by the every-man examiner, a way of tolerating *ex ante* review by inverting the type of expertise that had been used since 1790. The expert was one of the multitudes, rather than one of the elite.

The results of using run-of-the-mill experts seemed idea. As Mason's successor, Commissioner Holt, described the happy state of affairs in 1858:

This regularly progressive augmentation [in the number of issued patents], which from year to year has been so long announced, is due alike to the inherent and irrepressible energy of the national mind, and to the admirable system by which it is excited and fostered. That system wisely avoids the laxity of European laws, which grant patents, as of course, on all applications, upon payment of the fees, and leave their value to be subsequently tested by the impoverishing process of protracted litigation. As decidedly, on the other hand, does it eschew that stern, unsympathizing, distrusting temper, which would receive the inventor as a stranger beneath the roof of this magnificent edifice, which has been reared at once as a monument to his genius, and as a depository of the trophies of his labors. That better policy, which adopts the happy medium between these two equally pernicious extremes, and which, while welcoming the inventor as a friend and patron, in that frank and free conference with him enjoined by law, kindly and anxiously sifts from his invention its minutest patentable features, is a policy essentially American in its origin and aims, and must be inflexibly maintained in the administration of this office so long as it remains faithful to the high mission with which it is charged.¹¹²

Here was the patent system, reconfigured for an industrialized nineteenth century. The American public possessed an "inherent and irrepressible" mental energy which led them as individuals to invent. When these inventive citizens came to their patent office, the new (less scientifically trained) examining corps avoided both the Scylla of "impoverishing" litigation which was the result of the "laxity" of European registration systems and the Charybdis of "stern, unsympathizing, distrusting" examination by an illiberal elite to guide inventors to a happy shore where the inventor was a "friend and patron" of the patent office, which protected

¹¹¹ See Post, *'Liberalizers' versus 'Scientific Men,' supra* note /6/.

¹¹² Annual Report of the Patent Office for 1857, vol. 1, 35th Congress, 1st Sess. Ex. Doc. No. 32, House of Representatives, (Washington: James B. Steedman, Printer, 1858), p. 2.

his invention down to its “minutest patentable features,” in a system “essentially American in its origin and aims.”

By 1860, then, this battle to define the role of the patent bureaucrat in the production of patents appeared largely settled. In terms of the day-to-day activities of the office, the initial implementation of a bureaucracy of examination by elites had been adjusted in the service of the inventive public by reconfiguring the bureaucrat from specialist to generalist, subordinating the goal of legal robustness to high allowance rates and the spoils system.¹¹³ The interests of the public and the interests of individuals in their private property had been aligned in a way unfathomable to either Jefferson or Thornton. What Holt was describing was a new conception of the patent system as a way of distributing property, which replaced not only Thornton’s elite inventor and his rapacious public, but also the Jeffersonian national public whose interest was determined not through the hurly-burly of competition among patented inventions, but by the deliberate reasoning of a natural aristocracy. This merger of both inventors and patent bureaucrats with the broader public allowed the patent monopoly to remain a civic good in an era of the triumph of universality and accessibility as the key democratic virtues. Patents maintained democratic virtue by the rejection of a bureaucratic elite, too reminiscent of a monarch, coupled with their recasting as a universally accessible right. They rewarded the intrinsic inventiveness of Americans as a people, what Holt called that “intrepid and quenchless spirit of inquiry which seems inseparable from every throb of American life.”¹¹⁴ A bargain was scarcely necessary to balance between public and private, with allowance rates held appropriately high in an approximation of the registration system.

V. A STANDARDIZED EXPERTISE, 1865 - 1890

The high allowance rates, however, did not long maintain support as the best “happy medium.” As in the 1820s, too many questionable patents irked. But in postbellum America,

¹¹³ I use “legal robustness” to refer to the ability of an issued patent to withstand a legal challenge to its validity. Because of the delays between issuance and challenge, the large number of jurisdictions in which a challenge may occur (any federal district court), the small percentage of patents which are challenged, and the even smaller percentage of such challenges that result in reported opinions, measuring “robustness” is difficult, most particularly in the 19th century period. This Article, therefore, does not attempt to quantify robustness.

¹¹⁴ Annual Report for 1857 (1858) at 7.

there was a new source of complaint, and a new response. Like the rest of the federal government, the patent office had been disrupted by the political crisis of secession and the Civil War.¹¹⁵ Politically, the nation was reconfigured after the war, with the Jacksonian Democrats replaced by Lincoln's Republicans, who maintained a virtual one-party state during Reconstruction. In addition to the political changes, one major post-war trend stimulated a further renegotiation of the relationship among government, the public, and private property through the patent system – the corporatization of invention. The renegotiation stimulated by the realities of a corporatized public proceeded through civil service reform, and newfound pride in the “American system.” These changes in practice and rhetoric reconstituted the constituencies interested in the workings of the patent office, and supported the development of a new model of a patent bureaucrat. Rather than rotation in office, and reliance on the common man as a means of managing the tensions between republican ideals and the desire for private property in invention, protection against the perpetration of “injustice” by the gatekeeper was achieved through testing, rules of procedure, and supervision – a standardization of expertise into a guise recognizable to twentieth and twenty-first century observers of the patent system.

As the nineteenth century advanced, and the United States became industrialized and technologically advanced beyond Jefferson's imaginings, the individual inventor became more of a myth than a reality. More commonly, the inventor worked as part of a research and development team.¹¹⁶ Patents were assigned from issuance to corporate employers, who managed portfolios of patents related to their core business, and used them as strategic tools when positioning themselves within their industry. The patent agent also began to serve corporate masters, with a shift from the need to attract many individual clients to a need to

¹¹⁵ Some of the examiners immediately resigned and joined the Confederacy, which established its own patent office, and former United States patent examiner Rufus Rhodes was made the Confederate Patent Commissioner. Act of May 21, 1861, ch. LXVI. *See* DOBYNS, *supra* note /6/ at 167. While the United States patent office was disrupted during the war, as its building was used as a hospital, many employees entered the army, and others saw their pay cut, it still managed to issue over 16,000 patents during the war years. *Id.* at 170.

¹¹⁶ *See* PAUL ISRAEL, *FROM MACHINE SHOP TO INDUSTRIAL LABORATORY: TELEGRAPHY AND THE CHANGING CONTEXT OF AMERICAN INVENTION, 1830-1920* (Johns Hopkins University Press 1992); Michael Aaron Dennis, *Accounting for Research: New Histories of Corporate Laboratories and the Social History of American Science*, 17 *SOCIAL STUDIES OF SCIENCE* 479 and LEONARD S. REICH, *THE MAKING OF AMERICAN INDUSTRIAL RESEARCH: SCIENCE AND BUSINESS AT GE AND BELL, 1876-1926* (Cambridge University Press 1985).

satisfy businessmen that their investment in a patent application and agent fees would benefit the bottom line. While the individual inventor continued to be a powerful image, this image was increasingly deployed by those whose concerns were not with the democratic right of every man to have his genius recognized without interference by bothersome elites, or even with the protection of the “true” inventor from imitators, but with the monetary value of all issued patents as a basis upon which contracts were signed and businesses built. The early nineteenth-century argument that rigorous examination was cheaper than sustained litigation was newly persuasive for those who intended to participate in the patent system again and again, as patent owners and licensees. More than ever before, the same entities were both applying for patents as assignees, and commercializing, buying, selling, licensing and pooling patents. These economic changes left the intended audience of the *Scientific American* – the individual inventor – increasingly marginalized. The public of ingenious Americans might be useful to mobilize support for patents. But the patent community increasingly conceived of itself as a set of corporate entities with patent portfolios, ready to assert, license, and form patent pools in the interest of industrial development.¹¹⁷ It was this public which fit so well into the idea of a “patent bargain.” A bargain was much easier when an entity seeking a patent could conceive of itself as on both sides of the deal. This new public also demanded and tolerated expertise based on knowledge in those charged with striking the patent bargain. *Ex ante* review served an economic purpose, and should be meaningful.

A. *Civil Service Reform*

At the same time that the private sector was increasingly corporatized, the federal government was inching toward some systematization of its growing bureaucracy. The patent office was in the vanguard of civil service reform.¹¹⁸ Given the combination of the unique nature of the patent office as a generator of private property and the checkered career of the patent bureaucrat as a public lightning rod, it is not surprising that patent commissioners were among the first federal bureaucrats to seek to standardize their employees through systematization of

¹¹⁷ For a discussion of 19th century patent pools as a reaction to the corporatization of invention, see Usselman, *supra* note /111/.

¹¹⁸ Cf. Usselman, *supra* note /111/ at 1048 (administrators in the Patent Office “took no substantive action” to “accomoda[te] the patent system to the corporate economy”).

hiring, promotion, and job processes. It was not only the commissioners who saw in the patent office a need to revise the standards by which federal bureaucrats were hired, fired and promoted. One of the first congressional supporters of civil service reform, Thomas Jenckes, representative from Rhode Island, was particularly interested in the patent system, serving as the Chair of the House Committee on Patents. Standardization was also driven by the post-war boom in patent applications. The number of patent applications made in 1865 was double the number received in 1861. In 1867, the office issued over 10,000 patents in one year for the first time.¹¹⁹

While Jenckes' proposed bills to reform the civil service generating in the late 1860s were never passed,¹²⁰ with the informal support of President Grant and the Secretary of the Interior, in 1869 Patent Commissioner Fisher instituted his own reforms, without waiting for broader civil service legislation. Fisher inaugurated a merit-based hiring system using a board of three existing patent examiners to test candidates for examining clerkships. His action made the Patent Office the first United States government agency to use test-based hiring.¹²¹ A written examination of one hundred questions was developed, with jobs and promotions offered to the highest scorers.¹²² Fisher reported enthusiastically on at least two rounds of tests in his Annual Report of 1870.¹²³ In fits and starts, the examination of examiners took hold in the Patent Office, and competitive examinations for new hires and internal promotions were well-established by the time of the first broad introduction of examinations into the federal civil service in 1883.¹²⁴ As the Commissioner reported to Congress in 1877:

¹¹⁹ DOBYNS, *supra* note /6/ at 170, 172

¹²⁰ DOBYNS, *supra* note /6/ at 176.

¹²¹ That is, with the exception of the armed services, which had used examinations to select their professional personnel since the 1810s. WHITE, THE JEFFERSONIANS, *supra* note /38/ at 362-363.

¹²² DOBYNS, *supra* note /6/ at 175, William Wyman, *Samuel Sparks Fisher, Commissioner of Patents, 1868-1870*, 10 J. PAT. OFF. SOC'Y 490, 492-93 (1920). See also Annual Report for 1869. Discussed approvingly in *Civil Service Reform*, NEW YORK TIMES (Dec. 3, 1870).

¹²³ Note that Fisher carefully detailed the range of geographic locations and educational backgrounds of the successful candidates, arguing that the new system produce a diverse population of examiners by the criteria that had been at stake during the antebellum spoils period. See Annual Report for 1870.

¹²⁴ It is unclear whether Fisher's examinations survived his tenure, because in 1872, Commissioner Leggett reported on the introduction of examinations in May 1871 as a new practice. Annual Report of the Patent Office for 1872. These examinations were the result of a rider to an 1871 appropriations bill, which authorized President Grant to establish the first civil service commission. The commission held one round of competitive examinations, but foundered by 1875 due to Congressional refusal to fund its efforts. General efforts at reform proceeded piecemeal until 1883, when, after the assassination of

Candidates for admission to the examining corps of the Patent Office have been examined for the lowest grade of the corps, and upon such mechanical subjects as come within the range of ordinary observation and attract the attention of persons having that natural interest in mechanism which accompanies an aptitude for such things. These examinations have also included some of the general principles of physics. The results of this system have been highly satisfactory. Men better fitted for the special work have been selected for appointment; the ablest, most diligent, and faithful men have been promoted; and, in addition to this, the effect, generally, upon the Office has been to stimulate industry, attention to business, and studious habits. These examinations have been conducted by gentlemen of higher grades in the Office, and without any expense to the government.¹²⁵

These reformulated criteria sought to identify those “ordinary” persons who have a “natural interest” and “aptitude” in “mechanism,” rather than selecting for extraordinary educational attainments held only by a very few. The difference between examiner and inventor was thus minimized even as some claim to expertise was made on behalf of these bureaucrats as “better fitted for [their] special work.” Either book learning or practical experience would do, the questions was whether the potential bureaucrat could make the grade. With approval from both the *Scientific American* and the general press, the examination system took hold, ending controversy about personnel selection.¹²⁶

It was in this environment of the changing realities of inventors and examiners that Congress made the final nineteenth-century overhaul of the patent system, prodded by Jenckes and his patent committee.¹²⁷ The Patent Act of 1870, while retaining the patent examination system, incorporated all the piecemeal changes made by Congress since 1836, and established the legislative guidelines for the system going forward.¹²⁸ While the Patent Act of 1836 had

President Garfield by a disgruntled job seeker, Congress passed the Pendleton Act, the legislative basis of today’s “merit system” of federal hiring. For a general history of 19th century civil service reform in the United States, see U.S. CIVIL SERVICE COMMISSION, *BIOGRAPHY OF AN IDEAL: A HISTORY OF THE FEDERAL CIVIL SERVICE 15-40* (U.S. Government Printing Office); Van Riper, *supra* note /116/ at 30-113; ARI HOOGENBOOM, *OUTLAWING THE SPOILS: A HISTORY OF THE CIVIL SERVICE REFORM MOVEMENT, 1865-1883* (University of Illinois Press 1961) generally; and MARANTO & SCHULTZ, *supra* note /116/ at 27-61.

¹²⁵ Annual Report of 1877.

¹²⁶ See, e.g., *Civil Service Reform*, NEW YORK TIMES (Dec. 3, 1870) at 2 (exams having “good effect”).

¹²⁷ DOBYNS, *supra* note /6/ at 177.

¹²⁸ For a summary of legislative changes between 1836 and 1870, including moving the Patent Office from the State Department to the newly created Department of Interior in 1849, see FEDERICO, ED., *Legislative Changes Since 1836*, *supra* note /6/ at 103-110; Frank D. Prager, *Trends and Developments in United States Patent Law from Jefferson to Clifford (1790-1870)*, 6 AM. J. LEGAL HIST. 45-62 (1962).

authorized seven Patent Office staff members, the Patent Act of 1870 authorized 181 staff members, including 22 principal examiners, 22 first assistant examiners, and 22 second assistant examiners.¹²⁹ With the examining corps now numbering about seventy people, the issue of whether the Patent Commissioner or the Secretary of the Interior should hand-pick candidates became almost moot through sheer impracticability, the reality of managing the office thus reinforcing the new vision of a standardized test which could identify the best candidates for patent office clerkships. The Act also created an additional level of three examiners-in-chief as a second layer of experts who would review the final rejections of examiners under their supervision. The examiners-in-chief were required by statute to be “persons of competent legal knowledge and scientific ability,” the first time the expertise of any patent office employee was statutorily specified.¹³⁰

The late-nineteenth-century standardization of the patent office included not only the examiners themselves, but the very procedures of examination. By 1878, the Commissioner described a fifty-seven step process which detailed the movement of a patent application through the office, from the draftsmen, who examined the drawings for statutory conformance, to clerks for recording of filing dates and fees, to examiner, and round again, at each step the application file accumulating paperwork and notations until the patent was ready for issuance.¹³¹ His careful detailing of this process in the Annual Report to Congress reflected the deliberate and self-conscious way the patent bureaucrats wielded their expertise. Gone were Thornton’s grandstanding and the individually authored defense of the need for strict examination. The patent office bureaucrats did their best to standardize themselves and their practices, and to convince the public of their standardization. The mid-century view of the “evils” of individual

After the better part of a century, the period of legislative experimentation with the patent system was over. While proposals for its revision (and, occasionally, its eradication) would continue to be debated, no significant changes in the patent law would be made until 1952. The Patent Act of 1952 (Pub. L. No. 82-593, 52 U.S.C. A.N. (66 Stat. 792) (July 19, 1952)) is currently the patent law in force in the United States.

¹²⁹ In addition to the Commissioner and Chief Clerk, the remaining 115 staff members included an assistant commissioner, 3 examiners-in-chief, 1 examiner in charge of interferences, 1 librarian, 1 machinist, 4 Class Four clerks, 6 Class Three clerks, 50 Class Two clerks, 45 Class One clerks, and one messenger and purchasing clerk, all to be nominated by the Commissioner and approved by the Secretary of the Interior. Patent Act of 1870, sec. 2.

¹³⁰ Patent Act of 1870, sec. 10.

¹³¹ Annual Report of 1878.

men, with publicly reported histories and personal proclivities, gave way to a faceless mass of examiners, operating very deliberately by the book, and seeking the invisibility that would end public controversy – the virtue of dullness.

B. A New Source of National Pride

In the newly standardized office, the examination system became less threatening, as the perception of the exercise of extraordinary discretion by an elite unrelated to the inventive public by education or experience was replaced by the “ordinary” standardized examiner treating all applications in a like manner. Not only was the examiner himself less threatening, but during the late nineteenth century, commentators also built upon the comparison Holt had made in 1857 between the “lax” European systems, and the superior American system. Examination itself, the hallmark of the American system, was recast from a discretionary holdover of a monarchical past to the protector of the nation, saving the country from the inefficiency of worthless patents. Thus, by 1869, at the same time Commissioner Fisher was reporting on the introduction of competitive examinations, he also reported proudly that twenty-eight percent of patent applications in the previous year had been finally rejected, saving the country from 5,285 “worthless patents.” He also noted that 12,500 patents issued only after preliminary rejection and modification at the suggestion of the examiner, saving the country from patents that “would have deceived the public as to the scope of the inventions and the state of the art.”¹³² The beneficiary of expert *ex ante* review was the public as a whole, neither the individual inventor who was the subject of Thornton’s solicitude, nor the inventive public that was the *Scientific American*’s spirited mid-century defense. Rather, the patriotic fervor around patents, stimulated by the United States’ increasing leadership in technological advancement and industrialization, led to a return to an emphasis on the nation, in an almost Jeffersonian way. The national public had changed, however, just as the nature of the patent expert had changed from an elite national leader to a standardized anonymous official. In the late nineteenth century, the public was now conceived of as an energetic mass of potential patent *exploiters*, needing to be able to rely on the worth of a patent that they would then turn to the national advantage. This new public was a public of corporations.

¹³² Annual Report of 1869. Note that according to Fisher’s figures, 12,500 represented almost 90% of the 13,986 patents which issued in 1869.

Conveniently enough, the patent owner was now also often a corporation, and Fisher believed that the advantages of a well-functioning examination system were also reaped by the patent-holder. As repeat players, these patent holders were interested in predictability and legal robustness of patents en masse, rather than in achieving one particular grant. Comparing the American system of examination favorably to the European system of registration, Commissioner Fisher explicitly tied the examination system, with its necessary rejections, to the commercial value of patents: “It is a testimony to the thoroughness of the examinations, and to the public appreciation of them, that while no man would buy a lot of land at any price without an examination of the title by competent counsel, thousands of dollars are freely invested in patents upon mere verbal representations and with scarcely a reading of the document.”¹³³ Too many worthless patents would encourage litigation, and as a later Commissioner noted, “the expense, delay and uncertainty of patent litigation go far to diminish the value of patents, and to discourage meritorious inventors.”¹³⁴ The stated virtue of the patent system, as implemented by the standardized clerks, was their cheapness and expediency relative to the courts. The right expertise, correctly wielded, saved money. Commissioners also like to remind the public in their Annual Reports that the Patent Office was completely self-supporting, and in fact, for many years accumulated a profit which was used to build the massive Patent Office Building. Not only were inventors spared the steep out-of-pocket costs of frequent litigation by paying the modest application fees, but the public as a whole was not bearing the costs of bestowing property on the few.¹³⁵

This rededication of the country to the examination system both reflected and supported a resurgence of national pride in this unique approach to patenting which the United States had pioneered. The patent bargain finally came into its own as the pervasive, uncontroversial understanding of the patent system, now that it was enacted by experts of appropriate skill and blandness. The patent bargain as enacted by the standardized clerks was hailed as a significant driver of American international success, with the examination system as the cheapest and most efficient way to produce legally robust patents. The examining clerks became the distinguishing

¹³³ Annual Report for 1869.

¹³⁴ Annual Report for 1873.

¹³⁵ The Patent Office continued to generate a surplus until 1922. DOBYNS, *supra* note /6/ at 201. In 1991, the patent office (by then the United States Patent and Trademark Office) once again became fee-supported, pursuant to the Omnibus Budget Reconciliation Act of 1990, 104 Stat. 1388.

feature of the American system, a use of expertise within the executive branch that functioned as a cheap and efficient way to create commercial value. The *New York Times* agreed, stating in an article on the Patent Office in 1872 that “[i]n the large number of rejections we have one of the merits of the American Patent system over other countries.”¹³⁶ The patent system itself became imagined as an expression of the nation of the whole, an “American system” which supported the American public through its reward of American ingenuity. Or as Mark Twain explained in 1889, in the colloquial voice of the American narrator of *A Connecticut Yankee in King Arthur’s Court*, it was obvious that “a country without a patent office . . . was just a crab and couldn’t travel anyway but sideways or backways.”¹³⁷

In 1881, Commissioner Edgar Marble reflected on the history of patent allowance rates, commending the office for what he saw as the contemporary stability in rates. From the perspective of his understanding of the parties to the patent bargain, the Commissioner looked back upon the low allowance rates after the legislative reform of 1836 and offered a new explanation. He saw those rates not as a function of examiners who were elitist, overly scientific, and illiberal, but as a function of the insufficient knowledge of applicants. In a complete inversion of Thornton’s conception of the inventor and the dangers of information flow, he argued that in the past, inventors had great difficulty learning about prior inventions, leading to many applications worthless for lack of novelty, a difficulty which he saw in 1881 as greatly alleviated by the publications of the Patent Office.¹³⁸ Once that problem had been corrected, the Commissioner saw the present stability in allowance rates as a result of that fifty-seven step process. “This essential stability [in rates] manifestly represents a like stability in the requirements fixed by the Office as prerequisite to the grant of a patent.” The consequence of such process-generated stability was the strengthening of “public confidence in the decisions of the Patent Office,” that is, in issued patents, as generated “not by personal whim, but by conformity to fixed principles of judgment.”¹³⁹ The problematic bureaucrat, the source of so much concern and negotiation for nearly a century, had been tamed by regulation in selection and act, and no longer was a threat to republicanism, either as an improper barrier to the

¹³⁶ NEW YORK TIMES, Dec. 14, 1872, p. 4.

¹³⁷ MARK TWAIN, A CONNECTICUT YANKEE IN KING ARTHUR’S COURT (1889).

¹³⁸ Annual Report for 1881. This point was also made in the Annual Report for 1872, attributing the high rate of patent applications granted that year to the “prompt distribution” of patent office publications.

¹³⁹ Annual Report of Patent Commissioner for 1881.

inventive American, or as an autocratic elite attempting to bring too much judgment to an administrative role. Standardization had brought a way of embracing the executive branch expert.

Ironically, the chief concern by the late nineteenth century was that the rate of allowance was too *high*, which threatened the key advantage of the “American system.” In 1874, Commissioner Leggett attributed public complaint about patents to patents improperly granted.¹⁴⁰ By 1877, the Commissioner was worrying about the tendency “toward an excessive issue of patents,” and suggesting that favorable decisions of examiners needed to be reviewable, just as unfavorable decisions were reviewable by the examiners-in-chief.¹⁴¹ The perceived cause of this threat to the value of patents, now that the personnel issues had been apparently solved, and established procedures were in place, was the lack of patent office resources. With the press of business ever increasing, the load of applications per examiner increased. At the same time, the time from application filing to final decision received increasing attention as a bureaucratic benchmark. “The importunity and pressure brought to bear for speedy action often results in imperfect examination and ill-considered decisions, sometimes resulting in the granting of patents which cannot be maintained in the courts.” The result of such hastily granted patents threatened the entire system, as “the grant of an illegal patent serves to mislead and deceive the public, and tends to throw distrust and discredit upon patented property, and injures the commercial value of meritorious inventions.”¹⁴²

In the late nineteenth century, the proposed solution was not a change in how expertise was to be deployed or defined. The Commissioners simply called for more staff, an increased expert bureaucracy. As Commissioner Montgomery stated in 1885 urging more resources from Congress, “Almost daily I am constrained to urge upon the examiners the diligence and labor necessary to keep up as nearly as may be with the rapidly accumulating work, and at the same time to see to it that no case passes their inspection without critical investigation.”¹⁴³ The problem was not only the need for more examiners, but the turnover of examiners, caused chiefly by their low salaries. Montgomery correlated years of fluctuation in the allowance rate since

¹⁴⁰ Leggett is quoted in Annual Report of 1881.

¹⁴¹ Annual Report of 1877. Note that about this time, the number of patents litigated was reaching an all-time high. Personal communication of the author with Christopher Beauchamp, Brooklyn Law School.

¹⁴² Annual Report for 1880.

¹⁴³ Annual Report of 1885. See similar concern in Annual Report of 1890.

1867 with years of high examiner resignation, and called for higher salaries to maintain the stability of patent office practice, and thus the value of issued patents.¹⁴⁴ Every departure threatened office efficiency and the loss of institutional knowledge. As one of his successors noted a few years later: “It will be observed that it was necessary to teach each new appointee his duties. During the course of instruction, at least at its inception, the appointee was of little use to the Office, and beyond that the time of the [more senior] examiner was consumed in instructing him.”¹⁴⁵

Of course, the Patent Office did not have sole control over the stability of patents.¹⁴⁶ Law professor William Robinson agreed that the examination system was creating commercial value by the predictable validity of the resulting patents:

A patent thus granted could, of course, be reasonably trusted. The capitalist might venture his fortune in developing the inventions which it protects, with as much security as attends ordinary commercial operations. The meritorious inventor was no longer condemned to interminable waiting and unrewarded self-sacrifice. The discoverer of anything pronounced by the Patent Office to be new and useful acquired thereby a property which had market value, and to which he could give a title as reliable as that to any other form of personal estate.¹⁴⁷

The foundation of this value was the formation of what Robinson called “a contract between the inventor and the public, by which the inventor, in consideration that the exclusive use of his invention is secured to him for a limited period of time, confers upon the public the knowledge of the invention during that period and an unrestricted right to use it after that period has expired.”¹⁴⁸ The patent bargain was now black letter law. Yet, from Robinson’s vantage point outside the Patent Office, it was not the lack of sufficient staff, nor the staff turnover that was the threat to this contract. It was the courts, which seemed inclined to inquire too closely into the decisions of the

¹⁴⁴ The call for higher salaries to prevent examiner turnover was repeated periodically. See, e.g., the Annual Report of 1883.

¹⁴⁵ Annual Report for 1884.

¹⁴⁶ As historian Carolyn Cooper reminds us “The Patent Act of 1836 did not eliminate recourse to the legal system. It just meant that there were now two locations in society in which the originality of inventions was scrutinized and socially determined: one location in the patent office, and one in the courts.” CAROLYN C. COOPER, *SHAPING INVENTION: THOMAS BLANCHARD’S MACHINERY AND PATENT MANAGEMENT IN NINETEENTH-CENTURY AMERICA* 37 (Columbia University Press 1991).

¹⁴⁷ WILLIAM C. ROBINSON, 1 *THE LAW OF PATENTS FOR USEFUL INVENTIONS* 82 SEC. 50 (Little, Brown & Co. 1890).

¹⁴⁸ *Id.*, vol. 2, at 70.

Commissioner, creating uncertainty by threatening to invalidate patents that had been examined and certified by Patent Office bureaucrats. The legal doctrine of the *prima facie* validity of patents, placing the burden of proof on the party seeking to show the invalidity of a patent, was only valuable to patentees and entrepreneurs if that burden of proof remained high.¹⁴⁹ “The confidence hitherto engendered by the supposed reliability of patents which have sustained the scrutiny of the Patent Office is not likely to be long preserved, if certain positions now asserted receive permanent endorsement in the courts.”¹⁵⁰ As the battleground for possession of property rights in an invention shifted to the courts, in a reprise of early-nineteenth-century tussles about the locus of value determination, patent advocates would accuse the courts of illiberality in their consideration of patents. This shift in focus to the courts characterized the next century of the patent system, culminating in the formation of the Federal Circuit in 1982, creating a new type of judicial expertise which has been subject to the same individualized scrutiny that plagued patent examiners until they achieved anonymity through a sizeable bureaucracy.

CONCLUSION

In restoring the patent bureaucracy to a critical place in the history of the patent system, this Article provides a historical context for present-day controversies about the functioning of the patent system, as well as for broader questions of administrative law. I have described pendulum swings in the qualifications and practices of the patent clerks between the extremes of individualized substantive review by the Secretary of State in the first years of the republic and merely procedural paper-processing by generalist clerks of the early registration system. The largest portion of the century I have reviewed was occupied by attempts to find some compromise between these extremes, some way to tolerate expert gatekeepers within for the United States patent system. From 1836 to roughly 1870, this battle was fought among commentators, patent commissioners, examiners, and applicants, without further Congressional guidance, as the theoretical virtue of reducing worthless patents was measured against the painful

¹⁴⁹ The *prima facie* doctrine is discussed at ROBINSON, *supra* note /153/ at vol. 2, 18, sec. 426.

¹⁵⁰ ROBINSON, *supra* note /153/ at vol. 1, 82-83 sec. 50, note 2.

reality of applications rejected by a small group of identifiable experts. When their expertise was too loudly proclaimed as extraordinary, such rejection became all the more intolerable.

By showing the resolution of controversies around 1870 as an increased patent bureaucracy supported the standardization of patent clerks and their actions through merit-based hiring and detailed procedures of examination, I have developed the nineteenth-century patent office as part of the history of the modern administrative state. The shifting reliance on expertise is related to later controversies about the appropriate deployment of expertise in the formation of the twentieth-century administrative state, providing an early example of burying a controversial decision – the grant of a patent – inside of a relatively large, anonymous bureaucracy, which is then argued to be competent based on specialized expertise which distinguishes it from other parts of the government.¹⁵¹

But I have also made the argument that the development of the patent bureaucracy, the creation of this institution as an early example of a modern agency, was a way of resolving, or at least defusing, an ongoing set of tensions about property and governance which have always threatened the patent system with particular force.¹⁵² By describing the clerk's job as striking the patent bargain, the modern bureaucracy helped change the "patent bargain" from a contested way of thinking about patents to black letter law and was has become a "strong norm." The role of the patent bureaucrats has been defined as negotiators of that bargain, from a position of neutral scientific and technical expertise that allows them to work neither for the inventor nor for the public (despite their government paycheck), but as mediators between them. In building an institution of patenting that permitted an acceptable level of substantive review of patent applications, the nineteenth-century patent bureaucrats created a space in which the patent bargain can be struck on a daily basis.

¹⁵¹ STEPHEN SKOWONEK, *BUILDING A NEW AMERICAN STATE: THE EXPANSION OF NATIONAL ADMINISTRATIVE CAPACITIES* (Cambridge University Press 1982). Note that Skowonek, as well as Stephenson, *supra* note /42/, have discussed congressional experimentation with both the courts and an executive agency as the primary interpreter of its statutes, which in the history of the patent bureaucracy is represented first by the attempted elimination of any bureaucracy in Patent Act of 1793 and then the establishment of a formal office with quasi-judicial clerks in Patent Act of 1836.

¹⁵² The allocation of benefits by the government is of course a problem beyond the patent system, but the patent bureaucracy always faced the unusual situation of being charged with creating "something" – a federal grant, out of "nothing" – an idea expressed in text, drawings and models.

Today, just as in the nineteenth century, there is the realization, both inside and outside of the Patent Office, that patent staff matter – their actions affect the commercial value of all patents.¹⁵³ Although the scale is vastly expanded, the twenty-first century patent examiners and their duties do not significantly differ in kind from those of his late-nineteenth predecessors. Contemporary examiners need a baseline level of expertise, demonstrated by a bachelor's degree related to the areas of invention that they examine. Their training in engineering, computer science, physics or biology, for example, places them in an elite class within the population as a whole, the same class to which the inventors are presumed to belong. The procedures these experts must follow are given in the massive *Manual of Patent Examining Procedure*, a frequently revised book of non-binding rules that is distributed to patent agents and attorneys as well as among the patent bureaucrats.¹⁵⁴ Examiners are supposed to follow the procedural rules while using their expertise. The stated goal is the minimization, if not the elimination, of any variability in the processing of applications by individual bureaucrats, each of whom brings a modicum of elite expertise – akin to the genius of the inventor – to the consideration of whether a claimed invention is new, useful and nonobvious, carefully cabined within the detailed procedures of the office. Their work is closely watched by representatives of the increasing number of economic sectors that depend on patents, and by the patent bar, both of whom generally share a goal of rapidly processed and legally robust patents.¹⁵⁵ The United States Patent and Trademark Office, aware of this scrutiny and public interest, currently issues an

¹⁵³ As JAFFE & LERNER, *supra* note /5/, at 5, have noted in their sustained critique of the contemporary patent bureaucracy, “actual patent practice depends on the decisions of the patent office,” rendering “administrative structures and procedures” as the source of “damaging effects” within the patent system.

¹⁵⁴ The Academy was first implemented in 2006, to address the record number of new examiners joining the office. See Performance and Accountability Report for Fiscal Year 2006. The first edition of the MPEP was issued in 1949. The most current volume is the 9th revision of the 8th edition (2012). http://www.uspto.gov/web/offices/pac/mpep/MPEP_Pub_Dates.pdf.

¹⁵⁵ There are situations, of course, when patent applicants desire to delay the prosecution of their patents. Because those same applicants may at other times want rapid processing, there is a generally shared view that the Patent Office should not be permitted to create such delays on its own, as well as an on-going effort to prevent manipulation of procedures to draw out patent prosecution. For a discussion of the contemporary problem of long-pending applications, *see, e.g.*, Mark Lemley & Kimberly A. Moore, *Ending Abuse of Patent Continuations*, 84 BOSTON U. L. REV. 63 (2004).

annual “Performance and Accountability Report,” detailing patent application processing times, as well as “patent examiner error rates.”¹⁵⁶

And in the current debates about the patent system, there are echoes of each period of its nineteenth-century development. There is worry about a “patent flood” caused by too high allowance rates, with discussion of the behavior of the examiners as sloppy, ill-informed and hasty, caused by economic incentives for allowance, and difficulties in seeking out prior art.¹⁵⁷ The accusation of “abuses” and a loss of “integrity” in the patent system would have been familiar to Thornton and to Senator Ruggles, with a peanut butter and jelly sandwich patent replacing the winged gudgeon as an example of the worthless, non-novel patents which were allowed to issue.¹⁵⁸ In recent years, European allowance rates of 60-80% have been compared to United States allowance rates of 95%, to show how the American patent system has been losing the competitive advantage of the “American system” it had gained in late nineteenth century.¹⁵⁹

But when the USPTO responded to this criticism by lowering allowance rates, it could have been 1857 all over again. While the USPTO proudly issued a press release to show enhanced patent quality, as illustrated by a drop in granted applications from 72% in 2000 to 51% in 2007, patent attorneys complained of a “culture of rejection” in which the USPTO should be called the “United States Patent and Trademark Rejection Office.”¹⁶⁰ The chatter in the blogosphere (perhaps the closest twenty-first century equivalent of the weekly *Scientific American*) pointed out the problem of personal idiosyncrasies creating uncertainty and

¹⁵⁶ See Performance and Accountability Report for 2006. Patent examiner error rate is estimated by a quality control division, which samples patents for reexamination. Available at <http://www.uspto.gov/web/offices/com/annual/2006/index.html>.

¹⁵⁷ BESSEN & MEURER, *supra* note /5/ at 10-11 (“patent flood”).

¹⁵⁸ See, e.g., BESSEN & MEURER, *supra* note /5/ at 3 (describing the frequent reference by patent critics to U.S. Patent No. 6,004,596 (Dec. 21, 1999)); JAFFE & LERNER, *supra* note /5/ at 25-26 (using peanut butter and jelly sandwich patent to illustrate the problems in the patent system).

¹⁵⁹ Cecil D. Quillen and Ogden D. Webster, *Continuing Patent Applications and Performance of the U. S. Patent and Trademark Office*, 11 FED. CIR. B. J. 1 (2001-2002). These figures for US allowance rates have been disputed, further illustrating the difficulty in calculating patent allowance rates. Erbert argues that the allowance rates were closer to those reported by the USPTO in the first years of the twenty-first century, about 70%. Lawrence B. Ebert, *Patent Grant Rates at the United States Patent and Trademark Office*, 4 CHICAGO-KENT J. OF INTELLECTUAL PROPERTY 108 (2004)

¹⁶⁰ USPTO Press Release #06-73 (Dec. 22, 2006)(<http://www.uspto.gov/web/offices/com/speeches/06-73.htm>). John Starsiak, Jr., *Patent Reform is Not Necessary*, GENETIC ENGINEERING AND BIOTECHNOLOGY NEWS (July 21, 2008) on-line at (<http://www.genengnews.com/blog/item.aspx?id=419>); Comment posted on Patent Law Blog (Patently-O) on Feb. 14, 2007 (http://www.patentlyo.com/patent/2007/02/uspto_allowance.html).

unfairness: “different examiners in the same art unit can produce different rejections that have apparent different threshold of allowability.”¹⁶¹ And just as Commissioner Marble in 1881 saw the low allowance rates of the 1850s as a failure of information flow to applicants which had been corrected by patent office actions, leading to appropriately higher rates, the USPTO has claimed that the drop in allowance rates in the first decade of the twenty-first century is only temporary, as its procedural reforms will lead to would-be patentees to file “clearer applications” and a return to the higher rates more acceptable to the patent community.¹⁶²

This debate is returning patent bureaucrats to public controversy, as the patent bargain that kept them invisible for one hundred years comes under attack. As contemporary patent scholars, patent practitioners, and patent owners make these critiques rejecting the notion that the public interest is being served, the tension surrounding the government’s role in creating private property rights in invention re-emerges into the national and international debates on intellectual property reform, and behind the metaphor we glimpse the clerk, still a potentially provocative figure. This history suggests that as the clerk reemerges into the public eye, and debates rage about the failure of the public to receive the benefit of the patent bargain, the terms of the debate might benefit from some adjustment. Instead of attempting to measure the performance of the patent system against an aspirational metaphor arising out of debates of early republican debates over political theory, in the twenty-first century, we have earned the luxury asking of questions about the patent system more attuned to the position of the United States as an international leader in technology, and a committed proponent of intellectual property rights.

Current scholarship is already turning in new directions. For example, several scholars have proposed a reinvigorated role for the federal courts in policing patents, as in the registration period, re-emphasizing *ex post* judicial expertise.¹⁶³ It has been suggested that the courts can and should appropriately distinguish between different types of private and public interests in

¹⁶¹ Comment on Patent Law Blog (Patently-O) posted Feb. 14, 2007 (http://www.patentlyo.com/patent/2007/02/uspto_allowance.html)(viewed Aug. 18, 2007). See also Iain Cockburn, Sam Kortum, & Scott Stern, “Are All Patent Examiners Equal? Examiners, Patent Characteristics, and Litigation Outcomes,” in WESLEY COHEN & STEPHEN A. MERRILL, EDS. PATENTS IN THE KNOWLEDGE-BASED ECONOMY (National Academies Press 2003).

¹⁶² “USPTO Fiscal Year-End Results Demonstrate Trend of Improved Patent and Trademark Quality,” USPTO Press Release #07-46, Nov. 15, 2007 (<http://www.uspto.gov/web/offices/com/speeches/07-46.htm>, viewed Aug. 18, 2008).

¹⁶³ The proposal for reform by JAFFE & LERNER, *supra* note /2/, at 206 includes “enhanced scope” for the judiciary in the patent system.

invention in ways not acknowledged in the stylized two-party patent bargain.¹⁶⁴ The perceived roles of private and public are also being reconceived through the America Invents Act of 2011, which combines the dedicated, expert bureaucracy within the patent office with increased public participation in the patent application process, creating a historically new role for the interested public to act as additional experts in application processing, rather than limiting third parties to *ex post* efforts in litigation.¹⁶⁵ Understanding the “failure” and “crisis” of the patent system based on an understanding that the patent bureaucracy was created along with the patent bargain allows a better appreciation of such proposals, and provides support for those proposing a new foundational metaphor to describe both the system and its necessary functionaries.

¹⁶⁴ The most sustained development of this critique is that by BURK & LEMLEY, *supra* note /5/.

¹⁶⁵ America Invents Act, §8 (effective date Sept. 16, 2012).