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### Notice and Patent Remedies

Herbert J. Hovenkamp

*University of Pennsylvania Carey Law School*

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# Texas Law Review

## *See Also*

Response

Notice and Patent Remedies

Herbert Hovenkamp\*

Private enforcement systems such as the one for patents have two distinct and potentially conflicting goals. One goal is compensation of victims, mainly patentees whose rights have been trespassed.<sup>1</sup> The other goal is deterrence or punishment of violators, who are mainly patent infringers.<sup>2</sup> While the Patent Act measures the *amount* of compensation as the plaintiff's losses,<sup>3</sup> this language does not exclude deterrence as an enforcement goal. In comparison, antitrust law's Clayton Act also measures damages by a plaintiff's losses.<sup>4</sup> Nevertheless, the Supreme Court has repeatedly held that deterrence is an important goal of the private antitrust damages system.<sup>5</sup>

Because private litigation dominates patent enforcement, we cannot rely on a system such as the one for criminal law, where public enforcement tries

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\* Ben V. & Dorothy Willie Professor of Law, University of Iowa.

1. See Edward V. Filardi, *The Adequacy of Compensation for Patent Infringement—An Analysis of Monetary Relief Under 35 U.S.C. § 284*, 3 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 57, 58 (1992) (explaining that the tort theory of compensation underlies patent enforcement).

2. See Gary S. Becker & George J. Stigler, *Law Enforcement, Malfeasance, and Compensation of Enforcers*, 3 J. LEGAL STUD. 1, 3–5 (1974) (examining the relationship between the quality of enforcement and the effectiveness of laws); Mark A. Cohen & Paul H. Rubin, *Private Enforcement of Public Policy*, 3 YALE J. ON REG. 167, 168–69 (1985) (suggesting that shifting the enforcement of public policy from agencies to private enforcers would increase efficiency); William M. Landes & Richard A. Posner, *The Private Enforcement of Law*, 4 J. LEGAL STUD. 1, 4–10 (1975) (evaluating their proposed economic model of private enforcement by its deterrent effects). On patents in particular, see SUZANNE SCOTCHMER, *INNOVATION AND INCENTIVES* 206 (2004).

3. 35 U.S.C. § 284 (2006).

4. See 15 U.S.C. § 15(a) (2006) (stating that the plaintiff “shall recover threefold the damages by him sustained”).

5. See, e.g., *Blue Shield of Va. v. McCready*, 457 U.S. 465, 472 (1982) (“Congress sought to create a private enforcement mechanism that would deter violators and deprive them of the fruits of their illegal actions, and . . . provide ample compensation to the victims . . .”); *Am. Soc’y Mech. Eng’rs, Inc. v. Hydrolevel Corp.*, 456 U.S. 556, 575 (1982) (describing one purpose of treble damages as “deter[ring] future antitrust violations”).

to attain the optimal level of deterrence and a largely separate tort system compensates victims.<sup>6</sup> In systems dominated by private enforcement, remedies perform the very “public” function of determining the optimal amount of protection and deterrence. If every patent was properly granted and had just the right scope to incentivize innovation, then enforcing them strictly and with harsh penalties would not be a bad idea. But in the world we actually have, where we very likely grant too many patents on trivial improvements and too many are of excessive scope,<sup>7</sup> nothing is so simple. The expected likelihood and magnitude of the penalty determines the number of infringement suits and the litigation resources that will be poured into them.<sup>8</sup> Remedies for patent infringement are thus an important policy lever for determining the correct amount of innovation, which is the underlying goal of the patent system.<sup>9</sup> Penalties that are too stingy reduce patent protection just as much as shorter patent terms, severely heightened requirements for nonobviousness, or very narrow claim construction. By contrast, penalties that are too broad enlarge patent protection in the same way. If the availability of an injunction or the size of a damages award is too threatening, efficient and at least some noninfringing innovations by third parties will be deterred.<sup>10</sup>

Patent law’s remedial system serves as both a complement and a balance to the patent-issuance system. The strategy of drafting patent applications is to claim as broadly as possible.<sup>11</sup> The government patent

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6. Gary S. Becker, *Crime and Punishment: An Economic Approach*, 76 J. POL. ECON. 169, 180–81 (1968).

7. See Katherine J. Strandburg et al., *Patent Citation Networks Revisited: Signs of a Twenty-first Century Change?*, 87 N.C. L. REV. 1657, 1671–72 (2009) (suggesting that a decreasing patentability standard resulted in a larger portion of trivial, less citable patents).

8. See A. Mitchell Polinsky & Steven Shavell, *The Optimal Tradeoff Between the Probability and Magnitude of Fines*, 69 AM. ECON. REV. 880, 881 (1979) (listing factors that determine the weight of a fine); George J. Stigler, *The Optimum Enforcement of Laws*, 78 J. POL. ECON. 526, 527 (1970) (“The offender is deterred by the expected punishment, which is . . . the probability of punishment times the punishment.”).

9. On the goals of the patent system, see generally DAN L. BURK & MARK A. LEMLEY, *THE PATENT CRISIS AND HOW THE COURTS CAN SOLVE IT* 7–20 (2009); Christina Bohannon & Herbert Hovenkamp, *IP and Antitrust: Reformation and Harm*, 51 B.C. L. REV. 905, 909 (2010) (“No legal policies are more important for innovation, competition, and economic development than the . . . intellectual property (“IP”) laws.”).

10. See James Gibson, *Risk Aversion and Rights Accretion in Intellectual Property Law*, 116 YALE L.J. 882, 929–30 (2007) (arguing that the costliness of patent litigation, “supracompensatory damages,” and injunctions lead to risk aversion). On copyright, see Christina Bohannon, *Taming the Derivative Works Right: A Modest Proposal for Reducing Overbreadth and Vagueness in Copyright*, 12 VAND. J. ENT. & TECH. L. 669, 688 (2010) (“The predictable result [of uncertainty] is overdeterrence, as [copyright] users tend to wilt in the face of threats of liability, however dubious.” (quoting David Fagundes, *Crystals in the Public Domain*, 50 B.C. L. REV. 139, 152 (2009))).

11. See HOWARD SKAIST, *STRATEGIC PATENT CLAIM DRAFTING* (forthcoming 2012); Drew Harris et al., *Strategies for Resolving Patent Disputes over Nanoparticle Drug Delivery Systems*, 1 NANOTECH. L. & BUS. 372, 376 (2004) (“The first way to resolve a patent dispute is to prevent it

examiner then culls out obvious inventions or those that are already available to the public, or those claims that go beyond what the applicant actually invented.<sup>12</sup> Unfortunately, the playing field is not level. Applicants often put many resources into the drafting of patent applications. On the other side, applications are evaluated in largely *ex parte* proceedings by overworked government officials who devote far fewer than the optimal number of hours to each application.<sup>13</sup> Indeed, the number of hours devoted to patent examination is undoubtedly far fewer than the number of hours devoted to the mere drafting of a civil complaint in a moderately complex case. It is no wonder that so many issued patents, once litigated, are found invalid.<sup>14</sup>

Such a system of patent issuance is not well designed to encourage the optimal amount of innovation, but the remedial system can serve as a partial corrective. An optimal system of patent remedies would deter infringements when the infringing activity, measured *ex ante*, serves as a deterrent to innovation, but no more.<sup>15</sup> The problem is roughly akin to the one encountered in antitrust law. As a result of overly aggressive substantive rules, many antitrust violations are also economically efficient.<sup>16</sup> Given that the vast majority of antitrust enforcement is private, the judicial response has been to alter the remedial system by limiting both the range of private plaintiffs who are entitled to obtain remedies and the conditions for obtaining them.<sup>17</sup>

The patent-remedies system also serves to correct patent overreaching in a number of ways. First, the litigants in infringement litigation spend a far

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from happening in the first place by having broad, clearly described patents that box out the competition.”).

12. *E.g.*, ALAN L. DURHAM, *PATENT LAW ESSENTIALS: A CONCISE GUIDE* 31 (2004).

13. *See* BURK & LEMLEY, *supra* note 9, at 15 (stating that overworked patent officials spend approximately eighteen hours per application).

14. A high percentage of litigated patents are found invalid, although the percentage has decreased since the formation of the Federal Circuit Court of Appeals. WILLIAM M. LANDES & RICHARD A. POSNER, *THE ECONOMIC STRUCTURE OF INTELLECTUAL PROPERTY LAW* 338 (2003); *see also* Mark A. Lemley & Carl Shapiro, *Probabilistic Patents*, 19 J. ECON. PERSP. 75, 76 (2005) (“[R]oughly half of litigated patents are found invalid.”); Matthew Henry & John L. Turner, *The Court of Appeals for the Federal Circuit’s Impact on Patent Litigation* 1, 29–30 (Jan. 2005), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=713622](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=713622) (finding that the Federal Circuit finds a higher percentage of patents valid but a smaller percentage to be infringed).

15. *Cf.* Christina Bohannon, *Copyright Harm, Foreseeability, and Fair Use*, 85 WASH. U. L. REV. 969, 970 (2007) (arguing that optimal copyright fair-use rules would find violations where infringement reduced *ex ante* incentives to innovate).

16. HERBERT HOVENKAMP, *FEDERAL ANTITRUST POLICY: THE LAW OF COMPETITION AND ITS PRACTICE* § 17.1 (3d ed. 2005); *see also* WILLIAM BREIT & KENNETH G. ELZINGA, *ANTITRUST PENALTY REFORM: AN ECONOMIC ANALYSIS* 36–42 (1986) (describing three economic inefficiencies associated with the private treble-damage suits); William M. Landes, *Optimal Sanctions for Antitrust Violations*, 50 U. CHI. L. REV. 652, 653 (1983) (“The concept of an efficient violation is the key to determining the optimal antitrust penalty.”). *See generally* Oliver E. Williamson, *Economies as an Antitrust Defense: The Welfare Tradeoffs*, 58 AM. ECON. REV. 18 (1968) (discussing balancing economic efficiency with following regulations in the merger context).

17. *See* Bohannon & Hovenkamp, *supra* note 9, at 912–13 (describing more stringent standing, pleading, and proof requirements, among others, and a decreased use of *per se* rules).

greater amount of time and resources than the patent examiner does.<sup>18</sup> Second, the Supreme Court made clear in its *eBay*<sup>19</sup> decision that injunctions against infringers are not a matter of right and must be addressed under the same equitable principles that apply to other requests for injunctive relief.<sup>20</sup> Third, the Federal Circuit has recently shown a welcome set of concerns about lack of strictness in the measurement of patent-infringement damages.<sup>21</sup>

In his provocative article on patent remedies,<sup>22</sup> Professor Golden lists five principles, which he characterizes as: (1) nonabsolutism in the formulation and application of legal doctrine; (2) antidiscrimination with respect to business models; (3) learning (i.e., an interest in fostering the production of useful information); (4) administrability; and (5) devolution of significant decisional responsibility to private or government actors nearest to the facts of an individual case.<sup>23</sup> His proposals are thoughtful and well defended, but I would add one additional principle: notice. Specifically, *remedies must be administered so as to encourage optimal and timely private disclosure as well as optimal, cost-justified private search*. The principle is especially relevant to questions about entitlement to an injunction, but it also applies to the measurement of damages in patent-infringement cases.

An effective property-rights regime requires a reliable, cost-effective system for providing notice, as well as the right set of incentives for responding to notice once it is given. Notice serves the same purpose in the patent system as in our system of land ownership. It is socially wasteful for developers to build condominiums or shopping malls only to find out later that the land belongs to someone else who is now in a position to extract a very large penalty. Prior to building, the developer may have had a competitive choice of parcels, but once construction is completed, this market has gone from competitive to bilateral monopoly. The landowner may be able to extract a price equal to the value of the land plus the cost of relocating. For the same reasons, it is socially wasteful for entrepreneurs to

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18. See Jay P. Kesan, *Carrots and Sticks to Create a Better Patent System*, 17 BERKELEY TECH. L.J. 763, 765–66 (2002) (“[T]he amount of time the Patent Office spends examining a patent application . . . is approximately the same as the amount of time an attorney may spend searching for relevant prior art in the first week of a patent litigation.”).

19. *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388 (2006).

20. *Id.* at 391. On the case for limiting injunction rights for patent infringement, see Daniel A. Crane, *Intellectual Liability*, 88 TEXAS L. REV. 253, 263–69 (2009) (suggesting that permanent injunctions for patent infringement should be discontinued).

21. See, e.g., *Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1338 (Fed. Cir. 2009); *Grain Processing Corp. v. Am. Maize-Prods. Co.*, 185 F.3d 1341, 1351 (Fed. Cir. 1999); cf. *i4i Ltd. P’ship v. Microsoft Corp.*, 598 F.3d 831, 856–59 (Fed. Cir. 2010) (discussing the reasonableness of the damages award); Mark A. Lemley, *Distinguishing Lost Profits from Reasonable Royalties*, 51 WM. & MARY L. REV. 655, 658 & n.16 (2009) (referring to the Federal Circuit’s stricter approach to measuring lost profits).

22. John M. Golden, *Principles for Patent Remedies*, 88 TEXAS L. REV. 505, 551–68 (2010).

23. *Id.* at 551–68.

develop new processes or products only to discover later that they have run afoul of claims in someone else's patent.

Effective notice systems generally require collaboration by government officials and private-market participants. The system for land depends on a publicly run recording system in which nearly all of the work of describing, placement, and searching is done by the private participants in land transactions.<sup>24</sup> Further, shortfalls in that system are supplemented by notice created by "possession" or visible occupancy or use.<sup>25</sup> One characteristic of property notice systems is that when the quality of the recording system is high, relatively less nonrecord notice is needed.<sup>26</sup> By contrast, if the recording system operates poorly, then participants who do not want to lose their investments must compensate by providing additional notice themselves. A second important principle of notice is that the duty to provide or obtain it must generally be imposed on the person who can do so at the lowest cost.<sup>27</sup> Giving notice of one's own property rights is often far cheaper than searching for the possible but uncertain rights of others. The owner of the right knows what she has and need only communicate it to likely trespassers, whom are often knowable as well. By contrast, the searcher is looking for something that may or may not exist and that may be difficult to find. We could go a long way toward improving the patent notice system by focusing the inquiry not on whether the patentee complied with the law, but rather on whether the patentee gave adequate and timely notice under the circumstances.

The real-property notice system, which is less costly and far more reliable than the patent notice system, imposes significant duties on private parties. First, the drafter of a deed has a duty to draft clearly without the intervention of a government decision maker. The penalty for lack of clarity about boundaries or other essential elements is that the deed may fail to pass any title whatsoever.<sup>28</sup> The message this conveys to drafters is powerful: get

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24. *See* *Gates Rubber Co. v. Ulman*, 262 Cal. Rptr. 630, 635–36 (Cal. Ct. App. 1989) (holding that a subsequent purchaser had constructive notice of a recorded lease but not of an unrecorded option to purchase given with the lease).

25. *See, e.g., id.* at 366 (requiring that, for possession to impart notice on subsequent purchasers, it must be open, notorious, exclusive, visible, and inconsistent with the record title); *see also* RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* 78 (6th ed. 2003) (commenting generally on the role of adverse possession).

26. *See Gates Rubber Co.*, 262 Cal. Rptr. at 636 (noting that for recorded instruments, subsequent purchasers have constructive notice from the record itself, but for unrecorded instruments, subsequent purchasers must have actual knowledge or constructive notice of the instrument).

27. SHELDON F. KURTZ & HERBERT HOVENKAMP, *CASES AND MATERIALS ON AMERICAN PROPERTY LAW* 1221 (5th ed. 2007).

28. *See, e.g., In re Poteat*, 176 B.R. 734, 740 (Bankr. D. Del. 1995) (holding that an inadequate description rendered a mortgage deed invalid); *Mitchell v. Thomas*, 467 So. 2d 326, 329 (Fla. Dist. Ct. App. 1985) (nullifying a conveyance due to an insufficient legal description). A narrow exception exists for clear mistakes, such as where the drafter of the deed described a different parcel than the one the parties agree upon. In such cases the court will admit parol evidence and reform

it right the first time. You cannot negotiate and renegotiate with the clerk about the description because the clerk does not care. The accuracy of the description will come up, if at all, only at the time of a subsequent conveyance or litigation.

The common law system of notice also discourages inefficient trespasses by rules concerning *where* or *how* property rights should be recorded. For example, problems result from “incorporeal” interests such as use restrictions or easements that affect more than one chain of title. Such interests are similar to patents in that visible markings on the land may not provide evidence of their existence. Suppose that O owns several lots and sells lot #1 to A. To sweeten this deal, O promises to place a restrictive covenant on lot #2 across the street, which O also owns, assuring A that #2 will never be used for commercial purposes. Buyer A records his deed in the chain of title for lot #1 but not in the chain of title for lot #2, which is not part of the conveyed land. Several years later O sells lot #2 to B, making no mention of the covenant, and B begins building a store on the land. When sued, B claims that she is a bona fide purchaser without notice of the restriction because it was not recorded in her chain of title to lot #2.

Most decisions protect B’s status as a bona fide purchaser without notice,<sup>29</sup> and for good reason. When A purchased his lot, he acquired a property interest in two parcels: the possessory interest in lot #1 and the building-restriction interest in lot #2. At little additional cost, A could have recorded his interest in both chains of title, and any purchaser in either chain would have found the interest in a title search. By contrast, B is in a much different situation. She is purchasing lot #2 and will certainly do a title search on that lot. But not knowing of other possible restrictions, she would have to search the titles of perhaps a dozen parcels around lot #2 in order to discover whether any of them owned servitudes imposed upon lot #2. The sensible rule is that where recording is much cheaper than searching, the burden must be placed on the recorder. Further, when interests are not recorded, the owner’s duty to provide alternative kinds of notice is correspondingly expanded. For example, many short-term leases are not recorded and may not be evidenced by obvious acts of possession. In that

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the deed if necessary. *See, e.g.,* Drake v. Hance, 673 S.E.2d 411, 414 (N.C. Ct. App. 2009) (“If the evidence is strong, cogent, and convincing that the deed, as recorded, did not reflect the agreement between the parties due to a mutual mistake caused by a drafting error, a deed can be reformed.”).

29. *See, e.g.,* Nelson v. Barlow, 179 P.3d 529, 533 (Mont. 2008) (holding that a purchaser is “not required to examine the chain of title to [neighboring] land to discover an alleged easement across his property for the benefits of [the neighbor]”); Witter v. Taggart, 577 N.E.2d 338, 342 (N.Y. 1991) (determining that a restrictive covenant that was not in the chain of title did not burden the property). *Contra* Guillette v. Daly Dry Wall, Inc., 325 N.E.2d 572, 573–74 (Mass. 1975) (upholding deed restrictions even though they did not appear in the chain of title of the burdened property where deed referred to a plan).

case, the lessee's use must give proper *nonrecord* notice to bona fide purchasers.<sup>30</sup>

The patent-recording system offers nothing approaching the reliability of the real-property system.<sup>31</sup> Notwithstanding an extremely technical set of rules for drafting patent claims,<sup>32</sup> we have not come close to developing a language for them that speaks with the same clarity as the language of deed descriptions.<sup>33</sup> The extremely technical nature of claim drafting is actually part of the problem because patent drafters have an incentive to make claims as broad as possible.<sup>34</sup> In very sharp contrast, the drafter of a real-property deed has very little incentive to draft an overly broad or ambiguous description. The likely result will be that the deed will be declared invalid. A closely related problem is that our system for classifying and indexing patent claims is not nearly as reliable as most systems for indexing real-property claims. These problems have led to patent searches that are enormously expensive and also notoriously unreliable<sup>35</sup>—so much so that innovators often have incentives not to search at all and instead accept the risk of subsequent infringement litigation.<sup>36</sup> Imagine a system for giving notice of real-property rights that was so poor that developers found it less risky to ignore the record and build first, finding out only later whether they actually had a clear title.

Some of these problems of cost and uncertainty are inherent in the patent system, or at least are not easily fixable. Ideas are by nature more difficult to delineate and classify than are the boundaries to land. As a result,

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30. See 1426 46 St., LLC v. Klein, 876 N.Y.S.2d 425, 428 (N.Y. App. Div. 2009) (holding that even though the tenant's lease was not recorded, her actual possession of the apartment, evidenced by her residence, precluded summary judgment that the purchaser lacked constructive notice of the unrecorded lease interest); Peck v. A & N Serv. Co., Nos. 86524, 87118, 2006 WL 728757, at \*1 (Ohio Ct. App. Mar. 23, 2006) (similar); Garmon v. Mitchell, 918 S.W.2d 201, 203–04 (Ark. Ct. App. 1996) (holding that the presence of grain bins, which were permitted on the property by an unrecorded lease, were insufficient to put purchaser on notice of the lease).

31. See JAMES BESSEN & MICHAEL J. MEURER, PATENT FAILURE: HOW JUDGES, BUREAUCRATS, AND LAWYERS PUT INNOVATORS AT RISK 46–72 (2008) (finding that the current patent notice system “fares badly” when compared with the notice system of tangible property).

32. See, e.g., ROBERT C. FABER, LANDIS ON MECHANICS OF PATENT CLAIM DRAFTING (6th ed. 2009) (consisting of hundreds of pages of detailed rules and instructions for patent claim drafting).

33. On deed descriptions, see KURTZ & HOVENKAMP, *supra* note 27, at 1159–65.

34. See Dan L. Burk & Mark A. Lemley, *Fence Posts or Sign Posts? Rethinking Patent Claim Construction*, 157 U. PA. L. REV. 1743, 1762–63 (2009) (lamenting the focus on claim language, which encourages patentees to overclaim in the hope of retrospectively claiming ownership over inventions that were not contemplated at the time of patenting); Thomas Chen, *Patent Claim Construction: An Appeal for Chevron Deference*, 94 VA. L. REV. 1165, 1177–78 (2008) (“Patent claims are often intentionally drafted with vague and ambiguous language in order to preserve sufficient maneuverability for future litigation.”).

35. See BESSEN & MEURER, *supra* note 31, at 48–51 (recounting Kodak's costly and unsuccessful inquiry into Polaroid's patents).

36. Mark A. Lemley, *Ignoring Patents*, 2008 MICH. ST. L. REV. 19, 20–22.

the patent-claim-construction reversal rate is very high.<sup>37</sup> But conceding that, patent law would profit by picking up an important point from the law of real property: *when the system of public notice breaks down, owners have a duty to compensate by providing increased timely and effective notice themselves.* Such notice should be reasonably calculated to provide known or likely infringers with the information they need prior to the time that they make a costly, irreversible investment.

The real-property system has no equivalent of the nonpracticing entity (NPE), or “patent troll.” People do not often surreptitiously acquire land, leave it vacant, and then make a surprise announcement of ownership only after someone else has developed it. A routine title search would have uncovered the interest. If the land is described so badly or recorded in such an obscure way that a reasonable search could not locate it, the owner will likely lose title. The patent-troll problem results from two separate failures in the patent notice system. The first has to do with the very considerable cost of doing effective patent searches, particularly in technologically complex areas that are prone to abstraction, and the resulting ambiguity of search results.<sup>38</sup> The second has to do with the fact that unpracticed patents are located only on pieces of paper. Prospective developers cannot examine likely competing products or known processes in order to locate possible infringements. As the Supreme Court once observed, until a “process claim has been reduced to production of a product shown to be useful, the metes and bounds of that monopoly are not capable of precise delineation. It may engross a vast, unknown, and perhaps unknowable area.”<sup>39</sup>

While the problem of unclear patent boundaries is not easily repaired, the law could do much to improve the notice situation. Indeed, the problems of implementing an effective private notice system are far more manageable than repairing claim drafting and construction or the other complex problems of patent interpretation. The law governing “late claiming,” or patent continuations, is one example. Under current law, applicants may add claims to previously filed patent applications, even if those claims are being written on inventions that the applicant has observed being developed by others subsequent to the filing of its application.<sup>40</sup> The logic of this rule is that the

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37. Kimberly A. Moore, Markman *Eight Years Later: Is Claim Construction More Predictable?*, 9 LEWIS & CLARK L. REV. 231, 233, 239 (2005) (finding the reversal rate for appealed claim terms from 1996–2003 to be 34.5%).

38. BESSEN & MEURER, *supra* note 31, at 187–214 (focusing on software as examples of abstract patents).

39. Brenner v. Manson, 383 U.S. 519, 534 (1966).

40. Kingsdown Med. Consultants, Ltd. v. Hollister Inc., 863 F.2d 867, 874 (Fed. Cir. 1988) (“[N]or is it in any manner improper to amend or insert claims intended to cover a competitor’s product the applicant’s attorney has learned about during the prosecution of a patent application.”); *accord* Tex. Instruments Inc. v. U.S. Int’l Trade Comm’n, 871 F.2d 1054, 1065 (Fed. Cir. 1989) (citing *Kingsdown*); *see also* Mark A. Lemley & Bhaven N. Sampat, *Examining Patent Examination* 20 (Stanford Law Sch. Pub. Law & Legal Theory Research Paper Series, Working Paper No. 1485011, 2009), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1485011](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1485011) (asserting that a significant number of

patent's specification, which includes a detailed description, is already on record, at least if the application has been published, and this provides outside inventors with notice. The illogic of that position is that if it is so obvious to outside inventors—who may have to examine hundreds of patents—then why was it not obvious to the patent applicant when the application was originally filed? A significant number of issued patents now claim priority to at least one previously filed patent application by virtue of backdated enforceability to the time of filing.<sup>41</sup> The patent continuation process can go on for many years after an initial patent application is filed.<sup>42</sup> The Patent and Trademark Office (PTO) is aware of the problem and has unsuccessfully tried to limit it.<sup>43</sup>

Late claiming actually threatens appropriate innovation incentives in two ways. First, from the applicant's side, late claims were not drafted and thus presumably not contemplated when the original patent application was filed. As a result, it stretches logic to believe that they were an important part of the incentive to develop the invention in the first place. Recognizing such claims seriously threatens to deliver broader patent protection than is necessary to promote the progress of the useful arts, as the Constitution requires.<sup>44</sup> Second, from the potential infringer's side, late claiming magnifies the patent system's failure to give adequate, timely notice to potential infringers. This induces potential infringers to make investments without knowing the risks, placing patentees in a position to leverage high damage awards. In sum, the current system is perverse to the extent that it rewards rather than penalizes late claiming.

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patentees use continuations to delay the process in order to “modify their applications to track developments in the marketplace”). The Supreme Court responded to a different version of the practice nearly a century ago by denying a patent to someone who had delayed a patent for ten years under rules that permitted a patent application a delay for preparation of a model and then wrote the patent application on technology that was subsequently developed by rivals. *Woodbridge v. United States*, 263 U.S. 50, 52–53, 56 (1923).

41. See PATENTLYO.COM, *Priority Claims in Issued Patents* (July 26, 2009), <http://www.patentlyo.com/patent/2009/07/priority-claims-in-issued-patents.html> (showing that only 31% of patents have no listed priority claims).

42. See Mark A. Lemley & Kimberly A. Moore, *Ending Abuse of Patent Continuations*, 84 B.U. L. REV. 63, 71 (2004) (reporting that original patent applications take, on average, 1.96 years to issue, while patents with at least one continuance take an average of 4.16 years to issue); see also Michael J. Meurer & Craig Allen Nard, *Invention, Refinement and Patent Claim Scope: A New Perspective on the Doctrine of Equivalents*, 93 GEO. L.J. 1947, 1998 (2005) (“[A]n inventor's incentive is not harmed much when, ex post, she is denied patent scope over technology that she did not foresee ex ante.”).

43. See *Tafas v. Doll*, 559 F.3d 1345, 1351, 1364 (Fed. Cir.) (striking down a PTO administrative rule limiting the number of continuation applications and requests for continued examination as inconsistent with the Patent Act), *vacated and reh'g granted*, 328 Fed. App'x 658 (Fed. Cir. 2009). At this writing the Federal Circuit has granted the PTO Director's motion of dismissal after the PTO rescinded the disputed rules; however, it refused to vacate the judgment of the district court, much of whose opinion read PTO rule-making power very restrictively. See *id.* at 1369 (Rader, J., concurring in part, dissenting in part) (discussing PTO rule-making power).

44. U.S. CONST. art. I, § 8, cl. 8.

A good example of the relationship between late claiming and failures in the patent notice system is the *Rambus* case.<sup>45</sup> Rambus surreptitiously wrote claims on its earlier filed patent application which covered technology that was being adopted by a standard-setting organization (SSO) in which it was participating. Because the claims related back to the application date, Rambus acquired an infringement action against members of the SSO. The Court of Appeals for the D.C. Circuit found that the patent was infringed and that Rambus had no duty to disclose because the SSO had not been clear about the disclosure duties that fell upon its members.<sup>46</sup>

But the proper question is not what obligations the SSO imposed, but rather what kind of notice patent law's remedial system should require. Looking from the time the continuation claims were drafted, the likely infringers were members of the SSO, with whom Rambus was closely acquainted. Indeed, Rambus' continuation claims were written precisely to target them. One approach that would do more to incentivize socially beneficial innovation would be to give late claims only prospective effect as of the date the claims were publicized or approved. Given that the Patent Act prescribes that patents relate back to the application date, however, implementing such a rule would apparently require a statutory change.<sup>47</sup>

A more available approach is to require that a patentee drafting late claims provide timely notice to all known and likely prospective infringers. The moment Rambus realized that the technology being discussed by the SSO might infringe a patent it had applied for, it had a duty to warn potential trespassers about the additional claims it was drafting. The duty does not derive from the SSO's subjective expectations, but from the basic fact that a patent is a property interest subject to reasonable property rules about giving timely notice. In this particular case, that duty would have been inexpensive to carry out and could have saved many development resources. Because Rambus was requesting an injunction, no statutory amendment would be necessary; the court could simply use its equity power to deny an injunction to a claimant that failed to provide timely notice. The real property system has done that for nearly two centuries,<sup>48</sup> and the Supreme Court's *eBay* decision permits judges to take equitable considerations into account.<sup>49</sup>

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45. *Rambus Inc. v. Fed. Trade Comm'n*, 522 F.3d 456 (D.C. Cir. 2008).

46. *Id.* at 469; *see also In re Dell Computer Corp.*, 121 F.T.C. 616, 617–19 (1996) (finding that computer manufacturer Dell participated in an SSO and certified that it did not have IP rights on a developing standard when, in fact, it did); *Qualcomm Inc. v. Broadcom Corp.*, 548 F.3d 1004, 1018 (Fed. Cir. 2008) (applying equitable estoppel to enjoin the enforcement of Qualcomm's patent for H.264 products because Qualcomm, misrepresented to the SSO that it was in the process of maintaining continuation applications). For further discussion of the facts and holding of *Rambus*, see 3 PHILLIP E. AREEDA & HERBERT HOVENKAMP, *ANTITRUST LAW* ¶ 712b (3d ed. 2008).

47. *See Tafas*, 559 F.3d at 1360 (holding PTO Rule 78, which limited continuation processes, to be inconsistent with 35 U.S.C. § 120).

48. *Tulk v. Moxhay*, (1848) 41 Eng. Rep. 1143(Ch.) 1143–45 (making enforcement of land restrictions contingent on notice to the purchaser at the time of the purchase). *See also* James Barr

If infringement based on late claims is to be recognized, the remedies system must consider why they were late<sup>50</sup>; however, a rational property rights system must also insist on timely notice to reasonably foreseeable infringers. In *Rambus*, where the patentee was writing claims on technology it actually knew was being contemplated by others, that would have entailed the giving of immediate notice when Rambus decided to write the additional claims. Then others could make informed decisions about how to proceed. This is not a question about the SSO's expectations, as the Federal Circuit concluded, but rather about the kind of notice required by a rational property system.

The patent damages system can also be aligned more closely with proper innovation incentives by metering damages so as to create proper incentives to give and obtain notice. On one side the system already does this. The Patent Act permits enhanced damages for willful infringement, which occurs when the infringer knew or should have known that its technology was infringing.<sup>51</sup> Thus, notice by infringers is a statutory justification for increasing damages. But the system also needs to create better incentives for *patentees* to provide notice to anticipated infringers.

In determining the measure of damages based on a reasonable royalty, the Federal Circuit typically follows a potpourri of factors spelled out in *Georgia-Pacific Corp. v. U.S. Plywood Corp.*,<sup>52</sup> none of which include notice.<sup>53</sup> But notice is just as important here as in the injunction cases if innovation incentives are not to be undermined. A good illustration is the *IP*

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Ames' classic discussion of the problem in J. B. Ames, *Specific Performance For and Against Strangers to the Contract*, 17 HARV. L. REV. 174, 181–82 (1904).

49. *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 391 (2006); see also Bohannon & Hovenkamp, *supra* note 9, at 60–66 (summarizing *eBay* and exploring its impact).

50. See Bohannon & Hovenkamp, *supra* note 9, at 31 (asserting that, when late claims are not included in the original application because the inventor did not foresee them, those claims do not contribute to the incentive to invent); cf. Robert P. Merges, *Software and Patent Scope: A Report from the Middle Innings*, 85 TEXAS L. REV. 1627, 1653–54 (2007) (discussing strategic delays in claim filing).

51. 35 U.S.C. §§ 284, 285 (2006); see also *i4i Ltd. P'ship v. Microsoft Corp.*, 598 F.3d 831, 858–61 (Fed. Cir. 2010) (approving enhanced damages under 35 U.S.C. § 284 for willful infringement and approving a jury instruction requiring a finding that the patentee “(1) was aware of the . . . patent; (2) acted despite an objectively high likelihood that its actions infringed a valid patent; where (3) this objectively high risk was either known or so obvious it should have been known”); *In re Seagate Tech., LLC*, 497 F.3d 1360, 1371 (Fed. Cir. 2007) (“[T]o establish willful infringement, a patentee must show by clear and convincing evidence that the infringer acted despite an objectively high likelihood that its actions constituted infringement of a valid patent.”); *Underwater Devices Inc. v. Morrison-Knudsen Co., Inc.*, 717 F.2d 1380, 1389 (Fed. Cir. 1983) (“Where . . . a potential infringer has actual notice of another's patent rights, he has an affirmative duty to exercise due care to determine whether or not he is infringing.”).

52. 318 F. Supp. 1116 (S.D.N.Y. 1970).

53. See, e.g., *Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1325 (Fed. Cir. 2009); *ResQNet.com, Inc. v. Lansa, Inc.*, 594 F.3d 860, 869 (Fed. Cir. 2010) (both applying *Georgia-Pacific* factors).

*Innovation L.L.C. v. Red Hat, Inc.*<sup>54</sup> litigation. The patentee was a nonpracticing entity that had acquired a patent issued in 1991 to Xerox, which was subsequently infringed upon by Red Hat's open-source computer operating system.<sup>55</sup> Judge Rader of the Federal Circuit, sitting by designation, excluded expert testimony and effectively reduced the damages award after concluding that the patented code was only a minor part of Red Hat's program.<sup>56</sup>

But another important question was when the infringement plaintiff or predecessor owners knew or should have known that Red Hat was likely to be an infringer and whether it provided timely notice. If timely notice had been given, Red Hat might have licensed the patent at a royalty based on the patent's fair market value—a procedure that the damages-measurement mechanism tries to emulate. In no event would Red Hat have paid more than the incremental value of the patent to its own product, and it would likely have paid much less. In the case of a true bilateral monopoly, the parties would have negotiated a price somewhere between the licensor's cost and the licensee's willingness to pay. In the more common case of competition, however, the price would have been closer to the licensor's cost. In this case there was no evidence that a significant percentage of users even employed the patented feature, and none of the majority of purchasers who used the Red Hat system on servers, which do not have a video display, used it.<sup>57</sup>

If the patentee has not given timely notice, then it should assume the burden of proving (1) that had the infringer been in a position to make an informed decision prior to development of its infringing product, it would have chosen the patentee's technology, and (2) the royalty it would have paid.<sup>58</sup> Evidence that the infringer removed the patented technology upon being notified of the infringement indicates that it would not have used it in the first place, or at least not at the claimed royalty rate.<sup>59</sup> The patentee's

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54. 705 F. Supp. 2d 687 (E.D. Tex. 2010).

55. The press has widely suggested that the suit was instigated and perhaps financed by Microsoft in an effort to suppress the development of open-source operating systems. *See, e.g.*, Chris Coletta, *Red Hat Among Companies in Crosshairs of License Suit*, TRIANGLE BUS. J. (May 19, 2008), available at <http://www.bizjournals.com/triangle/stories/2008/05/19/story13.html>; Mary-Jo Foley, *Linux Patent Suit: In Search of the Microsoft Smoking Gun*, ZDNET (Oct. 12, 2007), <http://blogs.zdnet.com/microsoft/?p=828>.

56. *Red Hat, Inc.*, 705 F. Supp. 2d at 689–90.

57. *Id.* at 690.

58. *See* Grain Processing Corp. v. Am. Maize-Prods. Co., 185 F.3d 1341, 1351 (Fed. Cir. 1999) (holding that courts should look at the noninfringing alternatives available at the time of royalty negotiations).

59. Compare this with the Blackberry litigation, *NTP, Inc. v. Research in Motion, Ltd.*, 418 F.3d 1282 (Fed. Cir. 2005), which involved a software patent-infringement suit against Research in Motion, Ltd., maker of the Blackberry. In this case, RIM knew of the patent in advance, and the jury found willful infringement. *Id.* at 1291. During the negotiations on royalty, Blackberry developed a software workaround that it stated did not infringe the patent. Gregory d'Incelli, *Has eBay Spelled the End of Patent Troll Abuses? Paying the Toll: The Rise (And Fall?) of the Patent Troll*, 17 U. MIAMI BUS. L. REV. 343, 345 (2009).

burden should be particularly strong when it had actual knowledge that a particular developer was likely to infringe but withheld notice, as in the *Rambus* case.<sup>60</sup> In sum, failure to give timely notice should be penalized, not rewarded.

## I. Conclusion

We have come to think of patents less as a species of monopoly and more as a kind of property. Overall, that has been a good development.<sup>61</sup> Few patents confer serious monopolies and one result of the old thinking was a seriously exaggerated hostility toward patents. But thinking about patents as “mere property” threatens to send us to the other extreme, ignoring the serious threat to innovation that can result from excessive issuance, excessive scope, and—perhaps most importantly—excessive ambiguity. To paraphrase Bessen and Meurer, if we are going to consider patents as property, then we must ensure that the system behaves like property.<sup>62</sup> A property-rights system reasonably calculated to further rather than retard innovation depends critically on clear and timely notice, and those who fail to supply it as well as those who ignore it should be penalized rather than rewarded. In this way the giving and acknowledgement of notice is an essential policy lever that can aid a court in determining the remedy most consistent with the innovation-furthering goals of the patent system.<sup>63</sup>

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60. See *supra* notes 46–47 and accompanying text.

61. See Herbert Hovenkamp, *Patents, Property, and Competition Policy*, 34 J. CORP. L. 1243, 1244–46 (2009) (discussing the benefits of this conception shift).

62. BESSEN & MEURER, *supra* note 31, at 46–72.

63. On the use of remedies as a policy lever, see BURK & LEMLEY, *supra* note 9, at 128–30.