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## PATENTS AND THE FIRST AMENDMENT\*

DAN L. BURK<sup>†</sup>

### ABSTRACT

*Patents are intended as a means of promoting innovation through private pecuniary incentives. But the patent system has for some time been on a collision course with guarantees of expressive freedom. Surprisingly, no one has ever subjected patent doctrine to a close First Amendment analysis. In this paper I show, first, that patents clearly affect expressive freedom; second, that patents are subject to legal scrutiny for their effect on expressive rights; and third, that patents are not excused from scrutiny by virtue of constituting property rights or by virtue of private discretion. After examining the patent system in terms of familiar First Amendment metrics such as strict scrutiny, narrow tailoring, governmental interest, and least restrictive means, I conclude that even though many patents may survive First Amendment analysis, many will not.*

Patents, which function as government-sanctioned monopolies, invade core First Amendment rights when they are allowed to obstruct the essential channels of scientific, economic, and political discourse.<sup>‡</sup>

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<sup>†</sup> Chancellor's Professor of Law, University of California, Irvine. My thanks to Zackory Burns, Alex Camacho, Seth Davis, Stephen Lee, Leah Litman, Jonathan Glater, and Ted Sichelman; to Elvin Lee and the participants in the Stanford Law School/Mozilla April 17, 2017 forum *Should Patent Law Be a First Amendment Issue?*; and to participants in the October 11, 2017 Oxford Internet Institute Departmental Seminar for helpful discussion in the formulation of this article.

<sup>‡</sup> *Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307 (Fed. Cir. 2016) (Mayer, J., concurring).

## INTRODUCTION

Patents are temporary grants of exclusive rights, authorized by Congress and issued by a federal agency, intended as a means of promoting innovation through private pecuniary incentives.<sup>1</sup> Unlike the parallel system of copyright, which is expressly intended to cover expressive works, the patent system is supposedly directed toward the functional, technical arts.<sup>2</sup> Consequently, there has historically been little worry that the grant of patent exclusivity might conflict with the constitutional protection of speech and the press governed by the First Amendment.<sup>3</sup>

But the patent system has for some time been on a collision course with guarantees of expressive freedom. Some eighteen years ago I first identified a set of First Amendment difficulties posed by the patent system.<sup>4</sup> Patenting of the “liberal arts”<sup>5</sup> had brought technical function into an alarming degree of contact with protected expression. These issues became manifest in large measure due to the growing practice of software patenting, combined with an increasingly expansive approach to patent eligible subject matter.<sup>6</sup> But some version of these manifest quandaries had lain latent within the patent system since its inception, and the rise of software patents had merely made clear that patent law lacked the kind of doctrinal exceptions that had avoided a First Amendment collision in the related law of copyright.<sup>7</sup>

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1. See *United States v. Univis Lens Co.*, 316 U.S. 241, 250 (1942); see also Dan L. Burk, *The Law and Economics of Intellectual Property: In Search of First Principles*, 8 ANN. REV. L. & SOC. SCI. 397 (2012) (discussing incentive justifications for the patent system).

2. See *Baker v. Selden*, 101 U.S. 99, 102–03 (1879). In contrast to patent law, germinal work on copyright and the First Amendment was begun nearly a half century ago. See Paul Goldstein, *Copyright and the First Amendment*, 70 COLUM. L. REV. 983 (1970); Melville B. Nimmer, *Does Copyright Abridge the First Amendment Guarantees of Free Speech and Press?*, 17 UCLA L. REV. 1180 (1970); see also Robert C. Denicola, *Copyright and Free Speech: Constitutional Limitations on the Protection of Expression*, 67 CAL. L. REV. 283 (1979) (discussing the First Amendment in the context of the 1976 Copyright Act). During the ensuing decades, the literature on the topic has become quite large. For a very small sample, see, e.g., Neil Weinstock Netanel, *Locating Copyright Within the First Amendment Skein*, 54 STAN. L. REV. 1 (2001); Rebecca Tushnet, *Copyright as a Model for Free Speech Law: What Copyright has in Common with Anti-Pornography Laws, Campaign Finance Reform, and Telecommunications Regulation*, 42 B.C.L. REV. 1 (2001); C. Edwin Baker, *First Amendment Limits on Copyright*, 55 VAND. L. REV. 891, 910 (2002); Jennifer E. Rothman, *Liberating Copyright: Thinking Beyond Free Speech*, 95 CORNELL L. REV. 463 (2010).

3. See, e.g., Mark A. Lemley & Eugene Volokh, *Freedom of Speech and Injunctions in Intellectual Property Cases*, 48 DUKE L.J. 147 (1998).

4. See Dan L. Burk, *Patenting Speech*, 79 TEX. L. REV. 99 (2000).

5. See John R. Thomas, *The Patenting of the Liberal Professions*, 40 B.C.L. REV. 1139, 1164 (1999) (contrasting the eighteenth century “useful arts” with the “liberal arts” such as grammar, logic, mathematics, and rhetoric).

6. Thomas F. Cotter, *A Burkean Perspective on Patent Eligibility*, 22 BERKELEY TECH. L.J. 855 (2007); John R. Thomas, *Liberty and Property in Patent Law*, 39 HOUS. L. REV. 569, 588–90 (2002).

7. See Burk, *supra* note 4, at 150–60; see also Ralph D. Clifford & Richard J. Peltz-Steele, *The Constitutionality of Design Patents*, 14 CHI. KENT J. INTELL. PROP. 553 (2015) (arguing for a fair use standard in design, rather than utility, patents); Mark Lemley & Julie Cohen, *Patent Scope and*

Since I addressed the question nearly twenty years ago, little has been said on the topic,<sup>8</sup> despite a long twilight struggle by the Supreme Court<sup>9</sup> and many commentators<sup>10</sup> to define the proper limits of patentable subject matter.<sup>11</sup> The problem has been raised by amici in key cases addressing the scope of patentable subject matter, with little judicial response.<sup>12</sup> But the discussion has been re-invigorated by the concurrence added by Judge Haldane Mayer of the United States Court of Appeals for the Federal Circuit to the recent decision in *Intellectual Ventures I v. Symantec*.<sup>13</sup> Judge Mayer opined that software is a form of speech, that software patents serve to frustrate protected expression, and that proper adherence to the Supreme Court's patentable subject matter test from *Alice Corp. v. CLS Bank Int'l*<sup>14</sup> would serve First Amendment interests by purging the patent system of objectionable software patents, and perhaps all software patents.

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*Innovation in the Software Industry*, 89 CAL. L. REV. 1, 29–37 (2001) (discussing patent limitations and exceptions that might accommodate software reverse engineering); Maureen O'Rourke, *Toward a Doctrine of Fair Use in Patent Law*, 100 COLUM. L. REV. 1177 (2000) (arguing for recognition of fair use within the patent system).

8. Lange and Powell have briefly suggested that First Amendment jurisprudence that is broad enough to constrain copyrights might also capture some expressive patents. See DAVID L. LANGE & H. JEFFERSON POWELL, *NO LAW: INTELLECTUAL PROPERTY IN THE IMAGE OF AN ABSOLUTE FIRST AMENDMENT* 179, 308 (2009). For an unusual policy discussion on patents and speech, see Ali Feroz, *Technical Speech: Patents, Expert Knowledge, and the First Amendment*, 17 MINN. J.L. SCI. & TECH. 277 (2016) (arguing that both the Patent Clause and the First Amendment promote technical knowledge). Additionally, contemporaneous with the completion of this paper, Professor Chiang has posted a draft paper that agrees with some of my broad conclusions, while differing in analytical approach. See Tun-Jen Chiang, *Patents and Free Speech*, 107 GEO. L. REV. (forthcoming 2018), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3114931](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3114931) [https://perma.cc/6RC8-R9 W7].

9. See *Bilski v. Kappos*, 561 U.S. 593 (2010); *Mayo Collaborative Serv. v. Prometheus Lab., Inc.*, 566 U.S. 66 (2012); *Alice Corp. v. CLS Bank Int'l*, 134 S. Ct. 2347 (2014).

10. See, e.g., Jeffrey A. Lefstin, *The Three Faces of Prometheus: A Post-Alice Jurisprudence of Abstractions*, 16 N.C.J.L. & TECH. 647 (2015); Dan L. Burk, *The Curious Incident of the Supreme Court in Myriad Genetics*, 90 NOTRE DAME L. REV. 505 (2014); Kevin Emerson Collins, *Prometheus Laboratories, Mental Steps, and Printed Matter*, 50 HOUS. L. REV. 391 (2012); Katherine J. Strandburg, *Much Ado About Preemption*, 50 HOUS. L. REV. 563 (2012); Mark A. Lemley et al., *Life After Bilski*, 63 STAN. L. REV. 1315 (2011).

11. For comparative overviews, see Dan L. Burk, *Patent Law's Problem Children: Software and Biotechnology in Transatlantic Context*, in *GLOBAL PERSPECTIVES ON PATENT LAW* 187 (Ruth Okediji & Margo Bagley eds., 2014); Dan L. Burk, *The Inventive Concept in Alice Corp. v. CLS Bank Int'l*, 4 IIC 865, 866 (2014).

12. See Brief of the American Civil Liberties Union as Amicus Curiae in Support of Respondents, *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347 (2014) (No. 13-298); Brief of the American Civil Liberties Union as Amicus Curiae in Support of Petitioners, *Mayo Collaborative Serv. v. Prometheus Lab. Inc.*, 132 S. Ct. 1289 (2012) (No. 10-1150); Brief of Amici Curiae Cato Institute, Reason Foundation, & Competitive Enterprise Institute in Support of Petitioners, *Mayo Collaborative Serv. v. Prometheus Lab. Inc.*, 132 S. Ct. 1289 (2012) (No. 10-1150); Brief for Amicus Curiae American Civil Liberties Union for Affirmance in Support of Appellee, *In re Bilski*, 545 F.3d 943 (Fed. Cir. 2008) (No. 2007-1130).

13. 838 F.3d 1307, 1322 (Fed. Cir. 2016) (Mayer, J., concurring).

14. 134 S. Ct. 2347 (2014).

Reactions to Judge Mayer's analysis were sharp, vehement, and in some cases intemperate.<sup>15</sup> A common reaction has been to claim that Mayer misunderstands or misreads the Supreme Court's *Alice* decision; these reactions tend to adopt a fairly literalist reading of *Alice*, noting that it nowhere explicitly excludes software from patentable subject matter, while cabining any broader implications of the decision.<sup>16</sup> The most intemperate and least sensible responses, worded rather as if Mayer had in some fashion betrayed some fundamental principle of human decency, have asserted that Mayer's comments reveal him to be unfit for office, and call for him to resign or recuse himself from software cases.<sup>17</sup> Such comments to some extent reflect unhappiness among the practicing bar with Mayer's broad, and arguably overbroad, understanding of the implications of the *Alice* subject matter test. But the reaction also includes attitudes ranging from skeptical to incredulous that patent law could have any serious association with expressive rights or the First Amendment.<sup>18</sup>

A great deal has already been written and will, alas, likely continue to be written about the software subject matter questions implicated in Judge Mayer's concurrence.<sup>19</sup> Such questions are not the focus of this paper. Here I will instead concentrate on a series of questions or objections raised by his observations on patents and the First Amendment. Rather than recapitulate arguments made in my previous work, I will focus on questions raised by the responses to Judge Mayer. These range from questions that are fairly general to questions that are subject matter specific: Can technology be subjected to the jurisprudence of free speech? Is the patent system constitutionally immune from First Amendment scrutiny? Aren't patents content neutral? Are property or other exclusive rights immune from First Amendment scrutiny? Is there any state action in the enforcement of a

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15. See, e.g., Michael Borella & George Lyons III, *Intellectual Ventures I LLC v. Symantec Corp. – Judge Mayer on the First Amendment*, PATENT DOCS (Oct. 24, 2016, 11:59 PM), <http://www.patentdocs.org/2016/10/intellectual-ventures-i-llc-v-symantec-corp-judge-mayer-on-the-first-amendment-.html> [https://perma.cc/DLJ5-HBAH]; Stuart P. Meyer, *Judge Mayer's Concurrence in IV Shows the Problem with Judicially Created Exceptions*, BILSKI BLOG (Oct. 10, 2016), <http://www.bilski.blog.com/blog/2016/10/judge-mayers-concurrence-in-iv-shows-the-problem-with-judicially-created-exceptions.html> [https://perma.cc/KSV5-GD44]; Eugene Quinn, *It Is Time for Judge Mayer to Step Down from the Federal Circuit*, IPWATCH (Oct. 6, 2016), <http://www.ipwatchdog.com/2016/10/06/judge-mayer-step-down-federal-circuit/id=73567> [https://perma.cc/TQV2-MTRY]. But see also Mike Masnick, *Prominent Pro-patent Judge Issues Opinion Declaring All Software Patents Bad*, TECHDIRT, (Oct. 6, 2016, 8:20 AM), <https://www.techdirt.com/articles/20161005/15280135720/prominent-pro-patent-judge-issues-opinion-declaring-all-software-patents-bad.shtml> [https://perma.cc/X9FG-YLCH] (technologist blog applauding Mayer's concurrence).

16. See, e.g., Meyer, *supra* note 15; Quinn, *supra* note 15.

17. See, e.g., Quinn, *supra* note 15.

18. Although Judge Mayer's concurrence should hardly come as a surprise, given that he raised some of the same First Amendment concerns in his dissent from the Federal Circuit's en banc opinion in *In re Bilski*, 545 F.3d 943, 1003 (Fed. Cir. 2008) (Mayer, J., dissenting).

19. See, e.g., *supra* note 10.

patent? What might be the proper level of constitutional scrutiny for a patent?

Both Judge Mayer's concurrence and the vehement responses demonstrate that there is much at stake in answering these questions: taking the First Amendment implications of patent law seriously could throw into doubt the constitutional permissibility of thousands of existing patents. Despite these radical implications of addressing my series of First Amendment questions, my doctrinal goals here are relatively moderate. I show, first, that patents clearly affect expressive freedom, and may compromise interests that are protected under the First Amendment. Problematic patents certainly include software patents, but many other patents are implicated as well. Second, I will show that patents are subject to legal scrutiny for their effect on expressive rights, and, third, that patents are not excused from scrutiny by virtue of constituting property rights or by virtue of private discretion. I survey well-established First Amendment doctrines and standards of review to offer some thoughts on the proper type and level of scrutiny for different types of patents. Having mapped the terrain, I conclude with some observations and challenges for future research.

### I. PATENTS AND PROTECTED EXPRESSION

The potential for First Amendment conflict with the exclusive rights conveyed by patents should be immediately apparent. The First Amendment provides that "Congress shall make no law . . . abridging the freedom of speech, or of the press."<sup>20</sup> Clearly the patent statute is a law, enacted by Congress, and in a number of instances it abridges freedom of speech, and perhaps freedom of the press. Of course, the plain text of the amendment has never been read to mean exactly what it says; Congress makes a plethora of laws regarding communication and expression that have been upheld as permissible under the First Amendment: true threats against the president are prohibited;<sup>21</sup> information about nuclear weapons is classified and restricted;<sup>22</sup> advice promoting tax evasion is outlawed.<sup>23</sup> But when Congress

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20. U.S. CONST. amend. I

21. 18 U.S.C. § 871 (2017).

22. See Atomic Energy Act, 42 U.S.C. §§ 2014, 2274 (2000) (prohibiting revelation of certain information concerning nuclear weapons); cf. Invention Secrecy Act, 35 U.S.C. §§ 181, 186 (2000) (prohibiting disclosure of inventions subject to secrecy orders when "detrimental to national security.").

23. See, e.g., *United States v. Kelley*, 769 F.2d 215, 216–17 (4th Cir. 1985) (upholding criminal punishment for disseminating information on tax evasion); *United States v. Freeman*, 761 F.2d 549 (9th Cir. 1985) (same); *United States v. Buttorff*, 572 F.2d 619, 623 (8th Cir. 1978) (same).

does make such laws, the First Amendment is implicated and constitutional scrutiny ensues.

Patent law should be no different, but this perhaps requires some illustration. It is relatively simple to identify issued patents that involve speech or communication, and that are potentially problematic from a First Amendment standpoint. The exercise of identifying such patents is valuable not only in establishing the legitimacy of First Amendment analysis for patenting, but in delineating the contours of such analysis. Clearly not all patent grants implicate expressive freedom, and those that do so will implicate free speech to different extents. Some patents will be entirely permissible when put through the proper First Amendment tests; others may be impermissible; others will be either permissible or impermissible under different circumstances or for different reasons.

#### A. *Problematic Patents*

We begin with what is clearly a core First Amendment technology. Some of the reactions to Judge Mayer's concurrence point out, entirely correctly, that if the First Amendment is implicated by patenting, then exclusive rights in inventions such as a printing press would potentially be problematic.<sup>24</sup> The core observation itself seems correct and rather straightforward; printing presses are machines, which fall within the statutory patentable subject matter categories of machines, processes, compositions of matter, and articles of manufacture.<sup>25</sup> If a given printing press is novel and non-obvious over previous printing presses, it could be the subject of a patent.

The point of those offering this observation seems to be an accompanying implication that, since printing presses are of course patent eligible, and are not problematic, patents cannot implicate freedom of speech. But both the premises and the logic of this argument are faulty. Quite to the contrary, rather than dispelling the First Amendment issue, this observation underscores the dimensions of the First Amendment problem. Take for example the device displayed in Figure 1, one of the drawings from U.S. patent number 5,199, issued for an improved type of printing press in 1847. The claimed invention was at the time of issue judged to be a new, non-obvious, and useful device, eligible for a patent. But it is *also* a mechanism or conduit for communicative speech.

Recall that the First Amendment restricts Congress from making laws restricting freedom of speech or *of the press*.<sup>26</sup> As Edward Lee has pointed out in another context, the guarantee of freedom of "the press," separate

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24. See, e.g., Meyer, *supra* note 15.

25. 35 U.S.C. § 101 (2016).

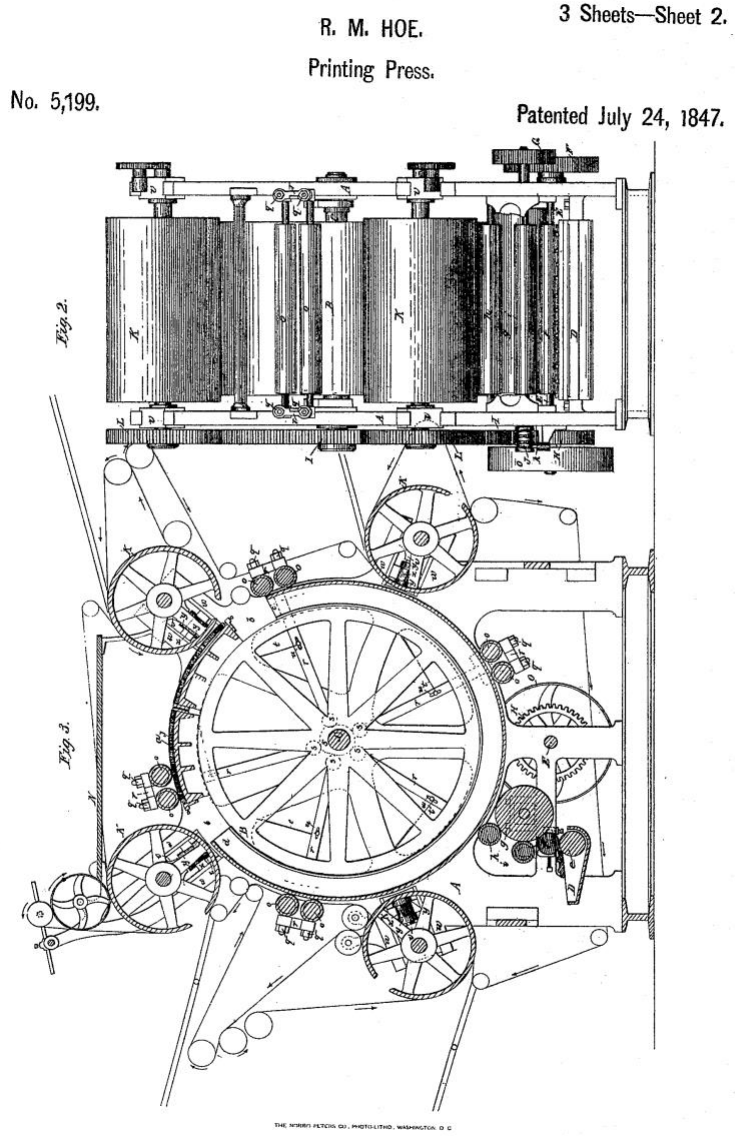
26. U.S. CONST. amend. I.

from that of “speech” is directed to regulations on the physical apparatus of communication—originally the printing press—and not necessarily to regulations restricting the work of journalists as “the press.”<sup>27</sup> The Supreme Court has since made clear that this constitutional provision extends to other more modern apparatus for communication, such as radio, television, and motion picture devices.<sup>28</sup> Thus, government conferral of exclusive rights in such printing presses unquestionably raises First Amendment issues.

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27. Edward Lee, *Freedom of the Press 2.0*, in FIRST AMENDMENT LAW HANDBOOK 2008–2009 (2009)

28. *United States v. Paramount Pictures*, 334 U.S. 131, 166 (1948).



**Figure 1.**

It should be fairly obvious that, were the government to assign control of *all* printing presses to a single owner, the First Amendment would be implicated and constitutional scrutiny would be triggered. Indeed, Justice Scalia has rather pointedly highlighted the “core abuse” against which the



First Amendment was directed was the system of printing press licensing imposed by the British monarchy in the sixteenth and seventeenth centuries to curtail the “evils” of the device.<sup>29</sup> The British Crown’s related system of censorship by conveying exclusivity into private hands—those of the Stationer’s Guild—led to limitation via the Statute of Anne, the predecessor to modern copyright law.<sup>30</sup> The Guild was also granted a “publication patent” in addition to its copyright privileges,<sup>31</sup> which was not quite the instrument we would denominate a patent today.<sup>32</sup> But assigning governmental printing monopolies by means of a patent would be no less a licensing and censorship system than those historical abuses.

When we come to U.S. patent 5,199 and similar grants covering publication machinery, of course the government assignment of a patent does not transfer ownership of *all* printing presses—only some of them, specifically, those that fall within the scope of the patent claims. Patent law’s novelty and non-obviousness doctrines mean that, unless the patent describes the very first printing press, it is unlikely that all printing presses will fall within the scope of the patent’s claims.<sup>33</sup> And, as Ed Kitch once pointed out in a different context, some substitutes to the patented technology will be found in older technologies.<sup>34</sup> But it seems cold comfort to argue that granting the first patent on the printing press still leaves the public to make, use, and sell all the hand-written manuscripts that they care to.<sup>35</sup> Neither does this fully address the free speech concern: the burden on speech created by assigning exclusive rights in new, rapid, and cheap conduits of speech is hardly made more palatable by the continued availability of older, slower, and more expensive forms of speech.

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29. *Thomas v. Chi. Park Dist.*, 534 U.S. 316, 320 (2002).

30. LYMAN RAY PATTERSON, COPYRIGHT IN HISTORICAL PERSPECTIVE 43–44 (1968); Mark Rose, *The Public Sphere and the Emergence of Copyright: Areopagitica, the Stationers’ Company, and the Statute of Anne*, in PRIVILEGE AND PROPERTY: ESSAYS ON THE HISTORY OF COPYRIGHT 67, 81–84 (Ronan Deazley, Martin Kretschmer & Lionel Bently eds., 2010). Despite robust printing censorship in the American colonies, the lack of a similar state-guild licensing partnership in the American colonies seems to have sent U.S. copyright law down a different path. Oren Bracha, *Early American Printing Privileges: The Ambivalent Origins of Authors’ Copyright in America*, in PRIVILEGE AND PROPERTY 89, 98–99.

31. PATTERSON, *supra* note 30 at 78–79.

32. The close relationship between printing and inventive monopolies extends at least back to Renaissance Venice, where printing privileges encompassed both the device used to print and the output of the press. See Joanna Kostylo, *From Gunpowder to Print: The Common Origins of Patent and Copyright*, in PRIVILEGE AND PROPERTY: ESSAYS ON THE HISTORY OF COPYRIGHT 19, 26, 38 (Ronan Deazley, Martin Kretschmer, & Lionel Bently eds., 2010).

33. 35 U.S.C. §§ 102, 103 (2018).

34. Edmund W. Kitch, *Patents: Monopolies or Property Rights*, 8 RES. L. & ECON. 31 (1986).

35. See 35 U.S.C. § 271(a) (2016) (conferring on patent holders the exclusive rights to make, use, sell, offer for sale, and import the claimed invention).

Today perhaps the equivalent to exclusive rights in a printing press might be assigning exclusive rights in publication technology such as word processing software. A patent on a given word processor need not necessarily preclude use of all word processors. But in some cases, substitutes may be unavailable, or impractical. Figure 2 shows one of the explanatory flow chart drawings from a 2002 patent on a method of real-time signal processing, a technology important to cellular wireless communications. In fact, this patent was one of those at issue in an ongoing dispute between cellphone manufacturers, Apple and Motorola/Google.<sup>36</sup> The technology claimed in the patent was adopted as a technical standard, considered essential to the interoperation of cellular telecommunications devices.<sup>37</sup> The need for technical compatibility, and the network effects accompanying a technical standard, likely mean that exclusion from use of the standard means exclusion from developing or providing cellular communication devices.<sup>38</sup>

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36. See *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286 (Fed. Cir. 2014), *overruled by* *Williamson v. Citrix Online, LLC*, 792 F.3d 1339 (Fed. Cir. 2017).

37. Mark A. Lemley, *Intellectual Property Rights and Standard-Setting Organizations*, 90 CAL. L. REV. 1889 (2002) (explaining the selection processes for technical standards).

38. See generally Mark A. Lemley & David McGowan, *Legal Implications of Network Economic Effects*, 86 CAL. L. REV. 479 (1998) (discussing the exclusionary economics of technical standards); Norman V. Siebrasse & Thomas F. Cotter, *The Value of the Standard*, 101 MINN. L. REV. 1159 (2017) (same).

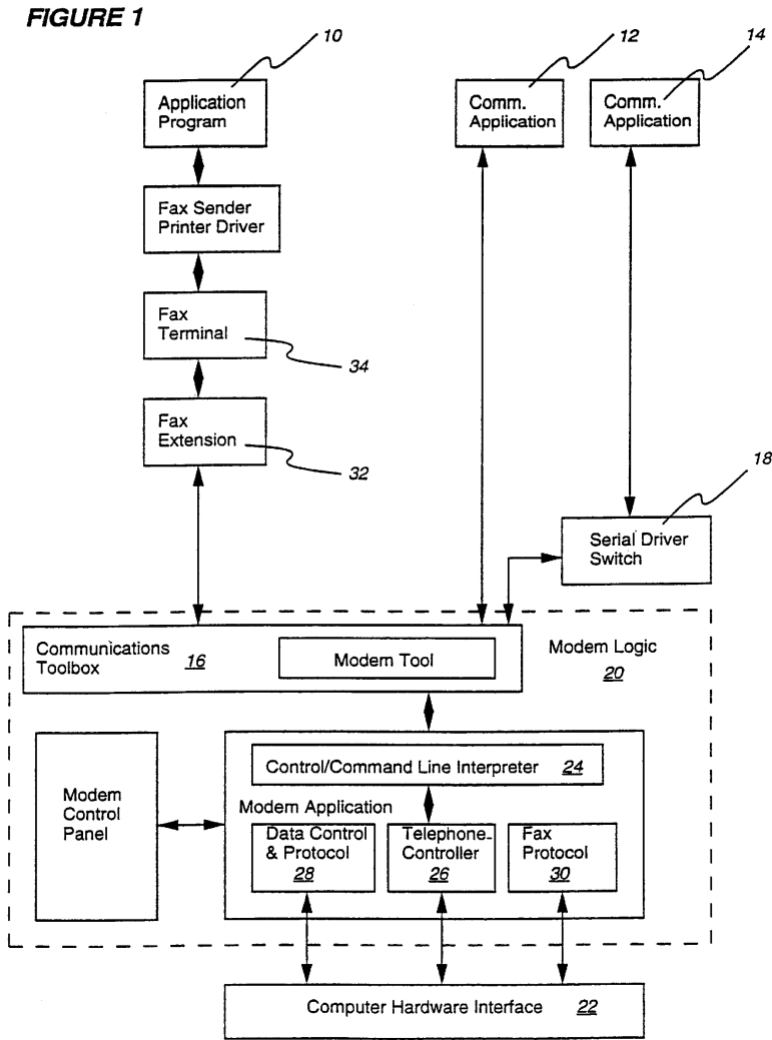


Figure 2

This is not to say that governmental regulation of communication devices is never permissible; as we shall see, in some cases it is.<sup>39</sup> Neither is it to say that patents on communication technologies are impermissible, nor even that patents are a type of regulation that necessarily run afoul of the First Amendment. With sufficiently good reasons, and a properly crafted regulation, the government can sometimes regulate or burden speech consistent with the First Amendment. At this point I simply wish to establish that patents can and sometimes do raise First Amendment issues that require constitutional scrutiny. We will come presently to consideration of the proper type of First Amendment scrutiny and to the likely outcome of such scrutiny.<sup>40</sup>

Which brings us to the next, corollary proposition that I wish to establish. The examples I have shown, covering printing press devices or mobile cellular communication devices, are patents governing the making and use of the *means* of communications, or conduits of speech. While governmental restrictions on access to such technologies surely raise freedom of expression issues, students of the First Amendment will know that the most searching and stringent First Amendment review has traditionally been saved for governmental regulation that restricts the content or message of speech.<sup>41</sup> So it may be that if exclusive patent rights over communication are limited to the kinds of examples I have pointed out so far, perhaps patents do not raise the most difficult or problematic kinds of First Amendment issues.

But again to the contrary, it is fairly simple to find patents that restrict content or types of speech rather than the means of speech.<sup>42</sup> For example, Figure 3 displays the cover page from a 2007 patent on methods of Internet advertising. Rather than a patent directed to a tool or conduit used to facilitate speech, this patent is directed to a communicative method—to speech itself. While the method is intended to be implemented using a computer system, it is directed to editing, style, and content of commercial messages. Although the Supreme Court has sometimes treated commercial speech differently than other forms of speech,<sup>43</sup> it remains protected speech—and indeed, the claims of this patent are not limited to commercial messages, but might include non-commercial postings and notices.

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39. See *infra* notes 217–18 and accompanying text.

40. See *infra* Section III.

41. See Leslie Kendrick, *Content Discrimination Revisited*, 98 VA. L. REV. 231 (2012); Geoffrey R. Stone, *Content Regulation and the First Amendment*, 25 WM. & MARY L. REV. 189 (1983); Susan H. Williams, *Content Discrimination and the First Amendment*, 139 U. PA. L. REV. 615 (1991).

42. See Cotter, *supra* note 6, at 590 (listing a variety of issued patents restricting expression); see also Chiang, *supra* note 8, at 11–15 (discussing examples of issued patents restricting expression).

43. C. Edwin Baker, *The First Amendment and Commercial Speech*, 84 IND. L. J. 981 (2009); Victor Brudney, *The First Amendment and Commercial Speech*, 53 B.C. L. REV. 1153 (2012).



and early twenty-first centuries.<sup>44</sup> The invention is claimed as a method of handwriting recognition, and the claims recite associated devices for detection and translation to coordinate databases. But within those constraints, the patent claims specific systems of symbolic representation for alphanumeric characters—in other words, writing. Certainly the government grant of exclusive use of forms of writing raises First Amendment issues; the patent claims not merely devices that carry messages, but the use of symbols that comprise the message itself.

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44. See Rob Walker, *Interface Runes*, DESIGN OBSERVER (July 9, 2012), <https://designobserver.com/feature/interface-runes/35108> [<https://perma.cc/S5ZD-ZYHH>] (discussing the history of Palm's Graffiti handwriting system).

**United States Patent** [19]  
**Goldberg**

[11] **Patent Number:** **5,596,656**  
[45] **Date of Patent:** **Jan. 21, 1997**

[54] **UNISTROKES FOR COMPUTERIZED INTERPRETATION OF HANDWRITING**

[75] Inventor: **David Goldberg**, Palo Alto, Calif.

[73] Assignee: **Xerox Corporation**, Stamford, Conn.

[21] Appl. No.: **548,416**

[22] Filed: **Oct. 26, 1995**

**Related U.S. Application Data**

[63] Continuation of Ser. No. 132,401, Oct. 6, 1993, abandoned.

[51] **Int. Cl.<sup>6</sup>** ..... **G06K 9/18**

[52] **U.S. Cl.** ..... **382/186; 382/315; 345/179**

[58] **Field of Search** ..... **382/185-189, 382/313, 315, 182; 364/705.03, 709.11, 709.01; 345/179, 175, 180-183**

[56] **References Cited**

**U.S. PATENT DOCUMENTS**

3,199,078	8/1965	Gaffney, Jr., et al.	340/146.3
3,835,453	9/1974	Narayanan	340/146.3
3,996,557	12/1976	Donahy	340/146.3
4,241,409	12/1980	Nolf	364/705
4,561,105	12/1985	Crane et al.	382/13
4,985,929	1/1991	Tsuyama	382/13

5,022,086	6/1991	Crane et al.	382/2
5,140,645	8/1992	Whitaker	382/11
5,194,852	3/1993	More et al.	345/182
5,313,527	5/1994	Guberman et al.	382/13

**OTHER PUBLICATIONS**

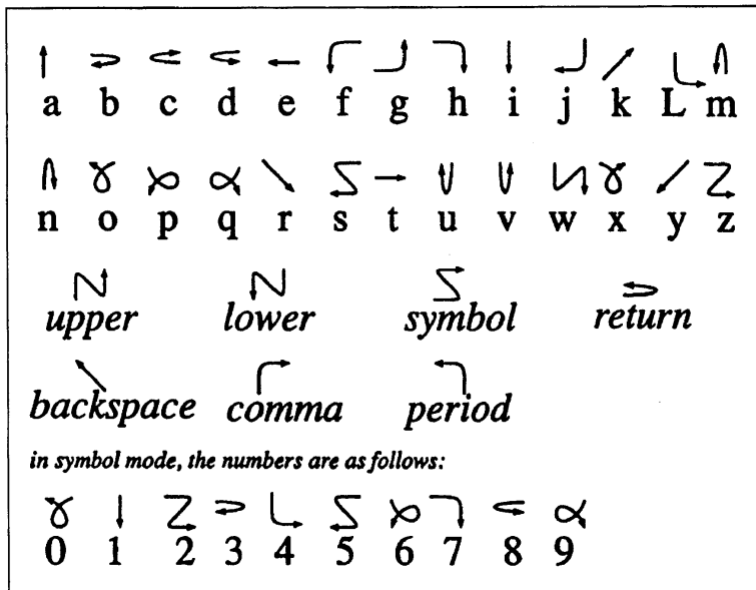
"PenPut™—Beyond character recognition!" Organek™ Technology. Organek™ Standards copyright 1992 and 1993. Patent Pending.

*Primary Examiner*—Michael T. Razavi  
*Assistant Examiner*—Larry J. Priockkis

[57] **ABSTRACT**

To relax the graphical constraints on the precision of the handwriting that is required for accurate computerized interpretation of handwritten text, the text that is to be interpreted is written in accordance with this invention using symbols that are exceptionally well separated from each other graphically. These symbols preferably define an orthographic alphabet to reduce the time and effort that is required to learn to write text with them at an acceptably high rate. Furthermore, to accommodate "eyes-free" writing of text and the writing of text in spatially constrained text entry fields, the symbols advantageously are defined by unistrokes (as used herein, a "unistroke" is a single, unbroken stroke).

**16 Claims, 3 Drawing Sheets**



**Figure 4**

As a final example of patents directed to the content of expression, Figure 5 depicts a flowchart drawn from a captivatingly droll and recursive

turn of the century patent claiming a machine and method for drafting patents.<sup>45</sup> Once again the claims recite device limitations including input, output, and storage devices, but these would be common to any computing device used for text or word processing. Within such loose constraints, the patent purports to grant exclusive rights over a process for writing and drafting a particular type of document with particular expressive content.

U.S. Patent Apr. 11, 2000 Sheet 3 of 4 6,049,811

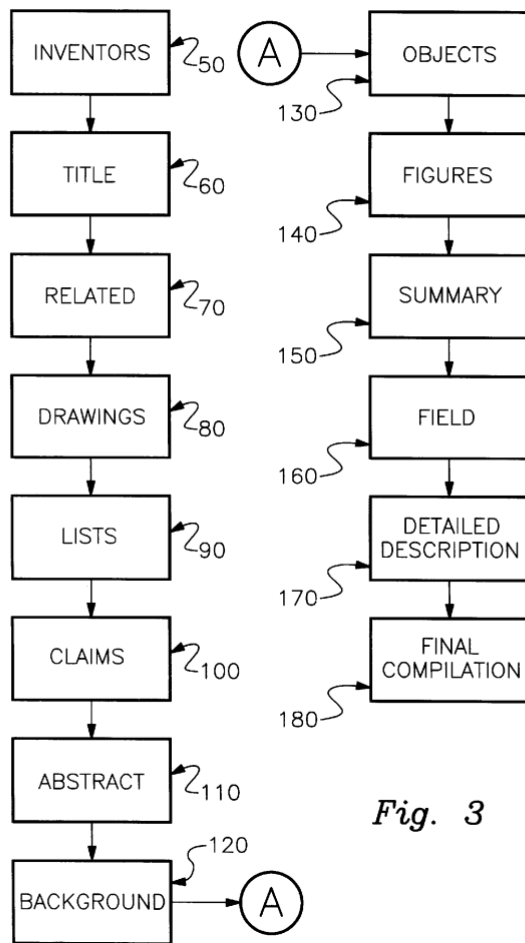


Fig. 3

Figure 5

45. U.S. Patent 6,049,811 (issued Apr. 11, 2000).



### B. *Software and Expression*

It is clear from the previous examples that a number of patented technologies, ranging from the mechanical printing press to digital writing and Internet communications, implicate the First Amendment. But much of Judge Mayer's *Intellectual Ventures* concurrence—not to mention the criticism that followed it—concerned the provenance of a particular technology, software, within patentable subject matter. Mayer's concurrence linked the problems related to software patents with problems related to freedom of expression,<sup>46</sup> and this relationship has likewise been the focus of my previous work regarding patents and the First Amendment.<sup>47</sup> Before moving further in our consideration of patents and expressive freedom, the peculiar place of software in the discussion requires some background explanation.

The examples discussed above should establish that the range of patentable inventions subject to First Amendment scrutiny lies along a continuum. At one end of the range lie inventions that might facilitate speech and which, if sufficiently novel and non-obvious, might also be patentable: a new form of printing press, or a word processor, telecommunications devices, or other conduits that might record, carry, or distribute protected expression. These are new technologies that fall squarely within the intended technical subject matter of patent law, and that Congress unquestionably intended to promote with the financial promise of a patent. But of course the patent restricts, at least to some degree, access to and employment of the communicative technology.

At the other end of the continuum lie a very different set of “inventions”: those that constitute speech themselves.<sup>48</sup> During the heyday of the Federal Circuit's *State Street Bank* doctrine, which allowed patents on any human creation that might produce a “useful result,”<sup>49</sup> patents issued on an almost unlimited variety of process claims, which might include the examples

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46. *Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1325 (Fed. Cir. 2016) (Mayer, J., concurring).

47. See Burk, *supra* note 4 (analyzing the issues raised by software as both patentable subject matter and protected speech).

48. Cf. Chiang, *supra* note 8 (distinguishing between patents covering expressive conduits and patents covering expression). Professor Chiang argues that the patents covering expression are “easy” cases for First Amendment application, and those directed to conduits of speech are more difficult cases. See *id.* at 6–7. It should be clear from the discussion below that I believe both are analytically challenging, although I would agree that they are analytically distinct.

49. *State St. Bank & Tr. v. Signature Fin. Grp.*, 149 F.3d 1368 (Fed. Cir. 1998), *abrogated by In re Bilski*, 545 F.3d 943 (Fed. Cir. 2008).

above of methods of writing or of a method of advertising.<sup>50</sup> The subject matter of such patents is clearly recognizable as core expressive activities that have traditionally been the primary concern of the First Amendment. In such instances the patent does not restrict access to or use of the means or technical conduit of expression; it restricts access to or use of the expression itself.

Somewhere in the mushy middle of this spectrum lie software inventions, the subject of Judge Mayer's consideration. Software occupies an odd position in First Amendment jurisprudence, just as it occupies an odd position in patent jurisprudence.<sup>51</sup> Software by its nature creates a host of legal anomalies. In contexts outside of patent law, courts reviewing the governmental regulation of software have consistently concluded that it is a form of speech, and so entitled to First Amendment protection. In particular, past cases looking at First Amendment challenges to software export regulations have noted that computer code has expressive qualities that can communicate technical information among programmers and engineers.<sup>52</sup> At the same time, due to its functional, operational qualities, these courts have tended to conclude that software regulation is not content-based regulation of pure speech. They have therefore treated software as a hybrid form of expression, akin to expressive action, under the intermediate *O'Brien* level of scrutiny that is applied to expressive conduct.<sup>53</sup>

In these judicial opinions, expressive *conduct* seemed the best First Amendment category for software due to the complex nature of software expressivity: software may be instantiated in a variety of formats, including human-readable written symbols, machine-readable coded records, or even as patterns of high and low voltages in a semiconductor device.<sup>54</sup> Modulation between these forms is routine and automatic, depending on the operating state of the computer. Thus, while software may be a text, it has

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50. See John F. Duffy, *Why Business Method Patents?*, 63 STAN. L. REV. 1247 (2011); Robert P. Merges, *As Many as Six Impossible Patents Before Breakfast: Property Rights for Business Concepts and Patent System Reform*, 14 BERKELEY TECH. L.J. 577 (1999); John R. Thomas, *The Post-Industrial Patent System*, 10 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 3 (2000).

51. Pamela Samuelson, *Benson Revisited: The Case Against Patent Protection for Algorithms and Other Computer Program-Related Inventions*, 39 EMORY L.J. 1025 (1990) (discussing the poor fit between software and patent law).

52. See *Junger v. Daly*, 209 F.3d 481 (6th Cir. 2000); see also *Bernstein v. United States*, 176 F.3d 1132 (9th Cir. 1999), *opinion withdrawn and reh'g granted*, 192 F.3d 1308 (9th Cir. 1999) (acknowledging First Amendment protection for software); *Universal City Studios, Inc. v. Reimerdes*, 273 F.3d 429 (2001) (upholding software regulation while acknowledging protected status of both source and object code).

53. See *infra* notes 231–33 and accompanying text.

54. See Dennis Karjala, *Copyright, Computer Software, and the New Protectionism*, 28 JURIMETRICS J. 33, 36–37 (1987) (explaining the levels of operation for computer code).

also been shrewdly characterized as a “text that behaves.”<sup>55</sup> Software thus constitutes a *machine built of text* that instead of comprising dedicated, hardwired circuits, configures the circuits of a universal machine to perform specific functions.<sup>56</sup>

Functionality, and machinery, fit squarely within the ambit of the patent system, so that directing patent claims to the software machine or to the behavior of the software machine would seem permissible within patent doctrine. But patents directed to text, symbols or indicia are problematic, potentially allowing patent protection to bleed over into expressive works reserved to copyright.<sup>57</sup> This problem has been apparent for some time. As Judge Mayer’s predecessor on the Federal Circuit, Chief Judge Archer observed in this regard:

Consider for example the discovery or creation of music, a new song. Music of course is not patentable subject matter; a composer cannot obtain exclusive patent rights for the original creation of a musical composition. But now suppose the new melody is recorded on a compact disc. In such case, the particular musical composition will define an arrangement of minute pits in the surface of the compact disc material, and therefore will define its specific structure. . . . Alternatively suppose the music is recorded on the rolls of a player piano or music box. . . . [I]f a claim to a compact disc or piano roll containing a newly discovered song were regarded as a “manufacture” and within § 101 simply because of the specific physical structure of the compact disc, the “practical effect” would be the granting of a patent for a discovery in music.<sup>58</sup>

These examples are not chosen by happenstance; the piano roll is part of a technological lineage that begins with the Jacquard loom, in which holes were punched in cards to encode complex designs for woven fabric, through Hollerith’s punched card census recording devices, through the punch cards and punch tapes used to program early computers.<sup>59</sup> Punch cards have long

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55. Pamela Samuelson et al., *A Manifesto Concerning the Legal Protection of Computer Programs*, 94 COLUM. L. REV. 2308, 2320 (1994).

56. *Id.* at 2320, 2323.

57. Pamela Samuelson, *Strategies for Discerning the Boundaries Between Copyright and Patent Protections*, 92 NOTRE DAME L. REV. 1493, 1524 (2017).

58. *In re Alappat*, 33 F.3d 1526, 1553–54 (Fed. Cir. 1994) (Archer, J., dissenting) (citations omitted), *abrogated by In re Bilski*, 545 F.3d 943 (Fed. Cir. 2008).

59. See Michael M. Geselowitz, *The Jacquard Loom: A Driver of the Industrial Revolution*, THE INSTITUTE (July 18, 2016), <http://theinstitute.ieee.org/tech-history/technology-history/the-jacquard-loom-a-driver-of-the-industrial-revolution> [<https://perma.cc/A7DC-LLZE>]. The same technology is of course the source of the famous “hanging chads” of punched card voting devices. See RICHARD HASEN, *THE VOTING WARS: FROM FLORIDA 2000 TO THE NEXT ELECTION MELTDOWN* 12 (2012).

since been replaced by magnetic or optical media that record bits of data as reflective pits, differential voltages, or magnetic flux, but the binary nature of the record remains the same.

One might be tempted to simply derogate the piano roll or compact disc to the copyright system, which explicitly covers the musical compositions contemplated by Judge Archer.<sup>60</sup> But piano rolls have a fraught history in copyright, having been famously rejected by the Supreme Court as subjects for copyright, regardless of what they encoded.<sup>61</sup> The Court reasoned, consonant with Judge Archer's dissent, that such items were parts of a machine, lying outside the copyright system.<sup>62</sup> Thereafter Congress explicitly amended the copyright statute to include works that are perceived with the aid of a machine, but this only exacerbates the difficulty in accommodating works that *are* the machine, and copyright law continues to struggle with such hybrids.<sup>63</sup>

Thus a "machine built of text" has nowhere to lay its head, either in the regime designed to accommodate texts or in the regime designed to accommodate machines. Even though computer programs are covered by copyright, copyright law struggles with its treatment of software because of its functional qualities—the Supreme Court has long held that functional subject matter belongs in the patent system.<sup>64</sup> Patent law, on the other hand, struggles with software because of its expressive, or at least communicative, formulations.<sup>65</sup> Copyright law is not equipped to deal with functional subject matter; patent law is not equipped to deal with expressive subject matter.<sup>66</sup> In particular, it is clear that patent law is not equipped to deal with expression that is subject to constitutional guarantees of freedom. This will be a problem for every patent involving computer code, but as we have seen, may also sometimes be a problem for other patentable communication technologies, from mechanical printing presses to digital telecommunications standards.

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60. See 17 U.S.C. § 102(a)(2) (2017) (specifying musical compositions as copyrightable subject matter).

61. See *White-Smith Music Pub. Co. v. Apollo Co.*, 209 U.S. 1 (1908).

62. *Id.*

63. See Jerome H. Reichman, *Legal Hybrids Between the Patent and Copyright Paradigms*, 94 COLUM. L. REV. 2432 (1994).

64. See Christopher Buccafusco & Mark A. Lemley, *Functionality Screens*, 103 VA. L. REV. 1293 (2017); Pamela Samuelson, *Why Copyright Law Excludes Systems and Processes from the Scope of Its Protection*, 85 TEX. L. REV. 1921 (2006).

65. See Burk, *supra* note 4.

66. Pamela Samuelson, *Functionality and Expression in Computer Programs: Refining the Tests for Software Copyright Infringement*, 31 BERKELEY TECH. L.J. 1215 (2017).

### C. Doctrinal Limitations and Exceptions

It should be clear, then, that not only software patents, but many other categories of patentable subject matter, raise First Amendment concerns. But perhaps such problem patents can be culled out of the system. In his concurrence, Judge Mayer argued that patent doctrine itself, in the form of subject matter exclusion, could avoid or at least ameliorate First Amendment conflicts.<sup>67</sup> Can patent law as presently constituted, or as optimally applied, accommodate the guarantee of expressive freedom? The answer to the question is that patent law almost certainly cannot save itself, and should undergo the same constitutional scrutiny required of other regulation of protected expression. But before exploring such scrutiny, let us first dispose of Judge Mayer's proposed solutions.

First Judge Mayer draws a comparison to fair use or similar limitations in copyright.<sup>68</sup> I have already mentioned above that patent law lacks the doctrinal features that copyright, the form of intellectual property explicitly covering expressive works, deploys to accommodate protected speech. According to the Supreme Court, First Amendment conflicts in copyright can be avoided by user exceptions, such as the fair use doctrine, or by structural subject matter exclusion, such as the idea/expression dichotomy.<sup>69</sup> The former allows unauthorized use of copyrighted works for purposes that include First Amendment activities such as scholarship, criticism, commentary, and news reporting;<sup>70</sup> the latter allows copyright only on the expression of an idea, and not even on the expression of the idea if alternative forms of expression are unavailable.<sup>71</sup> Whether such carve-outs fully effectuate the constitutional guarantees of freedom for speech and press is a matter of perennial debate.<sup>72</sup> But at least some doctrinal latitude for free speech is available.

As I and some subsequent commentators have demonstrated, patent doctrine largely lacks any ameliorating mechanisms that would parallel

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67. *Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1324 (Fed. Cir. 2016).

68. *Id.* at 1323.

69. *Golan v. Holder*, 132 S. Ct. 873 (2012); *Eldred v. Ashcroft*, 537 U.S. 186 (2003).

70. 17 U.S.C. § 107 (2018).

71. See Pamela Samuelson, *Reconceptualizing Copyright's Merger Doctrine*, 63 J. COPYRIGHT SOC'Y U.S.A. 417 (2016) (explaining copyright idea/expression doctrine).

72. See, e.g., Joseph P. Bauer, *Copyright and the First Amendment: Comrades, Combatants, or Uneasy Allies?*, 67 WASH. & LEE L. REV. 831 (2010); Neil Netanel, *First Amendment Constraints on Copyright After Golan v. Holder*, 60 UCLA L. REV. (2013); David S. Olson, *First Amendment Interests and Copyright Accommodations*, 50 B.C.L. REV. 1393 (2009); L. Ray Patterson, *Free Speech, Copyright, and Fair Use*, 40 VAND. L. REV. 1 (1987); Raymond Shih Ray Ku, *F(ree) Expression - Reconciling Copyright and the First Amendment*, 57 CAS. W. RES. U.L. REV. 863 (2007); Tushnet, *supra* note 2; Alfred C. Yen, *Eldred, the First Amendment, and Aggressive Copyright Claims*, 40 HOUS. L. REV. 673 (2003).

copyright's accommodation to the First Amendment.<sup>73</sup> Unlike copyright law, patent law has few if any of the user privileges and exemptions that allow unauthorized use of expressive materials. In particular, patent law lacks any clear analog to copyright's fair use provisions, which the Supreme Court has characterized as a type of safety valve between expressive freedom and copyright exclusivity, accommodating a range of protected speech interests.<sup>74</sup> The few patent law exemptions that might accommodate portions of the fair use function, such as patent law's experimental use exemption, have in recent years been judicially narrowed or qualified to the point that it is not clear whether they have any continued efficacy.<sup>75</sup>

This is not to say that patent doctrine, properly invigorated, could not provide at least partial remedies to First Amendment conflicts. Kevin Collins has suggested that patent law offers a kind of wholistic screen against the incorporation of expressive subject matter into patents.<sup>76</sup> One might also expect some of the heavy lifting needed in culling out expressive subject matter could be performed by patent law's "printed matter doctrine," which provides that the arrangement of symbolic indicia or markings cannot constitute the novel, patentable features of a patent eligible invention.<sup>77</sup> The patent may be properly directed to a substrate or apparatus that incorporates printed matter, but the content of markings or symbols as such are excluded from consideration when assessing the patentability of a claimed invention.<sup>78</sup>

The printed matter prohibition is a historic doctrine, sometimes denigrated by the Federal Circuit, and which for some time appeared to have fallen into desuetude.<sup>79</sup> The Federal Circuit has declined invitations to apply the doctrine to expressive software code.<sup>80</sup> But it has seen something of a revival in recent Federal Circuit opinions such as *King Pharmaceuticals*,

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73. See Burk, *supra* note 4; O'Rourke, *supra* note 7; Katherine J. Strandburg, *Patent Fair Use 2.0*, 1 U.C. IRVINE L. REV. 265 (2011). But see Kevin Emerson Collins, *Patent Law's Authorship Screen*, 84 U. CHI. L. REV. 1603 (2017) (arguing that patent law has some structural filters against expressive content).

74. See *Harper & Row v. Nation Enterprises*, 471 U.S. 539, 558 (1985). But see Rebecca Tushnet, *Copy this Essay: How Fair Use Doctrine Harms Free Speech and How Copying Serves It*, 114 YALE L.J. 536 (2004) (challenging the role of fair use in promoting First Amendment values).

75. See Rochelle Cooper Dreyfuss, *Reconsidering Experimental Use*, 50 AKRON L. REV. 699 (2017).

76. See Collins, *supra* note 73.

77. *In re Russell*, 48 F.2d 668, 669 (C.C.P.A. 1931) (rejecting a patent application for indexing the names in directories and dictionaries); see also Burk, *supra* note 4, at 141–42 (reviewing the printed matter doctrine).

78. *In re DiStefano*, 808 F.3d 845 (Fed. Cir. 2015); *In re Ngai*, 367 F.3d 1336, 1337–38 (Fed. Cir. 2004).

79. Kevin Emerson Collins, *Semiotics 101: Taking the Printed Matter Doctrine Seriously*, 85 IND. L.J. 1379, 1381 (2010).

80. See *In re Lowry*, 32 F.3d 1579 (Fed. Cir. 1994).

*Inc. v. Eon Labs, Inc.*<sup>81</sup> The *Eon Labs* decision concerned a method patent to administration of a known drug with food; the patentee had developed data showing that administration with food increased the efficacy of the drug. Patients had long taken the drug with food, but in order to avoid an upset stomach, rather than to increase efficacy.<sup>82</sup> Thus, the drug lacked novelty, and the method of administration lacked novelty; the only novel aspect of the method was the information that taking the drug with food would increase efficacy.

The patentees attempted to work this point of novelty into the claims by reciting method claims that included either instructing a patient to take the drug with food to increase efficacy, or printing this information on the label under which the drug was dispensed. The Federal Circuit invalidated the claims; citing the printed matter cases, the Court held that the novelty of the invention could not permissibly lie in the information printed on the label of the drug's container.<sup>83</sup> And while the doctrine is technically the "printed matter" doctrine, and oral communications are not printed, the CAFC panel held that oral instructions equivalent to a text are also included within the doctrine's prohibitions.

In the *Eon Labs* decision, the printed matter doctrine steers patentable subject matter away from methods that entail either oral communication of patient instruction or the printed equivalent of such instructions.<sup>84</sup> Thus the doctrine helps avoid granting exclusive rights in expressive conduct that might either run afoul of First Amendment prohibitions on prior restraint, or simply the "chilling effect" attending potential damages liability for claimed speech or text. But, even if it were vigorously applied, the printed matter doctrine addresses only some First Amendment issues within the patent system. It would not, for example, resolve the concerns raised above with regard to printing presses, methods of advertising, or networking protocols. The claims in such patents either do not constitute communicative symbols or indicia, or, as in the case of the "Unistroke" patent, the claims are drafted so as to tie such symbols to structural or functional aspects of hardware. Consequently, a robust printed matter exception would offer at best a partial solution to First Amendment conflicts. This should not be surprising; in copyright the Supreme Court has suggested that a combination of doctrines

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81. 616 F.3d 1267 (Fed. Cir. 2010).

82. *Id.* at 1275–76.

83. *Id.* at 1278–79.

84. See *In re Miller*, 418 F.2d 1392, 1396 (C.C.P.A. 1969) ("printed matter by itself is not patentable subject matter, because non-statutory, . . .").

accommodates expressive freedom.<sup>85</sup> In patent law, it remains unclear what combination of doctrinal elements might provide similar accommodation.

#### *D. Patentable Subject Matter*

Rather than rely upon exceptions such as the printed matter doctrine, Judge Mayer's concurrence lays the burden of First Amendment reconciliation on the patent statute's subject matter provisions.<sup>86</sup> Section 101 of the United States patent statute, which was the subject of the *Intellectual Ventures* decision and the focus of Judge Meyers' concurrence, sets forth four general categories of patentable subject matter: processes, machines, articles of manufacture, and compositions of matter.<sup>87</sup> As I have discussed at some length in other work, the first of these differs substantially from the others; machines, manufactures, and compositions are all categories of tangible materials, whereas processes constitute *relationships between* such materials.<sup>88</sup>

Little wonder, then, that the majority of the expressive patent examples I have cited above are process patents; to define relationships among material objects is to define information transfer.<sup>89</sup> While some expressive patents, such as printing presses, will fall into one of the material product patent categories, communicative or expressive freedoms will most often be implicated in process patents. Relatedly, most of the Supreme Court's modern jurisprudence regarding patent eligible subject matter has been directed to consideration of categorical exclusions that are intended to deter the most problematic process claims. Out of eight opinions in the last thirty years, only two have dealt with product patents,<sup>90</sup> and the remainder have all dealt with process patents.<sup>91</sup> And all but one of these process cases, including the most recent, *Alice Corp. v. CLS Bank*, have been software cases.<sup>92</sup>

There is no indication in the Supreme Court's decisions that it has selected these cases in explicit response to concerns regarding expressive freedom, although such concerns have not gone unrecognized. The question of patented speech has been posed to the Supreme Court in amicus

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85. See *Golan v. Holder*, 565 U.S. 302, 328 (2011).

86. *Intellectual Ventures I LLC v. Symantec Corp.* 838 F.3d 1307, 1323 (Fed. Cir. 2016).

87. 35 U.S.C. § 101 (2018).

88. See Dan L. Burk, *Method and Madness in Copyright Law*, 2007 UTAH L. REV. 587, 608–09; Dan L. Burk, *The Problem of Process in Biotechnology Law*, 43 HOUS. L. REV. 561, 563–64 (2006).

89. See Burk, *The Problem of Process*, *supra* note 88, at 587.

90. See *Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576 (2013) (regarding DNA sequences); *Diamond v. Chakrabarty*, 447 U.S. 303 (1980) (regarding microorganisms).

91. Burk, *supra* note 10, at 520–22.

92. The lone process patent exception is *Mayo Collaborative Servs. v. Prometheus Lab. Inc.*, 566 U.S. 66 (2012), a case regarding medical diagnostic methods.



arguments that may have had some effect on the Supreme Court's decisions and which most likely prompted Judge Mayer's widely discussed and derided concurrence.<sup>93</sup> Many or most of the assertions made by Judge Mayer are familiar from amicus arguments raised before the Supreme Court: that expansive patents generally, and software patents particularly, seem wholly incompatible with the guarantees in the First Amendment, that such patents threaten scientific and technical speech, and that more stringent subject matter exclusions would help to ameliorate such threats.<sup>94</sup>

But rather than the result of amicus arguments, concerns regarding expressive freedom are an inevitable corollary to the Court's Section 101 jurisprudence. In none of its subject matter cases has the Supreme Court dealt so much with issues regarding the categories defined by the statute as with *unwritten exclusions from* those categories. Although the statute says not a word about excluded categories of subject matter, the Supreme Court has declared that abstract ideas, mental processes, and naturally occurring phenomena including mathematics cannot of themselves be patent eligible.<sup>95</sup> Indeed, the *Alice Corp.* opinion sets out a two-part test for dealing with patentable subject matter, and identifying the presence of any such excluded categories forms the first step of the subject matter test.<sup>96</sup> Once a patent is found to incorporate a category of excluded subject matter, it can only pass the second step of the *Alice* test if it implements the excluded category in some inventive way.<sup>97</sup>

Not being themselves material, the relationships among material objects—that is to say, processes—naturally tend toward abstraction when described in a patent. And when mapping software to the four subject categories under Section 101, it quickly becomes clear that software may be described or instantiated as a product, such as a machine or as a manufacture, but the most natural fit is to the category of process, that is, the set of relational states between such objects. Thus, there is a natural intersection between processes and the forbidden subject matter category of abstract ideas, and so also between software and forbidden subject matter, attracting the repeated attention of the Supreme Court<sup>98</sup> and of course Judge Mayer.<sup>99</sup> This has made software one of the “problem children” of the patent

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93. See *supra* note 12.

94. See *supra* note 12.

95. See *Mayo*, 566 U.S. at 70.

96. *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2355 (2014).

97. *Id.*

98. *Bilski v. Kappos*, 561 U.S. 593 (2010); *Alice Corp.*, 134 S. Ct. 2347.

99. *Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1325 (Fed. Cir. 2016) (Mayer, J., concurring).

system,<sup>100</sup> not simply because processes tend toward abstraction but because, as indicated above, essentially any process, including forbidden mental processes and natural phenomena, that can be described in a text can be implemented as software.<sup>101</sup>

Judge Mayer's proposed solution to patent law's ongoing First Amendment problem is to purge the patent system of troublesome software patents by stringent application of the *Alice* subject matter test.<sup>102</sup> But despite its valid core insight, Judge Mayer's argument manifestly cannot be quite right; subject matter restrictions may serve to screen out certain problematic claims, but cannot and will not screen out all of them. Consider as a concrete example the patented "Unistroke" method and system for handwriting recognition, offered as an example above.<sup>103</sup> Applying step one of the *Alice* test, we ask whether a forbidden category is implicated by the claims: is there something like a law of nature, an abstract idea, a product of nature, a mental process, or similar prohibited category found in relation to the claims? The answer is likely yes. The claims might be characterized as encompassing an abstract idea, specifically, writing alphanumeric symbols in a single stroke. Although the claims specify defined apparatus such as a stylus and touch-sensitive screen, *Alice* and other Supreme Court decisions tell us that claims encompassing a forbidden category cannot be saved simply by the recitation of conventional apparatus.<sup>104</sup>

Moving then to *Alice* step two, we ask whether there is in the claims some inventive concept that makes the claimed system "something more" than simply attempting to patent the forbidden subject matter. In this particular case, are the claims simply an attempt to patent the idea of writing symbols in a single stroke? The claims, again, recite use of a stylus, pressure sensitive interface, and other apparatus along with the simplified symbols in order to allow machine recognition of handwriting. The claims are not drawn to the simplified alphabet alone. The presence of hardware or apparatus in the claims will not by itself insulate the patent from subject matter exclusion.<sup>105</sup> But the "Unistroke" method claims are directed to solve the problem of handwriting recognition by computer hardware. Such an advance in computer science likely qualifies as an "inventive concept."<sup>106</sup>

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100. See Burk, *Patent Law's Problem Children*, *supra* note 11, at 187.

101. See Philip E. Agre, *Internet Research: For and Against*, in INTERNET RESEARCH ANNUAL: SELECTED PAPERS FROM THE ASSOCIATION OF INTERNET RESEARCHERS CONFERENCES 2000–2002, at 25, 27 (Mia Consalvo et al. eds., 2004).

102. 838 F.3d at 1325.

103. U.S. Patent 5,596,656 (filed Oct. 26 1995).

104. *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2358–59 (2014); *Mayo Collaborative Serv. v. Prometheus Lab., Inc.*, 566 U.S. 66, 79–80 (2012).

105. *Alice Corp.*, 134 S. Ct. at 2358–59.

106. *Id.* at 2359 (permissible claims could "improve the functioning of the computer itself" or "effect an improvement in any other technology or technical field.").

Consequently *Alice* step two is probably satisfied, and the system meets Section 101 criteria.

But this outcome does not in any way resolve the question of prohibitions or burdens on protected speech inherent in the patent. Despite passing the *Alice* criteria, the Unistroke patent still implicates the First Amendment, subjecting a specific method of expressive communication to private exclusivity. This is not to say that the patent system generally, or this particular patent as applied, may not pass First Amendment muster; many types of governmental regulation of speech are permissible, depending upon the type of regulation and the level of scrutiny that it merits. But clearly in this case, and doubtless many others, the *Alice* criteria will not exclude from the patent system inventions that raise First Amendment questions. The patents on such inventions will instead have to undergo scrutiny as dictated by First Amendment doctrine.

## II. EXCEPTIONS TO PROTECTED EXPRESSION

It seems clear from the preceding discussion that we cannot rely on patent law to avoid First Amendment issues, neither under current subject matter exclusions, nor for that matter under Judge Mayer's proposed regime in which Supreme Court subject matter limitations are strictly enforced and software patents somehow vanish from consideration. Skeptics might therefore turn to a different solution, relying on the set of exceptions surrounding the First Amendment, hoping free speech doctrines might categorically exclude patents from the ambit of the First Amendment.<sup>107</sup>

Most such objections cluster around some version of the argument that patents constitute private property rights, and so are in some way exempt from the First Amendment. This line of reasoning has been thrown into question by recent Supreme Court jurisprudence holding that patents are purely creatures of statutory creation, constituting "public franchises" rather than private property.<sup>108</sup> But even without plumbing the murky depths of the Court's public rights doctrines,<sup>109</sup> and rather following closely the admonition of the patent statute that patents are to have the "attributes of personal property,"<sup>110</sup> we can lay such arguments aside. If patent law has

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107. See Frederick Schauer, *Out of Range: On Patently Uncovered Speech*, 128 HARV. L. REV. F. 346, 348–49 (2014–2015) (cataloging forms of speech that lie beyond the scope of the First Amendment).

108. *Oil States Energy Servs. LLC v. Greene's Energy Grp., LLC*, 138 S. Ct. 1365 (2018) (holding that patents are public rights rather than private rights).

109. See *Stern v. Marshall*, 564 U. S. 462, 488 (2011) (noting that the Court's cases on public rights have "not been entirely consistent").

110. 35 U.S.C. § 261 (2018).

not developed so as to avoid conflict with the First Amendment, neither has First Amendment law developed so as to avoid conflict with patents.

*A. An Implausible “Patent Exception”*

One potential escape from the problem of expressive patents might be sought in analogy to patent law’s constitutional sibling, copyright. Specifically, when confronted with potential conflicts between copyright and expressive freedom, the Supreme Court has generally sidestepped any explicit First Amendment analysis, and has instead simply declared copyright free of First Amendment scrutiny. In a set of cases directly addressing the potential conflicts between copyright and the First Amendment, the Supreme Court has carved out what Professor Volokh has dubbed the “copyright exception” to protected speech.<sup>111</sup> Just as categories of speech such as obscenity, fighting words, imminent incitement to violence, or child pornography receive either no First Amendment protection at all, or radically lessened levels of First Amendment protection,<sup>112</sup> so it seems that speech subject to copyright receives diminished or altered First Amendment coverage.

As in every other exception to protected speech, the Court has articulated a rationale as to why copyrighted speech should receive special treatment. The same is true for the copyright exception. We might therefore inquire whether patents, authorized under the same constitutional clause as copyrights, also might constitute a First Amendment exception, and in particular whether patents fit the exception rationale articulated for copyrights. The available evidence strongly suggests that patents likely do not.

*1. Following Traditional Contours*

The concept of a patent—or a copyright—exception to the First Amendment somewhat flies in the face of the constitutional text; if anything, one might expect quite the opposite reading. Typically, later amendments to a legal text, whether statutory, contractual, testamentary, or constitutional, are understood to supersede the previous text. So the Twenty-First Amendment explicitly repeals the Eighteenth Amendment,<sup>113</sup> and the Thirteenth Amendment implicitly modifies the Census Clause of Article 1,

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111. Eugene Volokh, *Freedom of Speech and Intellectual Property: Some Thoughts After Eldred, 44 Liquormart, and Bartnicki*, 40 Hous. L. Rev. 697, 713 (2003).

112. See Schauer, *supra* note 107.

113. See U.S. CONST. amend. XXI.

section 2, clause 3.<sup>114</sup> One might therefore logically read the prohibition on regulation abridging freedom of speech or of the press in the First Amendment as modifying or eliminating previous constitutional provisions that regulate speech, in particular the Intellectual Property Clause of Article 1, section 8, clause 8. Under such a reading, the First Amendment simply supersedes whatever laws Congress might pass under the patent power respecting freedom of speech or of the press.

But the text has never been read this way, at least in the case of copyright, which also arises out of the Intellectual Property Clause, and which directly regulates expressive works that are unquestionably protected by the First Amendment. Rather, the two constitutional provisions have been read in tandem, and the Supreme Court has treated the text as essentially contemporaneous. On this semi-originalist rationale, the Court has reasoned that the two constitutional provisions were adopted close in time to one another, so that the framers knew about each and we can infer that they neither intended nor anticipated any conflict between the two.<sup>115</sup>

The Court has also relied on a related but more elaborate trope: that the “traditional contours” of copyright will ensure that copyright and the First Amendment remain compatible.<sup>116</sup> Specifically, the fair use doctrine and the idea-expression distinction are said by the Court to have been intended to accommodate First Amendment concerns.<sup>117</sup> Thus, a copyright system incorporating these features avoids First Amendment scrutiny because it already satisfies whatever policies the Framers intended to be accommodated at the intersection of the two provisions.

Finally, in a similar vein, the Court has suggested that copyright may be seen to promote rather than to conflict with the purposes of the First Amendment.<sup>118</sup> This rationale argues that copyright furthers the objectives of the First Amendment by providing incentives to invest in more speech than might otherwise be expressed. On this view, the copyright clause is an “engine of free expression” that promotes more copious expression in tandem with the First Amendment.<sup>119</sup> On this reasoning, copyright may restrict particular expression in the short term, but will be overall beneficial for expression in the long term. An extreme version of this view, articulated

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114. Compare U.S. Const. amend. XIV (counting the whole number of persons in each state) with U.S. CONST. art. I, § 2, cl. 3 (counting “other persons” who are not free or indentured as three-fifths of a person).

115. *Eldred v. Ashcroft*, 537 U.S. 186, 219 (2003).

116. *Id.* at 221.

117. *Id.* at 219; *Golan v. Holder*, 565 U.S. 302, 328 (2012).

118. *Harper & Row Pubs., Inc. v. Nation Enters.*, 471 U.S. 539, 558 (1985). See also generally NEIL WEINSTOCK NETANEL, *COPYRIGHT’S PARADOX* (2008) (exploring the conflicting roles of copyright in promoting and burdening speech).

119. *Harper & Row*, 471 U.S. at 558.

by Marci Hamilton, is that the original constitution contained no free speech clause because the Framers expected free speech concerns to be fully satisfied by the exercise of the copyright power.<sup>120</sup>

The Supreme Court has never gone so far as to adopt Professor Hamilton's conjecture, and indeed the Court's rationale of contemporaneous adoption would suggest that the Framers expected the First Amendment to do different work than the copyright power; otherwise the First Amendment becomes surplusage. But to the extent that such originalist rationales have been advanced by the Supreme Court, one might imagine similar reasoning applied to the parallel patent power derived from the Intellectual Property Clause. And while I have shown above that patent infringement and subject matter exemptions will not eliminate expressive content from the ambit of the patent system, the Court's jurisprudence from patent law's constitutional sibling system of copyright suggests that they could possibly play a different role, by demarcating a patent exception to the First Amendment.

However, this view partakes of the same problems inherent in the Court's fairly dubious rationales for the copyright exception. For example, the Supreme Court has never held that the Commerce Power is exempt from First Amendment constraint, even though the Commerce Clause and the First Amendment, like the Intellectual Property Clause and the First Amendment, were adopted close together in time. Similarly, the "traditional contours" rationale is probably largely nonsense, as both the fair use and idea/expression doctrines on which the Court relies appear to be of later vintage than the constitutional framing.<sup>121</sup> Neither is it likely that the Framers, whatever their view of copyright in the Eighteenth Century, foresaw how copyright would encompass the range of artistic and expressive works that were added to the statute later. Indeed, both copyright and the First Amendment have come to encompass later and problematic advances in communications such as motion pictures, sound recordings, and software.<sup>122</sup>

It likely does even less good to imagine the Framers' intent regarding patent law and the First Amendment than it does to imagine their intent for

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120. See Pamela Samuelson, *Copyright and Freedom of Expression in Historical Perspective*, 10 J. INTELL. PROP. L. 319, 325 (2002) (quoting statements by Marci Hamilton in an address delivered to the American Association of Law Schools Section on Defamation and Privacy, January 1998).

121. Oren Bracha traces the origins of fair use to opinions of Justice Story in the late 1830s, and the idea/expression dichotomy to evolving copyright conceptions during the mid to late 1800s—some forty to fifty years after the passage of the first U.S. copyright statute. Oren Bracha, *The Ideology of Authorship Revisited: Authors, Markets, and Liberal Values in Early American Copyright*, 118 YALE L.J. 186, 229–30, 234 (2008).

122. See Samuelson, *supra* note 120 (discussing the economic and technological departures of current copyright from its historical limits).

copyright. True, following the Supreme Court's lead in the copyright sphere, we might argue that the Patent Clause and the First Amendment were adopted close together in time, so that the Framers may have believed the two to be compatible when adopted. But neither the patent system nor the jurisprudence of the First Amendment today look anything like whatever might have been contemplated by the Framers. The ongoing development of technology, notably software, has shifted the patent system to encompass forms of expression utterly unforeseeable to the Framers. To the extent that there might have been expectations in the late Eighteenth Century regarding the "traditional contours" of patent law and the First Amendment, it seems more likely that the two were at that time largely unrelated and that neither had any real bearing on the other.

One might take from Judge Mayer's concurrence the message that something like patent law's "traditional contours" of subject matter could and would avoid entanglement with the First Amendment, by excluding problematic categories such as software from the patent system. But relying on subject matter exclusions rather than user exemptions is highly problematic. Congressional intent for the patent system, as confirmed repeatedly by the Supreme Court, seems to be that it should broadly encompass new technologies.<sup>123</sup> I have argued elsewhere that as a policy matter, this is the only approach to patent innovation that makes any sense; Congress cannot be expected to vet every new form of technology for statutory consideration as it is developed.<sup>124</sup> Enacting a flexible statute that applies to all types of technical areas is the more viable approach. Turning back the clock to limit patentable subject matter to familiar technologies, and certainly limiting it to those simple mechanical and technical arts familiar to the Framers, seems unworkable and counterproductive.

An alternative version of the copyright exception might argue that patents constitute an "engine of free expression" that create incentives for investment in developing new forms of printing presses and telecommunications protocols. One might argue that the Framers expected the patent system to promote speech by encouraging new technologies such as an improved printing press, and that improved word processors or telecommunications protocols fulfill the same role, even if not precisely envisioned in the Eighteenth Century. Or, one might rely on the disclosure rationale for patenting for similar First Amendment consonance: under the "quid pro quo" theory of patenting, often embraced by the Supreme Court, patents are a type of bargain between the inventor and the public, trading

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123. *See, e.g.*, *Diamond v. Chakrabarty*, 447 U.S. 303 (1980).

124. DAN L. BURK & MARK A. LEMLEY, *THE PATENT CRISIS AND HOW THE COURTS CAN SOLVE IT*, 96–98 (2009).

disclosure of the claimed invention in return for two decades of exclusive rights.<sup>125</sup> To the extent that patents prompt such disclosures, they might be thought of as an “engine of free expression” that promotes disclosure of scientific and technical information.<sup>126</sup>

But such arguments do little to explain the most problematic expressive patents, for example, patents on methods of writing or methods of advertising, which the framers surely did not contemplate. And even accepting the “engine of free expression” arguments with regard to technical conduits of speech that the Framers might have intended does not justify a Patent Exception to guarantees of expressive freedom. Promoting innovative technologies may well promote speech, but the fact that patents do so does not change the applicability of the First Amendment. In every other conceivable scenario where the state engages in the development of conduits to promote speech—such as building auditoria or theaters, allocating broadcast spectrum,<sup>127</sup> allocating grant funding,<sup>128</sup> creating libraries,<sup>129</sup> opening schools or universities to speakers—First Amendment principles apply. Such state activity may pass constitutional muster or it may not, but the activity is never immune. It is nearly impossible to see any reason why governmental efforts to promote the progress of the “useful arts” would be any different.<sup>130</sup>

## 2. *Alternative Expression*

In any event, as we have already demonstrated, no doctrines parallel to fair use and the idea-expression distinction, contemporaneous with the Framers or not, has ever existed in patent law.<sup>131</sup> This lack seems disabling to the rationales behind the copyright exception when applied to patents. For example, the availability of alternative conduits for speech has sometimes played a role in the First Amendment analysis of content regulation and government-granted privilege,<sup>132</sup> and so this principle might form the basis for justifying copyright exclusivity in particular expression. This principle appears to at least implicitly underlie the Supreme Court’s

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125. *See, e.g.,* J.E.M. Ag. Supply, Inc. v. Pioneer Hi-Bred Int’l Inc., 534 U.S. 124, 142 (2001); Kewanee Oil Corp. v. Bicron Corp., 416 U.S. 470, 484 (1974).

126. *See, e.g.,* Feroz, *supra* note 8 (suggesting a similar view).

127. Red Lion Broad. Co. v. FCC, 395 U.S. 367 (1969). *See also* further discussion of spectrum *infra* notes 181–209 and accompanying text.

128. Nat’l Endowment for the Arts v. Finley, 524 U.S. 569 (1998).

129. Bd. of Educ. v. Pico, 457 U.S. 853 (1982).

130. *See* U.S. CONST. art. I, § 8, cl. 8 (patents are intended to promote progress in the “useful arts.”).

131. *See supra* notes 68–85 and accompanying text.

132. Lloyd Corp. v. Tanner, 407 U.S. 551, 567 (1972); Turner Broad. Sys., Inc. v. FCC, 512 U.S. 622, 661 (1994).



treatment of copyright exclusivity. The Court has opined that copyright restriction of content is permissible in part because copyright inheres only in particular expression, leaving other avenues open to express the same idea.<sup>133</sup> Indeed, when few alternatives for expressing an idea are available, the idea and expression are said to have “merged” for copyright purposes, and copyright becomes unavailable.<sup>134</sup>

It is not entirely clear as a matter of First Amendment jurisprudence whether this rationale is actually satisfactory; as Jed Rubinfeld and others have pointed out, under the First Amendment, speakers typically have a right to deploy to their preferred form of expression, even if other, unregulated alternative expressions are available.<sup>135</sup> The availability of alternative modes of expression is generally only relevant for content-neutral regulation,<sup>136</sup> which copyright is clearly not.<sup>137</sup> But even assuming that the Supreme Court’s copyright rationale regarding alternative modes of expression is defensible, it may not fit the mechanisms of patent exclusivity in the manner that it fits copyright. Unlike copyright, which is based on the instantiation of a particular work, patent is based on written claims that may incorporate multiple embodiments of the actual invention, depending on how expansive or constrained the language allowed by the Patent Office.<sup>138</sup> Consequently, patent protection is not necessarily confined to a single embodiment, but may rather extend to multiple embodiments falling within the scope of the claims.

Thus, pursuing one of the examples from above, a patent on a method of Internet advertising excludes unauthorized uses of *all* advertising that conforms to the details of the patent claims, no matter what its specific content or exact style of expression. The number of alternative means available for advertising expression will depend upon the breadth of the patent’s claims; this language is negotiated with administrative officials in the Patent Office, depending upon the invention’s degree of novelty, obviousness, and disclosure as described in the patent application. In

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133. Harper & Row Pubs., Inc. v. Nation Enters., 471 U.S. 539, 560 (1985).

134. See Samuelson, *supra* note 71. Copyright in particular fixed expression will also extend to copied expression that is substantially similar to the protected work. See Arnstein v. Porter, 154 F.2d 464, 468 (2d Cir. 1946).

135. See Jed Rubinfeld, *The Freedom of Imagination: Copyright’s Constitutionality*, 112 YALE L. J. 1, 14–15 (2002); Volokh, *supra* note 111, at 702.

136. Alan Brownstein, *How Rights Are Infringed: The Role of Undue Burden Analysis in Constitutional Doctrine*, 45 HASTINGS L.J. 867, 952 (1994).

137. See Volokh, *supra* note 111, at 703–06.

138. See Dan L. Burk & Jessica Reyman, *Patents as Genre: A Prospectus*, 26 L. & LIT. 163, 168 (2014). Patent law also provides through the Doctrine of Equivalents coverage of a penumbra of embodiments equivalent to those expressed in the claims. Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 535 U.S. 722, 731–32 (2002). Inclusion of unstated equivalents within the claims is intended to deal with the imprecision of claim language. *Id.*

general, patents with narrow claims to expression may leave open alternative methods, technologies, or content, but patents with broad claims may leave few or no alternatives. Consequently the “alternative expression” rationale applied to copyright cannot be applied *in toto* to the patent system, but only to individual narrowly drafted patents.

The absence of alternative expressive means does not dictate that the patent system necessarily fails First Amendment scrutiny, nor even that broadly preclusive individual patents will fail. When we consider the treatment of other regulations contested in the past for First Amendment violations, the fact that all the available broadcast frequencies have been assigned, or that all the available time slots in the schedule of the public arena have been taken, so that other speakers may be excluded, does not by itself create a First Amendment violation. But neither does it excuse First Amendment scrutiny; the question then becomes whether the limited times or frequencies have been allocated in a manner that disadvantages some particular set of content or viewpoints; and if they have been disadvantaged, why.

### *B. The Property Fallacy*

An alternative objection to the confluence of patents and free speech that has also sometimes been raised in the context of copyright,<sup>139</sup> is that patents are immune from First Amendment scrutiny because they constitute property rights. Implicit in this argument seems to be the assertion that, like obscenity or fighting words, property rights constitute a kind of rights-free zone to which the First Amendment does not extend. Also implicit in the objection from property seems to be the assumption that a patent is analogous to privately held physical property, such as land, so that interference with the assertion of a patent is similar to interference with the private use of property.<sup>140</sup> The comparison of patent to land is perennial favorite of patent law commentators, even though the dangers inherent in drawing any analogy between tangible and intellectual property are well known and fully vetted.<sup>141</sup>

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139. See Lemley & Volokh, *supra* note 3 (discussing the apparent immunity of copyright from prior restraint doctrine).

140. See, e.g., Frank H. Easterbrook, *Intellectual Property Is Still Property*, 13 HARV. J.L. & PUB. POL'Y 108, 109 (1990) (“Patents give a right to exclude, just as the law of trespass does with real property.”)

141. Mark A. Lemley, *Property, Intellectual Property, and Free Riding*, 83 TEXAS L. REV. 1031 (2005).

In the instant case, the assumption that privately owned land is the proper analog may be especially misguided.<sup>142</sup> The proper starting point for analogy may be instead the public domain; as Justice O'Connor once observed, the "free exploitation of ideas will be the rule, to which the protection of a federal patent is the exception."<sup>143</sup> If open or publicly shared commons is the starting point, then the proper real estate analogy may be to licensing or permitting of public lands or thoroughfares, where expression by the public would be the norm but for the temporary governmental grant of patent exclusivity.<sup>144</sup> A governmental warrant for exclusive use of a public park or sidewalk for expressive activity for a period of twenty years raises a rather different set of problems than does expressive access to private land, an issue to which we will return in a bit.

But for the moment let us indulge the analogy to privately owned property as the proper comparison. This analogy neither solves nor eliminates the First Amendment question. Privately owned property, used to generate or to restrict expressive activity is by no means immune from regulation or from the requirements of the First Amendment. For example, in parallel analysis of copyright under the First Amendment, neither commentators nor the Supreme Court have argued that the designation of copyright as a form of property precludes significant intrusion on the scope of copyright exclusivity in order to accommodate free expression. Quite the contrary, we have seen that the Supreme Court has explicitly relied upon limiting doctrines such as fair use and the idea-expression distinction to avoid a constitutional conflict between the expressive rights guaranteed to the public and the exclusive rights granted to authors.<sup>145</sup> Commentators tend to argue that such limiting doctrines are not nearly enough to avoid the conflict, but existing limitations are seen as at least the beginning, if not the end, of addressing First Amendment concerns.<sup>146</sup>

The argument that patents are property immune from First Amendment scrutiny appears to stem from a tendency to treat exclusive rights granted under the Intellectual Property Clause as if they existed in a natural state, prior to intrusion by a speaker and her rights of expression. This is of course nonsense. Exclusive rights in copyright and patent are purely creatures of

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142. Cf. Ted Sichelman, *Purging Patent Law of 'Private Law' Remedies*, 92 TEXAS L. REV. 516 (2014) (arguing that patent law is better thought of as a species of public law than private law).

143. *Bonito Boats v. Thundercraft*, 489 U.S. 141, 151 (1989).

144. Cf. *Oil States Energy Serv. LLC v. Greene's Energy Grp., LLC*, 138 S. Ct. 1365 (2018) ("[T]he decision to grant a patent is a matter involving public rights—specifically, the grant of a public franchise.").

145. See *supra* notes 69–72 and accompanying text.

146. *Id.*

Congressional creation, structured according to Congressional fiat.<sup>147</sup> There is no constitutional requirement that Congress grant copyrights or patents, nor for the most part is there much of a constitutional requirement as to exactly what such exclusive rights must look like if they are granted. Congress could decide to stop granting patents tomorrow, or could, with the exception of a constitutionally required core of non-obviousness,<sup>148</sup> drastically alter their availability in terms of subject matter, disclosure, novelty, or utility. And Congress has in fact historically done so, for example recently altering the universe of prior art considered to determine novelty and non-obviousness.<sup>149</sup>

There is, on the other hand, a very definite constitutional requirement that, no matter which of its enumerated powers it is exercising, Congress must refrain from unduly abridging the freedom of speech or of the press.<sup>150</sup> Simply declaring that a certain possessory interest constitutes property does not free it from First Amendment scrutiny; indeed, it rather begs the First Amendment question.<sup>151</sup> The rights, responsibilities, and very designation of property do not spring forth spontaneously; property is, rather, a creature of state action. The exclusive rights entailed in property are a function of state regulatory recognition, and the state may define the breadth, duration,

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147. A contrary view, relying on the argument that Congress through the patent power merely “secures” pre-existing rights to inventors, is found in Ron D. Katznelson, *Private Patent Rights, the Patent Bargain, and the Fiction of Administrative “Error Correction” in Inter Partes Reviews* (Dec. 4, 2017), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3077970](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3077970). This reading of the Constitutional language makes little sense, as absent governmental action, the inventor has no exclusivity to prevent independent re-creation, reverse engineering, or even simple imitation of the invention. As Thomas Jefferson famously observed:

Stable ownership is the gift of social law, and is given late in the progress of society. It would be curious then, if an idea, the fugitive fermentation of an individual brain, could, of natural right, be claimed in exclusive and stable property. . . . Inventions then cannot, in nature, be a subject of property. Society may give an exclusive right to the profits arising from them, as an encouragement to men to pursue ideas which may produce utility, but this may or may not be done, according to the will and convenience of the society, without claim or complaint from anybody.

Thomas Jefferson, letter to Isaac McPherson, 13 August 1813. *See also* *Oil States Energy Serv. LLC v. Greene’s Energy Grp. LLC*, 138 S. Ct. 1365 (2018) (holding that patents are statutorily created public rights rather than private rights).

148. *See* *Graham v. John Deere Co.*, 383 U.S. 1, 6 (1966) (holding that patent non-obviousness is a constitutional requirement to “promote progress”).

149. The recent statutory amendments in the America Invents Act eliminated some categories of prior art entirely, changed the geographic requirements for prior art, and shifted the critical date from the date of invention to the date of application filing. *See* Robert P. Merges, *Priority and Novelty Under the AIA*, 27 *BERKELEY TECH. L.J.* 1023 (2012) (explaining the novelty provisions of the America Invents Act). The end result is that fewer inventions are likely to be novel or non-obvious than would have been prior to the amendments, because the critical date for comparison to the prior art now occurs later in time.

150. *See* Rubinfeld, *supra* note 135, at 12–13 (explaining that constitutional rights always constrain governmental powers).

151. *See* Lemley & Volokh, *supra* note 3, at 182.

and frequency of such rights in order to facilitate speech, or to avoid conflicts with the constitutional prohibition on the suppression of speech. Conversely, it would be deeply problematic from a First Amendment perspective if the state were able to elide all constitutional expression guarantees by simply declaring a given resource to be “property.”<sup>152</sup>

Instead, property rights always entail a *mélange* of privileges and restrictions intended to accommodate a mix of public and private interests. The allocation of property, or the use of property, clearly may be regulated or curtailed in order to secure or promote constitutional speech guarantees. For example, real property, typically viewed as the paradigmatic subject for legal exclusivity,<sup>153</sup> may be subject to a wide range of easements, restrictions, and regulation.<sup>154</sup> This remains the case even where expressive uses are concerned. The use of real property as a private forum to convey a message is certainly subject to zoning, nuisance, and other restrictions. A long line of Supreme Court cases holds that expressive activities on land may be properly regulated where public impacts such as crime or traffic is anticipated.<sup>155</sup>

Similarly, bullhorns, billboards, loudspeakers, and similar items constitute chattel property that facilitate protected speech, yet there is no question that the state can subject them and their associated expression to reasonable regulation, ranging from time, place, and manner restrictions to outright bans when warranted.<sup>156</sup> Such regulations may be permissible or impermissible, depending on how the regulation in its given context fares under applicable First Amendment scrutiny. But the fact that some form of property is subjected to the regulation does not magically excuse the regulation from such scrutiny.

An objection might be raised that these examples for the most part concern First Amendment review of direct state regulation of private property, either land or chattels, that is being used for communicative purposes—a loudspeaker, billboard, or bullhorn exceeds some reasonable degree of use and becomes a nuisance—whereas the question at issue is deployment of the First Amendment to justify an infringer’s intrusion on property rights in a patent. But even where the state regulation is intended to assist a landowner’s right to exclude, the regulation must pass First

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152. *See id.*

153. *See* Harold Demsetz, *Toward a Theory of Property Rights*, 57 AM. ECON. REV. 347 (1967). *But see also* Brett Frischmann, *Evaluating the Demsetzian Trend in Copyright Law*, 3 REV. L. & ECON. 649 (2007) (critiquing the assumption of exclusivity for intellectual property rights).

154. *See* Dan L. Burk, *Muddy Rules for Cyberspace*, 21 CARDOZO L. REV. 121, 126 (1999).

155. *See* *City of Los Angeles v. Alameda Books*, 535 U.S. 425 (2002); *City of Renton v. Playtime Theatres*, 475 U.S. 41 (1986); *Young v. American Mini Theatres*, 427 U.S. 50 (1976).

156. *Reed v. Town of Gilbert*, 135 S. Ct. 2218 (2015) (billboards).

Amendment scrutiny. For example, legal restrictions on access to private doorsteps and doorknobs may be trumped by the right of speakers—even annoying speakers—to initiate communication with landowners.<sup>157</sup>

Moreover, this objection reveals the dangers inherent in analogizing exclusive rights in intellectual property with exclusive rights in tangible property, by misunderstanding that, as a form of intellectual property, the patent *itself* is an interference with the use of tangible property held by others. Governmental promulgation of patents authorizes state-enforced interference with the ability of chattel property owners, such as the owner of a given printing press, to use their item without permission of a patent holder. Such interference with the use of private property to convey a message raises First Amendment concerns. For example, in *City of Ladue v. Gilleo*, the Supreme Court held that a regulation preventing homeowners from displaying messages on their homes unconstitutionally interfered with the property owner's ability to express speech in a manner that had no equivalent alternative.<sup>158</sup> Similarly, a patent encompassing my printing press, my mobile telephone, or my word processor potentially interferes with my ability to use my own physical property to communicate my message in a manner that may have no equivalent alternative.<sup>159</sup>

I have already suggested how patents broadly interfere with such alternatives.<sup>160</sup> Alternative conduits for a message that has been barred from a patented channel will be sparse or non-existent because, unlike exclusive rights granted in physical property that are limited to a certain place and time, exclusive patent rights extend to *all* objects of a given type—or for process patents *all* actions of a given type—during the term of the patent.<sup>161</sup> Given the circumscribed nature of tangible property, it is somewhat rare to find cases in which a speaker is somehow constitutionally entitled to access particular property in order to engage in speech—a different place or similar

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157. *Watchtower Bible & Tract Soc'y v. Vill. of Stratton*, 536 U.S. 150 (2002); *Martin v. City of Struthers*, 319 U.S. 141, 147 (1943).

158. *City of Ladue v. Gilleo*, 512 U.S. 43, 55–56 (1994) (“Displaying a sign from one’s own residence often carries a message quite distinct from placing the same sign someplace else, or conveying the same text or picture by other means.”).

159. The judicial doctrine of patent exhaustion will cut off a patent owner’s exclusive rights over alienation or use of a patented item after an authorized unrestricted sale of that item. *See Impression Products, Inc. v. Lexmark Int’l, Inc.*, 581 U.S. 1523 (2017). But exhaustion would not attach, for example, to independently created chattels, chattels not purchased under authorization of the patent owner, or to communicative processes unless practiced with devices purchased from the patent owner. *See Quanta Computer, Inc. v. LG Electronics, Inc.*, 553 U.S. 617 (2008) (holding that an unrestricted authorized sale of devices embodying a patented process exhausts the patent owner’s exclusive rights in the process when practiced via those devices). Although the topic is beyond the scope of this paper, my analysis here suggests a potential First Amendment basis for a capacious patent exhaustion doctrine.

160. *See supra* notes 135–38 and accompanying text.

161. *See Rubinfeld, supra* note 135, at 28 (suggesting a parallel argument with regard to copyright).

object is typically available. But where patents are concerned, such alternatives are precluded by exclusivity over the *class* of objects or actions, including objects not physically possessed or owned by the patent holder. It is thus far more sensible to conceive of the *patent itself* as constituting the governmental regulation requiring First Amendment review, rather than as a private property interest that is being curtailed by First Amendment requirements.<sup>162</sup>

### C. *The State Action Question*

To some degree, the argument from property may stand as a proxy for a different argument, dealing with the constitutional requirement for state action. The First Amendment constrains governmental regulation of speech, and so requires state action; but if patents are a form of private property, the assertion of a patent seems to be private action rather than state action. The argument may be raised in a more direct form by simply asserting that the First Amendment cannot constrain patent owners because they are private actors, not governmental actors.<sup>163</sup>

While the general premise of this argument is quite correct, the application of the premise oversimplifies and misunderstands the nature of the state action doctrine. Vindication of private rights can constitute state action for First Amendment purposes. For example, plaintiffs vested with a defamation claim are not transformed into state actors, but the act of creating the claim and allowing its enforcement via the court system has been held by the Supreme Court to constitute state action.<sup>164</sup> This is true not only for defamation, but for liability claims in a wide range of dignitary harms.<sup>165</sup> Granting a broadcaster a license to the exclusive use of a given frequency within a geographic area does not transform the broadcaster into a state actor, but the regulatory system that allocates, regulates, and enforces the broadcaster's privilege is undoubtedly state action.<sup>166</sup>

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162. See Mark A. Lemley, *Taking the Regulatory Nature of IP Seriously*, 92 TEX. L. REV. SEE ALSO 107 (2014) (noting that the patent system is a form of market competition regulation); Mark A. Lemley, *The Regulatory Turn in IP*, 36 HARV. J. L. & PUB. POL'Y 109 (2013) (same).

163. See, e.g., Thomas, *supra* note 6, at 597–99 (arguing that the patent enforcement lies outside the ambit of state action).

164. See *N.Y. Times v. Sullivan*, 376 U.S. 254, 265 (1964); see also *Shelley v. Kramer*, 334 U.S. 1 (1948) (holding that judicial enforcement of racially discriminatory private covenants constituted state action). *Shelley* represents the high water mark of recognition for state action, and while it remains good law, it certainly cannot be read to transform every private claim asserted through the courts to constitute state action.

165. See David A. Anderson, *First Amendment Limitations on Tort Law*, 69 BROOK. L. REV. 755, 765 (2004).

166. *Nat'l Broad. Co. v. United States*, 319 U.S. 190, 226 (1943).

By the same token, vesting a patentee with exclusive rights in a given invention does not change the patent holder into a state actor; but the system that vets and certifies patent claims, allowing them to be enforced via the coercive mechanisms of the state, is undoubtedly state action.<sup>167</sup> As the Supreme Court has explained, “The test is not the form in which state power has been applied but, whatever the form, whether such power has in fact been exercised.”<sup>168</sup> The constitutional question inheres not from the licensing or the enforcement of the patent by the owner once the patent is granted, but rather from the governmental grant of the patent and its promise of state coercion in the first place.<sup>169</sup>

Additionally, when considering the scope and effects of such state sponsored exclusivity, it seems clear that patent assertion partakes more of the nature of state regulatory action than it does of private personal action. Certainly we give property owners engaged in private action latitude to suppress speech in ways that would be unacceptable for state actors. I may ask that you remain silent, or refrain from utterances I consider blasphemous, in my house of worship. I may ask that you not discuss politics or that you refrain from using invectives in my home. I may restrict your cell phone usage in my theater, requiring you to turn it off and not call or text during the performance. I may require you to agree to such speech restrictions as a condition of entering onto the property, and I may revoke your invitation and eject you if you violate my private rules. But the type of private speech restrictions listed above exercise censorship that is limited to a *certain time and a certain physical area*. There are typically other times and other places, not under the control of my particular private censorship, where your restricted viewpoint can be expressed.

Thus, a key distinction between action on private property and state legislation or regulation is the scope of the effects. If private censorship were more widespread, it might be considered a greater threat to discourse—this was the case, for example, in the unusual *Marsh v. Alabama* decision, in which a private actor’s oversight of a geographic areas was so

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167. *Contra* Chiang, *supra* note 8, at \_\_\_ (arguing that issue of a patent by the Patent Office, and not private enforcement, satisfies the state action requirement).

168. 376 U.S. at 265.

169. Professor Thomas points out that in *S.F. Arts & Athletics, Inc. v. USOC*, 483 U.S. 522 (1987), a trademark case, the Supreme Court declined to decide a Fifth Amendment claim on the grounds that the trademark holder was not a state actor for Fifth Amendment purposes; he infers from this that patent holders are unlikely to be state actors for First Amendment purposes. *See* Thomas, *supra* note 6, at 598. But this inference cannot be correct; in the same case, immediately prior to its Fifth Amendment discussion, the Court discussed the First Amendment implications of Congressional action to grant the trademark, and the trademark owners’ decision to enforce the mark, in terms that unquestionably entail state action. 483 U.S. at 532–41.



extensive as to have effectively adopted governmental status.<sup>170</sup> State action typically looks very different than such limited private action, potentially engaging in regulation or exclusion that extends to all times and all places within the territory of the sovereign, and perhaps even to the speech of nationals when they are outside the territory of the sovereign.<sup>171</sup> Indeed, state restriction of speech on *public* properties is subjected to scrutiny that considers the purpose and degree of the restriction.<sup>172</sup>

Patent rights, even though they are privately exercised, entail these capacious features of state regulatory action rather than the restricted character of private action. I have already observed that physical and intellectual property differ in their regulation of *individual* expressive objects or actions on the one hand, as opposed to *classes* of objects or actions on the other.<sup>173</sup> This difference is germane to the exercise of patent rights as private action. Rather than the usual limited scope of typical private action involving property, patents allow the rights holder to prohibit any use of the claimed invention within the territory of the sovereign during the validity of the patent—usually around twenty years. Thus, patents that cover a form of speech or communication, do not restrict access to a given object or bounded area, but prohibit anyone anywhere in the United States, its territories, or possessions from engaging in the claimed method of speech or communication.

Consequently, the danger to expression from such expansive state-sponsored rights parallels that from direct state regulation. Not coincidentally, the private tort rights such as defamation, which the Supreme Court has found to be limited by the First Amendment, have similar scope, extending expansively to any “publication” or communication of the libel, with virtually no geographic bounds. The expansive effect of a patent suit—which is also the enforcement of a tort claim<sup>174</sup>—similarly favors First Amendment restriction of its state coercive exercise.

Indeed, even when considering the degree of state involvement, patents appear to be far more creatures of state action than the majority of private

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170. *Marsh v. Alabama*, 326 U.S. 501 (1946) (applying First Amendment principles to privately owned municipality).

171. *See, e.g.*, 42 U.S.C. § 2000e(f) (2016) (giving Title VII of the 1964 Civil Rights Act extraterritorial effect). U.S. trademark law also has extraterritorial effects that implicate advertising and commercial speech outside the United States. *See Steele v. Bulova Watch Co.*, 344 U.S. 280 (1952); *Trader Joe’s Co. v. Hallatt*, 835 F. 3d 960 (9th Cir. 2016).

172. *See Ward v. Rock Against Racism*, 491 U.S. 781, 790–91(1989).

173. *See supra* notes 160–62 and accompanying text.

174. *Mars, Inc. v. Coin Acceptors, Inc.*, 527 F.3d 1359, 1365 (Fed. Cir. 2008) (“Patent infringement is a tort.”). *But see* Sichelman, *supra* note 142 (questioning the classification of patent infringement as a tort).

entitlements. Very few private entitlements are reviewed and approved by the state in the way patents are. Certainly, patents might be viewed as constituting state action in a way that their constitutional cousins, copyrights, are not: a copyright simply attaches to whatever eligible original work an author produces. Although the copyrighted work may be registered with a federal agency, there is no detailed governmental examination or negotiation of the rights that accrue in the work. Patents, however, issue from a federal agency after administrative review and approval by governmental officials; the language defining the patent rights is negotiated with, and crafted in collaboration with representatives of the state. The scope of a given patent therefore entails a high degree of participation and approval by governmental agents.<sup>175</sup> The state is involved at every stage of the patent's lifecycle: legislating, reviewing, approving, issuing, and enforcing the patent warrant.<sup>176</sup>

A variation on the state action theme rests upon the private decision to engage state coercion. Some have argued that patenting lacks the required First Amendment element of state action because enforcement of the exclusive rights conveyed by a patent is discretionary by means of a private suit.<sup>177</sup> This argument seems altogether specious. There is no question that other governmentally granted rights—such as the right to compensation for defamation—that inhibit speech are analyzed as matters of First Amendment concern.<sup>178</sup> Private rights of action for entitlements such as redress for defamation are also discretionarily effectuated by privately initiated court actions. But the Supreme Court has long held that invocation of the coercive power of the state, through the court system, in order to vindicate private burdens on expression constitutes the required state action for First Amendment purposes.<sup>179</sup>

Neither does the discretionary initiation of infringement proceedings constitute a distinction that would relieve the patent system of First Amendment review.<sup>180</sup> Some commentators on the related question regarding conflicts of copyright and expressive freedom have attempted to distinguish exclusive rights under the Intellectual Property Clause from other regulations by means of the argument that infringement may or may not be initiated by the rights holder. But of course, this is true of any

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175. See Thomas, *supra* note 6, at 595.

176. *Id.*

177. Borelli & Lyons, *supra* note 15.

178. Thus, while Professor Thomas notes that the courts typically do not view the recipients of governmental licenses and permits as state actors, such licenses, unlike patents, constitute state permission to engage in an activity—not a governmental warrant for private suits against others for engaging an activity. See Thomas, *supra* note 6, at 597–98.

179. *N.Y. Times Co. v. Sullivan*, 376 U.S. 254 (1964).

180. See Borelli & Lyons, *supra* note 15.

regulation of expression; prosecutors enforcing obscenity laws, or agencies enforcing broadcast regulations have discretion as to when and whether such rules will be enforced. The fact that an individual authorized to bring the claim may or may not choose to initiate enforcement does not alter the impact on protected speech, nor the chilling effect that accompanies potential sanctions, and most certainly does not excuse such actions from First Amendment review.

#### *D. Speech and Public Goods*

Despite the tendency to compare patent exclusivity to exclusive rights in land or other tangible property, the problem of patent exclusivity over expression may have its closest existing parallel in the First Amendment jurisprudence concerning broadcast spectrum.<sup>181</sup> The Supreme Court has decided a long series of such cases, lying at the intersection of governmentally distributed exclusive rights, privately allocated entitlements, and the public interest in expressive freedom.<sup>182</sup> The concerns animating these decisions are instructive for patent analysis, as broadcast spectrum allocation, like patenting, also entails a system of privately allocated exclusive rights intended to solve a public goods problem.<sup>183</sup>

As mentioned previously, the most common jurisprudential justification for the patent system is that it fulfills its constitutional mandate to promote the progress of the useful arts by assigning exclusive rights in inventions that might otherwise be undersupplied because they display the qualities of public goods.<sup>184</sup> Because technical knowledge is non-rivalrous and non-exclusive once it has been developed, there is little incentive to develop it in the first instance; others who have been spared the investment costs can costlessly appropriate the invention and deprive the inventor of a return on the initial investment. Patent rights are expected to allow the inventor to

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181. Cf. Yochai Benkler, *Free as the Air to Common Use: First Amendment Constraints on Enclosure of the Public Domain*, 74 N.Y.U. L. REV. 354 (1999) (arguing that media law decisions indicate First Amendment constraints on intellectual property).

182. See Thomas W. Hazlett, Sarah Oh, & Drew Clark, *The Overly Active Corpse of Red Lion*, 9 NW. J. TECH. & INTELL. PROP. 51, 60–65 (2010) (tracing the history of the Supreme Court broadcast decisions).

183. See John Berresford & Wayne Leighton, *The Law of Property and the Law of Spectrum: A Critical Comparison*, 13 COMMLAW CONSPECTUS 35 (2004) (examining the parallels between allocation of real property and allocation of spectrum); William W. Van Alstyne, *The Möbius Strip of the First Amendment: Perspectives on Red Lion*, 29 S.C.L. REV. 539, 561–62 (1978) (comparing allocation of spectrum exclusivity to encumbered real property entitlements).

184. See Burk, *supra* note 1, at 400–01.

legally exclude unauthorized uses, allowing a return on investment, which motivates investments in innovation.<sup>185</sup>

Broadcast spectrum shares with patentable inventions some characteristics of a true public good but also displays some characteristics of a “common pool” good.<sup>186</sup> Broadcast spectrum is non-rivalrous as to receivers, and non-exclusive as to both transmission and reception. Transmission can be congested, and consequently Congress, by means of delegation to a federal agency, allocates the frequencies of electromagnetic spectrum that can be used by particular broadcasters.<sup>187</sup> These exclusive allocations are procured by means of lease or auction.<sup>188</sup> Such allocations are clearly a regulation of the means of communicative expression or speech, and typically carry with them obligations that directly burden the form and content of speech carried over the airwaves. Broadcasters have at various times been prohibited, for example, from transmitting certain types of salacious but protected speech at certain times of the day or night.<sup>189</sup> Historically, spectrum allocation sometimes has carried with it obligations to use the allocation in the public interest, and even to accommodate equal access to types of political speech.<sup>190</sup>

All of this regulation of expressive content and its conveyance has been viewed by the Supreme Court as consistent with the restrictions of the First Amendment, so long as the regulation remains within certain bounds.<sup>191</sup> In particular, content regulation of broadcast has been allowed by the Supreme Court under a type of public goods rationale. Under the *Red Lion* line of cases, the Court has reasoned that broadcast spectrum is a common resource, the use of which may be allocated and regulated by Congress.<sup>192</sup>

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185. *Id.* An alternative, less often asserted justification for patenting is the famous “prospect theory” articulated by Edmund Kitch. See Edmund W. Kitch, *The Nature and Function of the Patent System*, 20 J.L. & ECON. 265 (1977). Prospect theory argues that patenting employs the allocation of private entitlements to curtail costly, rent-dissipating races to develop new technologies. See John F. Duffy, *Rethinking the Prospect Theory of Patents*, 71 U. CHI. L. REV. 439 (2004). While I do not explore prospect theory here, it may offer an even stronger parallel between patenting and spectrum allocation.

186. See Gary D. Libecap, *State Regulation of Open-Access, Common-Pool Resources* in HANDBOOK OF NEW INSTITUTIONAL ECONOMICS, 754 (C. Menard & M.M. Shirley eds. 2005).

187. Gerald R. Faulhaber & David Farber, *Spectrum Management: Property Rights, Markets, and the Commons*, in RETHINKING RIGHTS AND REGULATIONS: INSTITUTIONAL RESPONSES TO NEW COMMUNICATION TECHNOLOGIES 193 (L.F. Cranor & S.S. Wildman eds., 2003) (tracing the history of federal broadcast spectrum regulation).

188. 47 U.S.C. § 309(i)–(j) (2018).

189. *FCC v. Pacifica Found.*, 438 U.S. 726 (1978); see also *FCC v. Fox Television Stations*, 556 U.S. 502 (2009) (discussing FCC authority to regulate broadcast indecency).

190. *Red Lion Broad. Co. v. FCC*, 395 U.S. 367 (1969). See generally R. Randall Rainey, *The Public's Interest in Public Affairs Discourse, Democratic Governance, and Fairness in Broadcasting: A Critical Review of the Public Interest Duties of the Electronic Media*, 82 GEO. L.J. 269 (1993).

191. See Marvin Ammori, *Beyond Content Neutrality: Understanding Content-Based Promotion of Democratic Speech*, 61 FED. COMM. L.J. 237 (2009).

192. *Red Lion Broad. Co.*, 395 U.S. at 389–90.

Congressional authority to manage the spectrum resource has been considered to include the provision of substantive requirements that the messages conveyed via the resource are consistent with the public interest.<sup>193</sup>

The Court's reasoning in *Red Lion* has long been contrasted with the contemporary decision in *Miami Herald Publishing Co. v. Tornillo*,<sup>194</sup> where the Court declared a legal requirement for newspapers to provide opportunities for political reply to be an unconstitutional regulation as applied to newspapers.<sup>195</sup> Having held in *Red Lion* that a similar requirement for broadcast was constitutionally permissible, these decisions appear somewhat contradictory in both outcome and rationale. The ostensible distinction according to the Court was the scarcity of broadcast spectrum: that the government had an obligation to allocate the scarce spectrum resource in the public interest. But subsequent commentators have pointed out the logical disconnection between regulation of a scarce resource and regulation of content: if newsprint had become scarce and required government rationing, application of the logic of *Red Lion* to regulate newspaper content seemed implausible.<sup>196</sup>

A more plausible reading of the case concerns not so much scarcity in the sense of rarity or absence, but rather scarcity in the sense of resources constituting a quasi-public good.<sup>197</sup> Absent licensing, anyone with the necessary equipment could access broadcast frequencies, potentially leading to too much broadcast and interference with other signals. FCC licensing, rather than addressing spectrum absence, in fact created an artificial scarcity of access in order to ameliorate the rivalrous but non-exclusive consumption that might occur in the absence of licensing.<sup>198</sup> While newsprint rationing might interfere with some speakers by denying them the means to publish, it would not create simultaneous interfering speech, as might occur with simultaneous broadcasts over the same frequency.<sup>199</sup>

The governmental allocation solution to the potential for medium congestion in turn imposes the burden of exclusivity on expressive freedom.

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193. *Id.*

194. 418 U.S. 241 (1974).

195. See, e.g., Stuart M. Benjamin, *The Logic of Scarcity: Idle Spectrum as a First Amendment Violation*, 52 DUKE L.J. 1, 1–111 (2002); Hazlett et al., *supra* note 182, at 67; Van Alstyne, *supra* note 183, at 544–45.

196. Henry Geller, *Turner Broadcasting, the First Amendment, and the New Electronic Delivery Systems*, 1 MICH. TELECOMM. & TECH. L. REV. 1 (1995).

197. See C. Edwin Baker, *Three Cheers for Red Lion*, 60 ADMIN. L. REV. 861, 866–67 (2008).

198. Jim Chen, *Conduit-Based Regulation of Speech*, 54 DUKE L.J. 1359, 1412–13 (2005).

199. See *FRC v. Nelson Bros. Bond & Mortg. Co.*, 289 U.S. 266, 282 (1933) (stating that Congress may allow or deny broadcast licenses to prevent interference).

While *Red Lion* is known primarily for its holding that broadcast privileges may be permissibly encumbered with content regulation, this outcome is based on a manifest strain of concern over exclusivity.<sup>200</sup> According to the Court, “[i]t is the purpose of the First Amendment to preserve an uninhibited market-place of ideas in which truth will ultimately prevail, rather than to countenance monopolization of that market, whether it be by the Government itself or a private licensee.”<sup>201</sup> Similarly, the opinion focuses on the communicative interests of the public, rather than those of spectrum rights holders: “It is the right of the viewers and listeners, not the right of the broadcasters, which is paramount.”<sup>202</sup>

Significantly, this concern over exclusivity continues into the later cable transmission cases, where the lack of alternative carriers within a geographic cable franchise area confers medium exclusivity, if not scarcity, on cable carriers.<sup>203</sup> Much as broadcast allocations have sometimes entailed certain content obligations, so cable television transmissions have as a condition of their licensing been similarly subjected to requirements that they carry certain content on some of their channels.<sup>204</sup> Although cable operators do not function under the same type of spectrum interference “scarcity” as broadcasters, the potential for transmission monopoly in the areas served by a cable system may justify narrowly tailored state intervention into the operation of the system.<sup>205</sup> In other words, even though cable operators may own the physical media of transmission, their freedom to use it as they see fit may be circumscribed by the public interest.<sup>206</sup> These cases thus attempt to strike within different technical contexts a balance among the First Amendment rights of the content receiving public, the First Amendment editorial rights of the designated transmission fiduciaries, and the governmental interest in orderly coordination of the means of transmission.<sup>207</sup>

The analysis in such cases indicates the proper allocation of First Amendment interests that are salient to dealing with expressive patents. Each situation entails the grant of exclusive rights in a non-exclusive

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200. See Baker, *supra* note 197, at 862–63.

201. *Red Lion Broad. Co. v. FCC*, 395 U.S. 367, 389 (1969).

202. *Id.* at 390.

203. Cf. Laurence H. Winer, *The Signal Cable Sends-Part I: Why Can't Cable Be More Like Broadcasting?*, 46 MD. L. REV. 212, 245–47 (1987).

204. *Turner Broad. Sys., Inc. v. FCC*, 512 U.S. 622 (1994).

205. *Turner Broad. Sys., Inc. v. FCC*, 520 U.S. 180, 213 (1997).

206. Cf. Susan Crawford, *First Amendment Common Sense*, 127 HARV. L. REV. 2343, 2365–67 (2014) (explaining the historical public interest in regulation of cable broadband carriers). Essentially these same considerations have led to the more recent conflict over “net neutrality” by cable carriers. See generally DAWN C. NUNZIATO, *VIRTUAL FREEDOM: NET NEUTRALITY AND FREE SPEECH IN THE INTERNET AGE* (2009).

207. Michael J. Burstein, Note, *Towards a New Standard for First Amendment Review of Structural Media Regulation*, 79 N.Y.U. L. Rev. 1030 (2004).

resource. Like the recipients of spectrum allocation exclusivity, patent holders hold a temporary monopoly in a public resource, as part of a Congressional system designed to manage and enhance that resource for the public's benefit.<sup>208</sup> And while patent holders are unlikely to be viewed as holding the First Amendment interests accorded to publishers, they nonetheless have interests, parallel to those of cable operators, in controlling and recouping their investment in the claimed invention. Governmentally granted exclusivity attempts to harness private incentives for public value, either in promoting innovation or managing telecommunications infrastructure.

At the same time, the telecommunications cases demonstrate that such a grant of exclusivity does not place the owner of a broadcast or cable franchise beyond an obligation to accommodate freedom of expression. Neither should we expect the holder of congressionally granted patent entitlement to escape the demands of the First Amendment. Far from excusing rights holders from constitutional scrutiny of their trust, the broadcast cases suggest that such exclusivity *invites* First Amendment review where the privately exercised warrant impedes access to another public good, that of free expression.<sup>209</sup> The exercise of exclusive but publicly granted rights, in inventions or in spectrum, may be legitimately limited by the public's right to speak and to be heard.

And while changes in the national political atmosphere have unquestionably relegated explicitly imposed public interest considerations to the background of media regulation,<sup>210</sup> the Supreme Court's broadcast jurisprudence similarly demonstrates that such interests are not incompatible with guarantees of expressive freedom. If cable and broadcast franchise holders can be required to carry certain content, or to limit certain programming, then the holders of patent franchises might be explicitly limited or encumbered in order to similarly effectuate expressive interests.<sup>211</sup> Governmental grants of exclusivity are neither reserved from public interest scrutiny nor immune from governmental encumbrance. It follows that First Amendment considerations may be properly included when reviewing the exercise of patent or spectrum entitlements.

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208. Cf. *Graham v. John Deere Co.*, 383 U.S. 1, 5 (1966).

209. See Daniel A. Farber, *Free Speech Without Romance: Public Choice and the First Amendment*, 105 HARV. L. REV. 554, 583 (1991) (analyzing First Amendment interests as promotion of public goods).

210. See Glen O. Robinson, *The Electronic First Amendment: An Essay for the New Age*, 47 DUKE L.J. 899 (1998) (noting the historic decline in public interest regulation).

211. See *Oil States Energy Serv., LLC v. Greene's Energy Grp., LLC*, 138 S. Ct. 1365 (2018) (characterizing patents as "public franchises").

### III. THE PROPER LEVEL OF SCRUTINY

Because neither its traditional contours, nor the state action requirement, nor their status as property excuse patents from First Amendment consideration, we at last confront the question as to how they fare against the standards applied to other regulation. In doing so we move into judicially uncharted territory, not in the sense that the elements of the relevant First Amendment analysis are vague or unknown—they are to the contrary well known and readily identifiable. Rather, the application of those familiar doctrines is unexplored not only with regard to the patent system, but also with regard to copyright, its parallel cognate system under the Intellectual Property Clause. Because the Supreme Court has always excused copyright from First Amendment scrutiny, it has never reached the familiar questions of content discrimination, substantial or compelling governmental interest, least restrictive means, and the like in the copyright context.

Instead our guidance comes from general constitutional principles, as applied to the peculiarities of the patent system. I have, for example, argued above that the designation of a regulation as a “property right” does not of itself free the regulation from First Amendment scrutiny.<sup>212</sup> The impulse to claim that it does perhaps comes from the sense that property rights are often acceptable under, if not entirely disengaged from, First Amendment scrutiny. Thus, a content neutral trespass statute that serves legitimate interests may be entirely permissible under the First Amendment.<sup>213</sup> But we cannot know if the patent statute is content neutral or serves legitimate governmental interests by analogy; we must examine the statute itself.

In addition, the same examination may need to be applied to individual patents, a peculiarity that serves to further separate patents from whatever previous First Amendment analysis may have been applied to other forms of intellectual property.<sup>214</sup> Unlike other forms of intellectual property, patent rights are based entirely upon a governmentally issued text.<sup>215</sup> When considering copyright, we begin with the creative work covered by the copyright; when considering trademark rights, we begin with the particular emblem that has become imbued with recognizable meaning. But when considering patent rights, we look to a *document describing the invention* rather than to any instantiation of the invention itself—indeed, at no time

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212. See *supra* notes 139–62 and accompanying text.

213. *Virginia v. Hicks*, 539 U.S. 113 (2003); *Lloyd Corp. v. Tanner*, 407 U.S. 551, 567 (1972). See also *Compuserve v. Cyberpromotions*, 962 F. Supp. 1015, 1025–27 (S.D. Ohio 1997) (holding that a private claim of trespass to chattels does not violate the First Amendment).

214. See *supra* notes 121–23 and accompanying text.

215. See *Burk & Reyman*, *supra* note 138, at 168.



during the life of the patent is the inventor required to produce the actual claimed invention.<sup>216</sup> Patent rights are entirely reliant upon a defining text.

This textual structure creates two possible levels of First Amendment challenge: to an individual patent itself, or to the patent statute from which it originates. This is not an unusual phenomenon in First Amendment jurisprudence; an injunction that restrains expressive conduct may be constitutionally infirm, or the statute on which the injunction is based may be constitutionally infirm, or both. But it will be necessary to consider whether the elements of a First Amendment claim may at times lead to different outcomes depending upon the level at which a challenge is brought.

We will ask first then, as with any regulation, whether the patent statute is content neutral or content discriminatory. We may ask the same of a given patent. If the challenged regulation falls into the content neutral category, we apply intermediate scrutiny.<sup>217</sup> If it falls into the discriminatory category, it receives a sufficiently heightened degree of scrutiny that passing constitutional muster becomes unlikely. Additionally, First Amendment scrutiny may change depending on whether the challenge to a regulation is facial or applied; in the former case, the regulation must be substantially overbroad in order to fail constitutional muster.<sup>218</sup> Thus, our conclusions may change depending on whether the patent statute itself or its textual progeny become the analytical focus.

#### A. *Content Neutrality*

We begin by assessing whether the patent statute is content neutral or content discriminatory, as that designation will shunt further analysis toward either heightened or intermediate scrutiny. It should be immediately clear that the patent system as a whole is unquestionably content discriminatory, as are the individual patents that may burden speech. Content discrimination is inherent in the patent system; Congress intended to reward and to promote certain types of inventions. Inventions that encompass speech will be promoted and rewarded via state action if they meet the patentability criteria set out by Congress. Such content discrimination will vary along the spectrum that I have identified above; it will likely be least pronounced, and least problematic at the end of the

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216. *Id.* at 184

217. See Ashutosh Bhagwat, *The Test That Ate Everything: Intermediate Scrutiny in First Amendment Jurisprudence*, 2007 U. ILL. L. REV. 783 (tracing the evolution of the intermediate scrutiny standard).

218. *New York v. Ferber*, 458 U.S. 747, 769 (1982); *Broadrick v. Oklahoma*, 413 U.S. 601 (1973).

spectrum involving conduits of speech. It will likely be most pronounced, and most problematic at the end of the spectrum encompassing direct expression.

Thus, looking to the center of the range for an example, we consider the case of computer code, which we have observed is judicially recognized as a form of protected speech.<sup>219</sup> To pass muster under the patent system, such code must be novel and non-obvious, have patentable utility, and be susceptible to a written enabling description.<sup>220</sup> Congress has provided that *only* production of code with these features is to be encouraged and rewarded by means of exclusive rights. Conversely, when it is rewarded by means of exclusive rights, use of that speech by others besides the patent holder is restricted. Code that is already known in the art, or which would be obvious to one of ordinary skill, or which lacks a serious and practical application, or which is not susceptible to written description, is excluded from the patent system. Additionally, the *Alice* test now provides that claims to computer code that lack a sufficiently “inventive concept” will also be excluded.<sup>221</sup>

At the level of the individually issued patent, an additional measure of content discrimination is also sometimes manifest—individual patents will tend to regulate a specific manner or method of communication specified in their claims, and not other manners or methods of communication.

For example, the 2002 patent on a method for drafting patents, mentioned above, is directed to a specific type of expression: patents.<sup>222</sup> The 2007 patent on Internet advertising, mentioned above, similarly applies to a particular category of speech—advertising—and not to novels or interpretive dance or sculpture.

There may be some inclination to say that patents, or the patent statute, should not trigger strict scrutiny standard because patents are issued on the basis of technical criteria rather than on the basis of particular message or perspective, and so cannot be impermissibly directed to deterring or promoting particular content. But this instinctive supposition fails to distinguish between *content* neutrality and *viewpoint* neutrality.<sup>223</sup> The First Amendment restricts not only regulatory discrimination as to categories of

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219. See *supra* notes 52–53 and accompanying text.

220. See 35 U.S.C. §§ 101 (requiring utility and novelty), 103 (requiring non-obviousness), 112 (requiring enablement and written description).

221. *Alice Corp. Pty. Ltd. v. CLS Banks Int'l*, 134 S. Ct. 2347, 2357 (2014).

222. See *supra* note 45 and accompanying text.

223. Cf. *Rosenberger v. Rector & Visitors of Univ. of Va.*, 515 U.S. 819, 831 (1995) (discussing the distinction between content and viewpoint neutrality). To be fair, the Supreme Court itself sometimes conflates the two. See Leslie Gielow Jacobs, *Clarifying the Content Based/Content Neutral and Content/Viewpoint Determinations*, 34 MCGEORGE L. REV. 595, 602–03 (2003) (discussing the Supreme Court’s periodic confusion of content and viewpoint neutrality).

speech, but also discrimination as to favored or disfavored messages within the category.<sup>224</sup> Thus, the government may restrict fighting words, which are an unprotected category of speech, but it may not distinguish among viewpoints in doing so; it may restrict all fighting words, or none, but may not select favored or disfavored fighting words.<sup>225</sup> Viewpoint discrimination is almost never permissible because of the exclusion of particular messages from public discourse.<sup>226</sup> But content or subject matter restrictions, even if viewpoint neutral, will still trigger strict scrutiny.<sup>227</sup>

Patent law does not appear to discriminate as to viewpoints. The patent statute discriminates as to the types of technology subject to patents, but entails no explicit restrictions on messages carried by, or entailed in the technology. Software patents issue only to software that is judged new and non-obvious, but the substance of information conveyed to other programmers by the code is not a patentability criterion; the patent statute does not seem to encourage or reward particular styles or schools of thought within computer programming. Similarly, claims directed to methods of advertising or communicating do not typically specify a certain message. But granted patents allow exclusion of a subset of speech or methods of speaking that are novel, useful, and non-obvious. These patentability criteria of course apply to all types of patents, whether they involve exclusivity that burdens speech or not, but the result is that only a subset of speech is eligible for the benefits or burdens of patenting.

This point is perhaps best illustrated in a parallel context: imagine a governmental regulation that requires licenses for the dissemination of novel scientific publications. Novelty might be judged in terms of time, say, by requiring a license for any new publication after January 1, 2018. Or it might be judged qualitatively, say, by requiring a license for any publication that generates a high citation count, or that garners a Nobel or other scientific prize. Such a licensing restriction would be viewpoint neutral in the sense that it did not discriminate as to the individual message conveyed by any paper restricted under the system. But it would certainly not be content neutral, as it would be directed to particular categories of protected speech; it clearly triggers First Amendment concerns, and would likely garner an extremely stringent level of judicial scrutiny.

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224. *See, e.g.*, *Turner Broad. Sys., Inc. v. FCC*, 512 U.S. 622, 641 (1994).

225. *R.A.V. v. City of St. Paul*, 505 U.S. 377, 391–92 (1992); *see also* *Consol. Edison Co. of N.Y., Inc. v. Pub. Serv. Comm’n of N.Y.*, 447 U.S. 530, 537 (1980) (“The First Amendment’s hostility to content-based regulation extends not only to restrictions on particular viewpoints, but also to prohibition of public discussion of an entire topic, . . .”).

226. *Simon & Schuster, Inc. v. Members of N. Y. State Crime Victims Bd.*, 502 U.S. 105, 116 (1991).

227. *Hill v. Colorado*, 530 U.S. 703, 723 (2000).

A variation on the argument regarding content neutrality might be to say that patentability criteria are not likely to mask invidious censorship. One important purpose identified by the Supreme Court as a justification for stringent constitutional jurisprudence on content neutrality has been the concern that such discrimination could eliminate subjects or categories of speech from the marketplace of ideas, and so distort public discussion.<sup>228</sup> There is of course little evidence that content discrimination in the patent system is intended to suppress public discourse; patentability restrictions seem clearly intended to offer the reward of exclusivity only to the most meritorious technical advances. It seems therefore unlikely that discrimination in patentable subject matter is legislative cover for invidious censorship, but rather exists for a legitimate purpose, a consideration which factors into the First Amendment analysis, and to which we will return.

But although this is a factor to be considered in review of content based regulation; it does not change the test that we apply. The Supreme Court has made clear that laws discriminating with regard to content are treated to strict scrutiny regardless of the government's purpose in regulating.<sup>229</sup> In the case of patent regulation, notwithstanding the lack of intent to censor, patent law's content discrimination may well have the effect of distortion in the marketplace of ideas. Indeed, novel and non-obvious forms of speech are very likely to be among the most persuasive or effective forms of speech; as I have observed above, it is small comfort to say that handwritten manuscripts can still be produced despite the exclusive rights granted by the government on the printing press.<sup>230</sup> Patents are not available for the older forms of advertising, via television or billboards, that lack novelty because they are well-known in the art; so these may still be used by speakers even if the patentee of Internet advertising is unwilling to offer a license. But patent law discriminates among these forms of expression, offering exclusivity for the latter but not for the former.

It also bears emphasizing that the criteria for patentability become problematic only to the extent that they select among forms of speech rather than among forms of technology. Requirements for novelty or utility only mature into content discrimination where protected expression is at issue. The majority of patent claims likely fall outside expressive subject matter, and do not implicate speech or guarantees of free expression. When the statutory criteria for novelty, obviousness, utility and the like are applied to non-expressive subject matter, let us say to a new kind of windshield wiper or to a novel polymer plastic molecule, they select for functional criteria rather than for expressive content. For such non-expressive patents, the

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228. *Boos v. Barry*, 485 U.S. 312, 321 (1988); *Consol. Edison Co. of N.Y.*, 447 U.S. at 540.

229. *See Reed v. City of Gilbert*, 135 S. Ct. 2218, 2228–29 (2015).

230. *See supra* note 35 and accompanying text.

statutory patenting criteria are by definition content neutral, because there is no expressive content against which to discriminate.

This distinction again highlights the problematic nature of software patenting. We have already noted that software is sometimes expressive and sometimes functional, and so has in the past been linked to the *O'Brien* intermediate level of scrutiny for content-neutral regulation.<sup>231</sup> Application of the *O'Brien* intermediate scrutiny standard considers whether the regulation is directed to conduct, and only incidentally burdens speech related to the conduct, or whether the regulation is directed to the conduct itself.<sup>232</sup> In the export control cases, although software was recognized as expressive in some forms, governmental control of its functional, technical aspects in order to maintain public order was weighted heavily in the analysis.<sup>233</sup> Software as executed within a machine was deemed a form of expressive conduct or function, making the burden on expression incidental to the regulation of function, making intermediate scrutiny appropriate.<sup>234</sup>

On a very simplistic view of the patent grant, it might be tempting to conclude that patent exclusivity is directed to conduct, that is, to infringement of the patent, and only incidentally burdens speech. This argument is quickly reduced to an absurdity, as one might just as well argue that any regulation of speech is directed to conduct, such as moving one's lips or typing on a keyboard, and only "incidentally burdens" the resulting speech. The proper distinction seems rather to be that some types of conduct are themselves speech, and so receive very stringent First Amendment scrutiny, and some other kinds of conduct, while expressive, are materially engaged in a fashion that invites the imposition of public order. Public picketing<sup>235</sup> and setting fires<sup>236</sup> are expressive, but also physically disorderly, and the state's legitimate interest in maintaining physical order weighs heavily in the balance. The state has far less interest in ordering lip movement, typing, or other conduct that constitutes speech.

Such an analysis of software points to differing standards for patents situated along the range of patents discussed above. On this logic, if looking at the level of the individual patent, intermediate scrutiny seems most likely to apply to the "conduit" patents we have identified, such as printing presses or telecommunications protocols. When issuing patents to inventions such

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231. See *supra* notes 52–53 and accompanying text.

232. *United States v. O'Brien*, 391 U.S. 367, 376 (1968).

233. See *Junger v. Daly*, 209 F.3d 481 (6th Cir. 2000); see also *Universal City Studios, Inc. v. Corley*, 273 F.3d 429, 454 (2001) (applying *O'Brien* content neutral analysis to functional component of software).

234. *Junger*, 209 F.3d at 485; *Corely*, 273 F.3d at 454.

235. *Frisby v. Schultz*, 487 U.S. 474 (1988).

236. *O'Brien*, 391 U.S. 367 (1968).

as printing presses, the discriminatory criteria of the patent statute are most likely to be separating novel, non-obvious, and useful functional devices from among the available technologies. There may be incidental burdens on expression, but the functionality is the primary target of the exclusivity incentive. In contrast, strict scrutiny seems most likely to apply to the more purely expressive patents covering methods of advertising writing or instruction; functionality or “conduct” is in those cases at a minimum and the burden of exclusivity falls directly on speech.

And when considering the patent system as a whole, so long as patents issue on expressive subject matter, strict scrutiny will likely apply. This outcome becomes clearer when, again, we imagine something like the patentability criteria introduced into a more familiar content-neutral setting. The state may, for example, choose to limit or require advance scheduling of parades so as to manage the physical space available, avoid public altercations, and control noise and litter. This is classic content neutral regulation so long as the content or message of the parades is not a criterion for permission. Such regulation may even be viewed as speech promoting, as it prevents physical disruption and interference among competing events so that the messages at those can be conveyed. But so soon as the state bases permit criteria on the substantive merit of the events, on whether the parades are interesting, or inspiring, or novel, or inventive, or publicly useful—content neutrality ends and strict scrutiny applies. The purpose for such governmental selection may be entirely laudable—to build community or to promote discussion—but assessment of governmental purposes is an element of strict scrutiny, not a waiver from it. The same is true of the content criteria for expressive patents.

### *B. Governmental Interest*

Where a regulation is content discriminatory, in order to pass strict scrutiny, it must further a compelling governmental interest; where intermediate scrutiny is concerned, the governmental interest must be substantial. The role of this requirement is clearer if we return to an example raised by the first patent discussed above, regarding governmental regulation of equipment used in communication. Given the history of the First Amendment, and the history of licensing printing presses, we have said that there is little question that governmental ban or restriction of printing presses would run afoul of the First Amendment, and seems likely to trigger strict scrutiny that the regulation would be unlikely to pass. But content neutral regulation of such equipment for a substantial governmental purpose might be a different matter; if printing plants pose occupational hazards, then health and safety regulation to protect against, say, mechanical injury

or toxic exposures, would almost certainly pass constitutional muster. Similarly, within First Amendment considerations, tort liability may lie for the publication of defective or erroneous information.<sup>237</sup>

One might thus imagine permissible governmental restrictions or outright prohibitions on types of printing equipment that were found to be especially dangerous or environmentally destructive, so long as sufficient alternative models of printing equipment were available. However, burdensome health and safety regulation of plants printing certain types of content, such as pornographic magazines, would be suspect and subjected to closer scrutiny. Placing the execution of prohibited regulation in the hands of private deputies would hardly avoid the constitutional infirmity, just as placing content discriminatory health and safety regulation of printers into the care of private actors would not avoid the constitutional question.

Where patents are concerned, the requirement of a compelling governmental interest for issuing patents can almost certainly be satisfied. The patent system is generally justified as a means to encourage innovation, by providing inventors the reward of exclusivity for suitable technological contributions.<sup>238</sup> This is almost by definition a compelling governmental interest; the conclusion that such purposes are substantial, and probably compelling, is reinforced by the constitutional authority entailed in article I, section 8, clause 8. Even if we move from the general to the specific, from promoting innovation in general, to promoting innovation in specific fields such as software, chemistry, or medical devices, the governmental interest in promoting social welfare seems compelling in order to improve the general welfare.

Of course, even though promoting the progress of the useful arts is an interest validated by the language of the constitution itself, constitutional authority is not a panacea. All Congressional enactments must be grounded in some enumerated power, and the First Amendment exists to constrain those powers.<sup>239</sup> Enactment of a viewpoint discriminatory speech regulation by means of the Patent Clause power does not, simply by virtue of the enactment's constitutional basis, excuse the regulation from being unconstitutional any more than would enactment of a viewpoint discriminatory speech regulation by means of the Commerce Power. But the Intellectual Property clause offers something not offered by most of

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237. See Burk, *supra* note 4, at 121–22 (reviewing reckless or negligent publication doctrines). In parallel with First Amendment treatment of software, , print publications may create tort liability to the extent that they are used functionally rather than informationally. See Burk, *supra* note 4, at 121–22.

238. See Burk, *supra* note 1.

239. See Rubinfeld, *supra* note 135, at 12.

Congress's enumerated powers, which is an explicitly articulated purpose for permissible use of the power, which is to promote the progress of science and the useful arts.<sup>240</sup> This, again, does not excuse an unconstitutional exercise of the power in violation of the First Amendment, but it does offer textual guidance as to the proper use of the power, and in particular what purposes for a regulation ought to be considered compelling.

### C. *Narrow Tailoring*

Narrow tailoring poses a trickier question: could we say that the patent statute, which is likely to authorize at least some patents that burden speech, and which furthers the compelling constitutional interest in promoting technical progress, has been narrowly tailored to avoid burdening the equally compelling constitutional interest in free expression? As I have suggested above (in parallel with Judge Mayer) certain patent doctrines, including subject matter exclusions, might not entirely exclude expressive subject matter, but could be applied so as to help restrict the intrusion of patents into protected speech.<sup>241</sup> Some of these doctrines, such as experimental use, are currently somewhat atrophied, but could be re-invigorated.<sup>242</sup> In a similar vein, Kevin Collins points out that patent law includes screening doctrines that tend to orient patents toward functional subject matter, and away from expressive content.<sup>243</sup> Such features of patent law might be pointed to as evidence of narrow tailoring.

At the same time, the clear inadequacy of the same features might be cited as evidence that Congress has *failed* to narrowly tailor the Patent Act. We have already seen that, without using the terminology of First Amendment jurisprudence, the Supreme Court has essentially said that the Copyright Act is adequately tailored by adherence to its "traditional contours" of fair use and idea/expression separation.<sup>244</sup> Thus, we might conclude that Congress knows how to narrowly tailor an intellectual property statute when it cares to, and has simply failed to do so in the case of patents. A number of commentators have suggested that, as in copyright, explicit exceptions should be incorporated into the patent statute; some type of patent analog to the fair use exception,<sup>245</sup> as well as a robust experimental

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240. U.S. CONST. art. I, § 1, cl. 8; *Graham v. John Deere*, 383 U.S. 1, 5–6 (1966).

241. See *supra* notes 76–101 and accompanying text; see also *supra* note 155 (discussing the judicial doctrine of patent exhaustion).

242. See Burk, *supra* note 4, at 159–60.

243. Collins, *supra* note 73.

244. See *supra* notes 112–17 and accompanying text.

245. Burk, *supra* note 4, at 150; O'Rourke, *supra* note 7; Strandburg, *supra* note 73.



use exception,<sup>246</sup> would be high on the list for such additions. The lack of such exceptions for patents might be taken as a failure to narrowly tailor.

In the same vein, even if Judge Mayer is correct that patent law's existing doctrinal carve-outs are adequate to avoid a constitutional conflict, they are not for the most part found in the patent statute, and so cannot be attributed to legislative tailoring. Unlike copyright, where the statute explicitly incorporates exceptions to the exclusive rights of the copyright owner, patent exceptions are for the most part judicial glosses that may come and go. Section 101 of the patent statute expresses no subject matter reservations regarding abstract ideas, laws of nature, or mental steps; doctrinal exclusions such as printed matter are not found in the statute either. These have instead been read into the statute by the courts. Such exclusions have at times declined or disappeared altogether.<sup>247</sup> In the nearly forty years between the Supreme Court's software subject matter decisions in *Gottschalk v. Benson* and *Alice Corp v. CLS Bank*, the strength and reach of the Section 101 exemptions has waxed and waned, at times due to contrary decisions from the lower courts, but clearly due to effective reversals by the Supreme Court itself. While courts may attempt to read statutes so as to avoid constitutional conflicts, these patent exemptions have been judicially manufactured out of whole cloth and cannot be attributed to Congress.

A related issue may be the question as to whether the patent system, notwithstanding any textual tailoring of the statute, unnecessarily burdens speech by means of improperly issued patents, that is, patents that do not promote innovation, or that lie outside the properly applied statutory limitations of the statute, but which erroneously issue anyway. It is generally understood that the Patent Office has a significant error rate, where error is taken to mean issuing patents that are later invalidated, or that would be invalidated if subjected to closer review.<sup>248</sup> To the extent that such patents burden speech, they may do so unnecessarily, as they were not necessarily directed to the type of inventions contemplated by Congress as meeting the threshold for patent exclusivity.

Bad software patents appear to have been at least in part a motivator of Judge Mayer's concerns, and the question of "bad patents" clogging the system and deterring innovation has been the topic of extensive

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246. Burk, *supra* note 4, at 157–58; Dreyfuss, *supra* note 75, at 699; Rochelle Cooper Dreyfuss, *Protecting the Public Domain of Science: Has the Time for an Experimental Use Defense Arrived?*, 46 ARIZ. L. REV. 457 (2004).

247. See Rochelle Cooper Dreyfuss, *Are Business Method Patents Bad for Business?*, 16 SANTA CLARA COMPUTER & HIGH TECH. L.J. 264 (2000); Cotter, *supra* note 6; Leo J. Raskind, *The State Street Bank Decision: The Bad Business of Unlimited Patent Protection for Methods of Doing Business*, 10 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 61 (1999); Thomas, *supra* note 5.

248. See, e.g., Colleen Chien, *Comparative Patent Quality*, 50 ARIZ. ST. L.J. 71, 140 (2018).

investigation.<sup>249</sup> But the generation of improper patent grants creates two distinct problems for First Amendment purposes: it may be that the patent system is constitutionally defective, routinely allowing patents that improperly read on expressive content. Or, it may be that despite patent quality safeguards, in some cases that individual patents improperly read on expressive content, having slipped through the Patent Office because of occasional or inadvertent error. Either occurrence may present a tailoring defect, but the former will cause the system rather than a given patent to fail constitutional muster.

#### *D. Overbreadth*

The discussion of narrow tailoring leads us to the mechanism for challenging a given patent or challenging the patent statute; challenging the patent statute itself as contrary to the First Amendment may be a very different matter than challenging a given patent as contrary to the First Amendment. As I have suggested above, individual patents constrain speech according to the scope of their particular claims, and might impermissibly constrain speech even if the underlying patent statute is constitutionally sound in much the same way that a given parade permit or an injunction, issued pursuant to a certain regulatory scheme, might impermissibly violate the First Amendment, even if the underlying regulatory scheme is sound. Alternatively, the underlying regulatory scheme may be constitutionally impermissible, so that any permit, injunction, or patent issuing from it is likewise tainted.

Constitutional jurisprudence provides for challenges both at the level of the regulatory scheme and at the level of specific instances of regulation, distinguishing between challenges that are facial and challenges as-applied. The former claims that a given statute is unconstitutional under all circumstances; the latter claims that the statute is unconstitutional in relation to a given plaintiff's set of circumstances. Where the First Amendment is concerned, this has led to the development of an additional type of overbreadth facial challenge.<sup>250</sup> Statutes are said to be overbroad when they may chill or deter speech not before the court; that is, when a plaintiff can point to concrete or plausible detrimental effects of the statute on others besides herself. Because of the difficulty of crafting a regulation that reaches

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249. See, e.g., *id.*; Michael D. Frakes & Melissa F. Wasserman, *Does the U.S. Patent and Trademark Office Grant Too Many Bad Patents?: Evidence from a Quasi-Experiment*, 67 STAN. L. REV. 613 (2015); Mark A. Lemley, *Can the Patent Office Be Fixed?*, 15 MARQ. INTELL. PROP. L. REV. 295 (2011); Mark Lemley, Doug Lichtman & Bhaven Sampat, *What To Do About Bad Patents?*, REG., Winter 2005–2006, at 10; Jonathan Masur, *Patent Inflation*, 121 YALE L.J. 470 (2011); R. Polk Wagner, *Understanding Patent-Quality Mechanisms*, 157 U. PA. L. REV. 2135 (2009).

250. *United States v. Stevens*, 559 U.S. 460 (2010)

only unprotected speech, and does not burden any protected speech, the Supreme Court has required a showing of *substantial* overbreadth for facial successful challenges. It is not enough to show that some protected speech may be affected by a regulation; the facial challenger must show significant social costs imposed under the terms of regulation.

A facial challenge is proper, for example, where a licensing scheme gives “unbridled discretion” to approve or disapprove of expressive activity, due to the potential for tacit approval or disapproval on the basis of favored or disfavored content.<sup>251</sup> In one sense, patent grants are not unbridled: the grant of patents by the Patent Office is constrained by the substantive and procedural requirements to obtain a patent. But these constraints have little to do with the expressive content that may be entailed within patent claims; governmental discretion in that regard is essentially unconstrained outside the perfunctory subject matter limitations we have noted.<sup>252</sup> And, we have seen that once granted, the patent constitutes a delegation of licensing discretion to private parties, backed by the coercive power of the state.<sup>253</sup> Discretion to license or not is effectively unbridled, as there is no oversight or procedural constraint on the decision of the patent owner to allow or disallow use of the claimed content so that where patents entail expression, a facial challenge might seem proper.

It might be objected that in the typical First Amendment scenario where speech licensing is a concern, the license contemplates administrative permission to speak,<sup>254</sup> whereas patenting in effect tenders a license *against* speaking; that is, the state confers exclusive rights that prohibit unauthorized speech encompassed by the claims of the patent.<sup>255</sup> Speech by means of the invention is freely allowed if the patent is denied. But this is undoubtedly a distinction without a difference; governmental grants of the right to suppress speech are surely as problematic as government grants of the right to allow speech. While the defaults may be different, either form of the licensing power may be exercised or withheld in order to permit or suppress favored speech. In the case of classic expressive licensing schemes such as permits for parades or demonstrations, the default *prior* to grant of

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251. *Forsyth Cty. v. Nationalist Movement*, 505 U.S. 123, 133 (1992); *Lakewood v. Plain Dealer Publ. Co.*, 486 U.S. 750, 755 (1988)

252. *See supra* notes 86–106 and accompanying text.

253. *See supra* notes 164–80 and accompanying text.

254. *See, e.g., Forsyth Cty.*, 505 U.S. 123 (demonstration permit); *Lakewood*, 486 U.S. 750 (licensing of newspaper racks).

255. *See* Ryan Davis, *Federal Circuit Judge’s Proposed Software Ban Is a Reach*, LAW360 (Oct. 4, 2016, 10:07 PM), <https://www.law360.com/articles/847594/fed-circ-judge-s-proposed-software-patent-ban-is-a-reach> (quoting one attorney’s argument that “[a patent] monopoly on stopping speech will stop less speech than the general market, . . . Patents that stop speech should result in more speech, rather than less.”).

a parade or demonstration permit is silence; but the default *after* the grant of a patent is silence.

Certainly, the rationale for the facial challenge remains the same in either case. The Supreme Court has in the past emphasized that one of the evils of a licensing system is the likelihood of self-censorship by speakers who fear denial of permission to speak.<sup>256</sup> In the case of a patent, such self-censorship is still a concern, although one step removed: while the grant of a patent is not the grant of a license to speak, it is (for expressive patents) the governmental grant of a private entitlement to control speech. A license to speak is then required from the patent holder, on threat of enforcement via the coercive mechanisms of the state. Legitimate speakers who fear the expense related patent enforcement may choose to remain silent, or at a minimum to find safer and possibly less desirable means of expression. This may occur whether the enforcement is justified or unjustified; even if the patent is invalid or un infringed, defending a suit is costly. Alternatively, avoiding potential liability by means of a license burdens the speaker, deterring some speech for which the cost of the patent license and its attendant transactions are deterrent or prohibitive.

#### *E. Vagueness*

The question of patent overbreadth also implicates the closely related constitutional doctrine of vagueness.<sup>257</sup> Stemming from due process considerations, the doctrine requires statutes to be sufficiently definite so that persons of ordinary intelligence can ascertain the meaning of the statute.<sup>258</sup> Although this requirement is most frequently associated with criminal statutes, the Supreme Court has made clear that civil statutes and regulations must similarly give “fair notice” of the permissible range of behavior.<sup>259</sup> From a First Amendment standpoint, vague statutes are most likely to be overbroad, spilling over from regulation of unprotected speech to regulation of adjacent protected speech. Vague statutes are likely to exert a “chilling effect” on protected speech because of the necessity of guessing at the statute’s requirements.<sup>260</sup> And vague statutes are most likely to provide opportunities for governmental overreaching, providing

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256. *Lakewood*, 486 U.S. at 759–60.

257. *Coates v. City of Cincinnati*, 402 U.S. 611 (1971).

258. *Connally v. Gen. Constr. Co.*, 269 U.S. 385, 391 (1926).

259. *See FCC v. Fox Television Stations, Inc.*, 132 S. Ct. 2307, 2317 (2012) (finding agency standard for imposing civil fines unconstitutionally vague).

260. *Reno v. ACLU*, 521 U.S. 844, 871–72 (1997); *Gentile v. State Bar of Nev.*, 501 U.S. 1030, 1048–51 (1991); *Grayned v. City of Rockford*, 408 U.S. 104, 108–09 (1972).

opportunities for suppression of disfavored speech by means of the indefinite statutory language.<sup>261</sup>

At the same time, patent law has its own set of vagueness doctrines, related to the definiteness of claims under section 112 of the patent statute. Section 112 requires claims that distinctly point out and particularly claim the rights related to the invention.<sup>262</sup> Such claims must communicate with “reasonable certainty” the boundaries of the patent holder’s rights.<sup>263</sup> As in constitutional vagueness, claim definiteness is meant to put the public on notice as to what conduct is proscribed, that is, what technology is off limits by means of the patent.<sup>264</sup> Claim definiteness is also intended to keep the patent holder honest, deterring overreaching beyond the limits of the patent grant under cover of vague language.

So at first blush, it might seem that patent law’s requirements for claim definiteness might ameliorate problems of First Amendment vagueness, and possibly overbreadth, with regard to individually issued patents. Individual patents that failed to meet the requirements of claim definiteness might be unconstitutionally vague, but would be invalid in any case. Staying within the requirement of section 112 claim definiteness might shield individual patents from vagueness problems, and the vagueness or overbreadth of the patent statute itself would be no different than that of any legislative enactment.

But in fact patent law’s requirements are mismatched to the constitutional concern, and may in fact exacerbate them.<sup>265</sup> The claims of a patent are not written to be understood by ordinary speakers; patent claims are instead expected to be comprehensible to the “person having ordinary skill in the art,” or “PHOSITA,” a sort of fictional embodiment of the knowledge and skill attributable to the relevant technical community.<sup>266</sup> In fact, patent claims are likely to be incomprehensible to technicians, and understood only by patent law specialists.<sup>267</sup> But in any event they are certainly not comprehensible to the lay reader, nor are they intended to be. Neither does the law require lay comprehension.<sup>268</sup> As a consequence, the

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261. *Grayned*, 408 U.S. at 109.

262. 35 U.S.C. § 112(b) (2018).

263. *Nautilus Inc. v. Biosig Inst. Inc.*, 134 S. Ct. 2120 (2014).

264. *Permutt v. Graver Corp.*, 284 U.S. 52, 60 (1931).

265. Hat tip to Elvin Lee for this insight.

266. *Evans v. Eaton*, 20 U.S. (7 Wheat.) 356, 433–34 (1822).

267. See *Burk & Reymann*, *supra* note 138, at 182–83 (showing that patent texts are accessible only to an insular class of specialist readers).

268. *Gen. Elec. Co. v. Wabash Appliance Corp.*, 304 U.S. 364, 371 (1938); see also John O. Tresansky, *PHOSITA-The Ubiquitous and Enigmatic Person in Patent Law*, 73 J. PAT. & TRADEMARK OFF. SOC’Y 37, 54 (1991) (describing the §112 characteristics of the person having ordinary skill in the art).

lay speaker, preparing to engage in constitutionally protected expression, is unlikely to glean from the patent any notice as to whether her actions may be subject to infringement penalties.

This potential for a vagueness challenge is further enhanced by the statutory standard set for infringement liability. The Supreme Court's vagueness doctrine indicates that an ameliorating factor that may disincline the courts to apply vagueness to a statute is the presence of a scienter requirement, which may tend to shield actors who do not know or understand the statutory consequences of their conduct from those very consequences.<sup>269</sup> Significantly, private enforcement of rights that burden speech similarly require heightened mens rea.<sup>270</sup> But this is not the case for patent liability.<sup>271</sup> Patent infringement is generally viewed as a strict liability offense;<sup>272</sup> the statute specifies no scienter requirement for direct infringement,<sup>273</sup> and indeed innocent infringement seems to be the norm.<sup>274</sup> Thus the statute does not relieve unwitting speakers from running afoul incomprehensible patent text, and the statute's strict liability scheme points *toward* vagueness, not away.

#### F. *Least Restrictive Means*

Finally, both intermediate and strict scrutiny are couched in terms of narrow tailoring, although this means something quite different in the respective levels of scrutiny—under intermediate scrutiny, narrow tailoring entails crafting the regulation so as to curtail no more speech than necessary to achieve the government's legitimate ends.<sup>275</sup> But under the more stringent narrow tailoring prong of strict scrutiny, regulations are judged as to whether they constitute the *least restrictive* means of achieving the compelling governmental interest.<sup>276</sup> If there are available alternative methods to fully achieve the same ends that would restrict only conduct rather than speech, or would limit rather than entirely prohibit speech,<sup>277</sup> then those means should have been employed. The narrow tailoring

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269. *Vill. of Hoffman Estates v. Flipside, Hoffman Estates, Inc.*, 455 U.S. 489, 499 (1982); *Colautti v. Franklin*, 439 U.S. 379, 395 (1979).

270. *N.Y. Times Co. v. Sullivan*, 376 U.S. 254, 279–80 (1964).

271. ROGER E. SCHECHTER & JOHN R. THOMAS, *PRINCIPLES OF PATENT LAW* 275 (2004) (“A defendant’s intent is irrelevant to the outcome of an infringement inquiry.”).

272. Mark A. Lemley, *Should Patent Infringement Require Proof of Copying?*, 105 MICH. L. REV. 1525, 1525 (2007).

273. 35 U.S.C. § 271(a) (2018).

274. Christopher A. Cotropia & Mark A. Lemley, *Copying in Patent Law*, 87 N.C. L. REV. 1421 (2009) (finding little evidence of copying by accused patent infringers).

275. *Ward v. Rock Against Racism*, 491 U.S. 781, 799 n.6 (1989).

276. *Reno v. ACLU*, 521 U.S. 844, 874 (1997).

277. *Sable Commc’ns of Cal., Inc. v. FCC*, 492 U.S. 115, 129–30; *Boos v. Barry*, 485 U.S. 312, 326–29 (1988).

standard also requires that the challenged regulation must advance the compelling interest;<sup>278</sup> the Court's decisions indicate that the state need not prove this relationship empirically, but may rely on common-sense judgement as to the connection between the two.<sup>279</sup> Finally, the regulation must not be overinclusive, in the sense of restricting significant speech that lies outside the government's compelling interest.<sup>280</sup>

If one is truly serious regarding the requirement for "least" restrictive means, it seems quite possible that the patent system as presently constituted might fail. Even under intermediate scrutiny Congress "must demonstrate that the recited harms are real, not merely conjectural, and that the [content] regulation will in fact alleviate these harms in a direct and material way."<sup>281</sup> Patents are intended to promote progress, and to do so through exclusivity, which imposes restrictions on speech. But there is little evidence to show that patents in fact further this goal,<sup>282</sup> and in some industries it appears likely that patents actually impede innovation more than they promote it.<sup>283</sup>

Additionally, recent scholarship has explored in some detail the alternative systems that might be used to promote innovation without resorting to restrictive exclusivity.<sup>284</sup> Although details regarding the exact degree of efficacy and efficiency of these alternatives remain debated, it appears quite feasible that systems of prizes,<sup>285</sup> or buyout systems,<sup>286</sup> could be developed that would equally well promote innovation without necessarily granting exclusive rights. Other scholars have similarly

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278. Meyer v. Grant, 486 U.S. 414, 426 (1988).

279. Burson v. Freeman, 504 U.S. 191, 206 (1991).

280. *Sable Commc'ns*, 492 U.S. at 126.

281. Turner Broad. Sys., Inc. v. FCC, 512 U.S. 622, 664 (1994).

282. Mark A. Lemley, *Faith-Based Intellectual Property*, 62 UCLA L. REV. 1328 (2016) (summarizing empirical studies on patent efficacy).

283. JAMES BESEEN & MICHAEL MEURER, *PATENT FAILURE: HOW JUDGES, BUREAUCRATS, AND LAWYERS PUT INNOVATORS AT RISK* (2008).

284. See, e.g., Rochelle Cooper Dreyfuss, *Does IP Need IP? Accommodating Intellectual Production Outside the Intellectual Property Paradigm*, 31 CARDOZO L. REV. 1437 (2010); see also Lemley, *supra* note 282, at 1331 (noting there is little empirical evidence that patents or other intellectual property laws in fact promote innovation).

285. Michael Abramowicz, *Perfecting Patent Prizes*, 56 VAND. L. REV. 115, 172–73 (2003); Michael J. Burstein & Fiona E. Murray, *Innovation Prizes in Practice and Theory*, 29 HARV. J.L. & TECH. 401, 402 (2016); Fiona Murray et al., *Grand Innovation Prizes: A Theoretical, Normative, and Empirical Evaluation*, 41 RES. POL'Y 1779 (2012); Steven Shavell & Tanguy van Ypersele, *Rewards Versus Intellectual Property Rights*, 44 J.L. & ECON. 525 (2001); Joseph E. Stiglitz, *Economic Foundations of Intellectual Property Rights*, 57 DUKE L.J. 1693 (2008); Heidi Williams, *Innovation Inducement Prizes: Connecting Research to Policy*, 31 J. POL'Y ANALYSIS & MGMT. 752 (2012).

286. Michael Kremer, *Patent Buyouts: A Mechanism for Encouraging Innovation*, 113 Q.J. ECON. 1137 (1998).

explored the range of legislative options, from tax credits to grants<sup>287</sup> to regulatory penalties<sup>288</sup> that can be and often are deployed in order to promote innovation, again without the grant of exclusivity. In short, there seems to be ample room for less restrictive, or even non-restrictive mechanisms to achieve the desired goal of innovation incentive.

Alternatively, even if we were to decide either that offering exclusivity to promote innovation is the constitutionally preferred approach, or that Congress may decide that patent exclusivity seems likely to be at least as effective as prizes or tax credits, then we might still be left with the concern that the current patent system is not the least restrictive *patent system* available. There is no particular reason that the patent system must exist in exactly the form in which we now observe it. Here Judge Mayer's critique has some traction; a less restrictive system might be achieved within the current system by adaptation and enforcement of existing doctrines. To the extent that current patent doctrines permit unnecessary exclusivity over expression, or to the extent that the statute lacks robust "fair use" exemptions that might accommodate expressive freedom, the patent system may be more restrictive than needed to promote innovation.

Neither should we assume that, even were it structured so as to accommodate some expression, patenting is necessarily the least restrictive means to accomplish the promotion of progress in all fields. Congress has used other intellectual property systems to promote innovation in some fields, such as including software within copyright. Indeed, Congress has on occasion provided exclusive rights besides patents to promote certain types of investment in innovation.<sup>289</sup> To the extent that an alternative system such as copyright incorporates the "traditional contours" doctrines that the Supreme Court believes safeguard freedom of expression, it may be that restricting subject matter such as software to copyright offers the less restrictive means that strict scrutiny requires.

Of course, in the context of considering the relation of copyright to the First Amendment, the Supreme Court has held "that it is generally for Congress, not the courts, to decide how best to pursue the Copyright Clause's objectives"<sup>290</sup> and it may be that the Supreme Court would be

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287. Daniel Jacob Hemel & Lisa Larrimore Ouellette, *Beyond the Patents-Prizes Debate*, 92 TEX. L. REV. 303, 310–25, 351–52 (2013); Benjamin N. Roin, *Intellectual Property Versus Prizes: Reframing the Debate*, 81 U. CHI. L. REV. 999, 1045–61 (2014).

288. Ian Ayres & Amy Kapaczynski, *Innovation Sticks: The Limited Case for Penalizing Failure to Innovate*, 82 U. CHI. L. REV. 1781 (2015); see also Dan L. Burk, *Perverse Innovation*, 58 WM. & MARY L. REV. 1 (2016) (discussing statutory loophole design to promote innovation).

289. See Orphan Drug Act, 96 STAT. 2049. Some commentators have questioned whether such uses of exclusivity outside the limits of the Intellectual Property Clause are in fact constitutional. See, e.g., John Flynn, *The Orphan Drug Act: An Unconstitutional Exercise of the Patent Power*, 1992 UTAH L. REV. 389 (1992).

290. *Eldred v. Ashcroft*, 537 U.S. 186, 212 (2003).



similarly reluctant to second-guess Congress as to the means permissible to promote patentable innovation. But least restrictive means evaluation almost requires courts to second-guess legislative determinations, and we have already distinguished copyright from patent in the lack of any of the Court's "traditional contours" exceptions.<sup>291</sup> It is moreover a little difficult to take this elision seriously on its face; the Constitution also commits to Congress decisions as to how best to pursue the objectives entailed in its other enumerated powers, but the Court has never hesitated to issue constitutional corrections when the Commerce or Tax or Bankruptcy powers have been misused, and certainly not when Congressional decisions exceed the limits imposed in the Bill of Rights. Once strict scrutiny is invoked it is the business of the courts to determine whether Congress's decisions impose an impermissible burden on expressive rights.

For that matter, to the extent that the Patent Office improperly issues patents that restrict expression, that could or should be barred by the *Alice* test, it may be the *administration* of the patent system that is overly restrictive, even if the underlying statute is thought to be designed as a least restrictive means. As suggested by the overbreadth discussion above, any given patent that is improperly issued is by definition overly restrictive. Once again, just as an unconstitutionally broad anti-demonstration injunction might be based upon a constitutionally acceptable time, place and manner statute, so an unconstitutional individual patent might be based upon a constitutionally acceptable patent statute. Whether or not Congress has satisfied the First Amendment by selecting the least speech restrictive means to promote innovation generally, it may be that courts need to examine individual patents to determine if they are the least restrictive grant of exclusivity to accomplish Congress's goals for a *particular* innovation.

Scrutiny at the level of the individual patent would require courts to assess whether any given patent is the "least restrictive" patent, or in other words, whether narrower claims could be drawn to offer an incentive without reading on protected speech. This might seem onerous or infeasible for generalist courts to assess such technical language, comparing it to technical alternatives, and essentially second-guessing the determination of the Patent Office. But courts already routinely do exactly this, parsing patent claims to determine whether they are overly broad for patent purposes, for example, to determine if they read on prior art that cannot be legitimately claimed as novel or non-obvious by the patent holder. As long as the judge is construing claims for patentability, it may be that she should simultaneously assess the claims in speech-oriented patents for overbroad

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291. See *supra* notes 122–24 and accompanying text.

claims that read on expressive content or activity and that constitute an impermissible intrusion on protected speech.

#### CONCLUSION

As I said at the outset, my goals in the article are in some senses relatively modest. From the First Amendment perspective, I have proposed no new doctrines; I have advocated no change in existing doctrines. I have merely applied existing First Amendment jurisprudence in an unfamiliar setting. My analysis suggests that neither the patent system as a whole, nor entire categories of patents, such as software patents, necessarily constitute impermissible intrusions on free speech. I would fully expect many, and likely most patents, to pass First Amendment muster when subjected to the First Amendment scrutiny. Not all information technology patents implicate First Amendment concerns; not all patentable subject matter concerns involve the First Amendment; not all free speech concerns related to patents would be solved by solving the problems related to patentable subject matter or to improvidently issued software patents.

But I have also shown that the patent system is by no means free of First Amendment entanglements. The analysis outlined here should make clear that the constitutional acceptability of many—or even most—patents does not excuse them from scrutiny when the right to expression is implicated. Neither will all patents stand up to careful First Amendment scrutiny. The implications of my analysis are therefore anything but modest: my analysis indicates that we have for decades tolerated—in fact, ignored—substantial burdens on the expressive constitutional rights of the public. And this means from the patent perspective that *both* the policy and the doctrinal implications are stark; my argument here charts at minimum a new course to challenge the validity of thousands of issued patents and may possibly challenge the current structure of the patent statute itself.

Recognition of this truth in Judge Mayer's *Intellectual Ventures* concurrence is perhaps analytically inelegant, and likely conflates several different concerns regarding patents in the information technology space; nonetheless, his general point is unquestionably correct. Patents now more than ever implicate and potentially impede the expressive guarantees of the First Amendment. Much of my purpose here has been to translate Judge Mayer's insight into doctrinal analyses and to point out the areas of contact and potential conflict between patents and expressive freedom.

I fully expect what I have said to be the beginning of a robust discussion, not the end. First Amendment doctrines are nuanced and complex; the jurisprudence and commentary on free speech is vast. I have only given the barest outline of how the patent system may fare when expressive concerns

are taken seriously. There unquestionably remains much still to be said about each of the doctrines I have mentioned here. And while legislative intervention may be desirable, the unfortunate reality of legislative dynamics means that realistically any hope for a solution must begin with the courts.<sup>292</sup> The existing patent exceptions such as the printed matter doctrine, or Judge Mayer's favored subject matter exceptions, are judicial creations not found in the patent statute. Such doctrines are the most readily adapted and available tools to avoid the inevitable clash between patents and the First Amendment.

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292. *Cf.* DAN L. BURK & MARK A. LEMLEY, *THE PATENT CRISIS AND HOW THE COURTS CAN SOLVE IT* 105–06 (2009) (describing why legislative attention to the patent statute is both rare and risky).