

Essays

POINT OF NOVELTY

Mark A. Lemley*

INTRODUCTION.....	1253
I. THE POINT-OF-NOVELTY DOCTRINE.....	1255
A. <i>Origins: The Rise of Peripheral Claiming</i>	1255
B. <i>Combination Inventions and Obviousness</i>	1257
C. <i>The Rule Expands</i>	1258
II. CRACKS IN THE FAÇADE.....	1260
A. <i>Ignoring the Commandment</i>	1261
B. <i>Blindly Following the Commandment</i>	1266
C. <i>The Problem Is Systemic</i>	1274
III. CAN WE LIVE WITH POINT OF NOVELTY?	1275
A. <i>Combination Inventions</i>	1275
B. <i>Burdens of Proof</i>	1276
C. <i>Patentable Subject Matter</i>	1277
CONCLUSION.....	1279

INTRODUCTION

We award patents to inventors because we hope to encourage new ideas. Though it was not always so,¹ for nearly four centuries the only justification for a government granting a private party the exclusive right to make a product has been the hope that doing so will encourage the inven-

* William H. Neukom Professor of Law, Stanford Law School; Partner, Durie Tangri LLP. Thanks to Margo Bagley, Bernard Chao, Rose Hagan, Tim Holbrook, and Oskar Liivak and participants at the Works in Progress-Intellectual Property conference for comments on an earlier draft.

¹ The English Crown used to award patents that conferred the exclusive right to make a particular product as political favors. A courtier might receive the exclusive right to make playing cards, for instance, not because he had invented the playing card but simply as a means of acquiring money or regulating trade in the cards. See, e.g., *Darcy v. Allin*, (1599) 74 Eng. Rep. 1131 (K.B.); 11 Co. Rep. 84b. For discussion of the importance of these exceptions, see Ramon A. Klitzke, *Historical Background of the English Patent Law*, 41 J. PAT. OFF. SOC'Y 615 (1959). That practice ended with the Statute of Monopolies in 1624.

tion and commercialization of that product.² Scholars sometimes disagree over whether the patent system achieves this goal,³ and they frequently dispute how patent law should go about encouraging innovation.⁴ But they essentially all agree that the goal of the patent system is to encourage new invention. For this reason, the fundamental requirement for obtaining a patent is that the applicant must have invented something new.⁵

It is curious, then, that patent law itself purports to pay no attention to which aspects of a patentee's invention are in fact new. A patented invention is legally defined by its claims—written definitions of the invention. And those written definitions virtually never call out what it is that is new about the patentee's invention. For example, suppose that makers of widgets have long used a three-step process to manufacture the widget. The inventor of a four-step process that results in higher-quality widgets will not claim to own merely the fourth step she has discovered. Rather, she is much more likely to define her invention as including all four steps. Our hypothetical patentee did not invent the first three steps: all three have been known in the art for decades. But you wouldn't know that fact from reading the patent claims.

Even if the parties do identify the novel element of an invention, the law purports not to care. Longstanding patent law doctrine has decried any focus on the “point of novelty” of an invention. The United States Court of Appeals for the Federal Circuit, which handles patent appeals, evaluates the claim as a whole, not just the piece of the claim that the patentee actually added to the storehouse of knowledge. As that court has put it, “there is no legally recognizable . . . ‘gist,’ or ‘heart’ of the invention.”⁶

Refusing to focus on the point of novelty sometimes benefits patent owners, for example when a court decides that an invention is novel because no one publication includes all the elements of the patent claim even though the invention adds nothing new to the world. But it can also hurt

² See, e.g., Statute of Monopolies, 1624, 21 Jac., c. 3, § 6 (Eng.); Klitzke, *supra* note 1, at 624 (citing an English proclamation in 1327 that tied the granting of franchises to the encouragement of progress in cloth-making).

³ See, e.g., MICHELE BOLDRIN & DAVID K. LEVINE, *AGAINST INTELLECTUAL MONOPOLY* (2008) (arguing that patent law impedes innovation and should be abolished).

⁴ See, e.g., DAN L. BURK & MARK A. LEMLEY, *THE PATENT CRISIS AND HOW THE COURTS CAN SOLVE IT* 66–78 (2009) (describing various conflicting theories about how the patent system promotes innovation).

⁵ See 35 U.S.C. § 102 (2006) (requiring novelty).

⁶ See, e.g., *Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861, 875 (Fed. Cir. 1985); see also Oskar Liivak, *Rescuing the Invention from the Cult of the Claim 1* (Feb. 24, 2011) (unpublished manuscript), <http://ssrn.com/abstract=1769270> (“The term ‘invention’ appears in many critical statutory locations. Yet we have been taught, perhaps brainwashed, to give the term zero substantive import. Substantive use of the invention has been purged from patent doctrine. Instead every substantive question in patent law is answered by reference to the claims, the legal descriptions of the ‘metes and bounds’ of a patent’s exclusionary reach.”).

patent owners, as it does when a defendant escapes liability for infringing a patent because even though he copied the new feature of the patentee's invention, he did not include an old element required by the patent claim.⁷

It turns out, however, to be hard to sustain a rule that a law concerned with novelty will pay no attention to the point of novelty. And so point-of-novelty issues crop up in a number of different doctrines in patent law: who counts as an inventor, whether the inventor has disclosed the "best mode" of practicing the invention, and when the sale of a product exhausts the patentee's rights in the patent.⁸ Courts are inconsistent in whether and how they consider the point of novelty in answering these questions, but when the Federal Circuit is presented with a question in point-of-novelty terms, it most often falls back on the mantra that there is no point of novelty—no "gist" or "heart"—to an invention, even if such a holding means discarding longstanding precedent.

It is time to rethink the point-of-novelty doctrine in patent law. I argue that ignoring the point of novelty of an invention makes little sense as an across-the-board matter and leads to a variety of harmful consequences. Although refusing to focus on the point of novelty serves some valuable purposes, there are other ways to achieve those objectives. In the end, a patent regime that pays attention to what the patentee actually invented, not what the patent lawyer wrote down, is more likely to achieve the goal of promoting innovation.

This Essay is divided into three parts. Part I discusses the point-of-novelty doctrine and why it exists. Part II describes the variety of situations in which patent law either applies or ignores that doctrine, either explicitly or implicitly. Part III argues that patent law would be better off focusing on the point of novelty in evaluating inventions.

I. THE POINT-OF-NOVELTY DOCTRINE

A. *Origins: The Rise of Peripheral Claiming*

To understand how patent law found itself in the odd position of ignoring the very thing that makes the patentee's invention novel, we must start with the central role of the patent claim in every aspect of the law. Patent law defines the patentee's invention not by what she actually built or described but by the parameters of the patent claims. Claims are the legal definition of the invention.⁹ They are theoretically akin to the "metes and

⁷ See *infra* notes 29–31 and accompanying text.

⁸ See *infra* notes 57–61, 86–89 and accompanying text.

⁹ E.g., *Sinorgchem Co., Shandong v. Int'l Trade Comm'n*, 511 F.3d 1132, 1141 (Fed. Cir. 2007) (Newman, J., dissenting) ("The basic principle of determining the scope of patent claims is that the claims provide the legal definition of the invention that is patented . . .").

bounds” of a real property deed because they define the outer boundaries of the patentee’s property.¹⁰ Unlike a real property deed, though, they rarely give much notice to the world of where those boundaries actually are.¹¹ Because the words of the claim, not what the patentee actually built, determines both whether the patent is valid and whether a defendant has infringed it,¹² claim language has come to have talismanic significance in patent law. Indeed, essentially every patent case involves many different fights over the meaning of the words written by lawyers to try to capture the outer boundaries of the patentee’s legal right.¹³

It was not always thus. In the early decades of the country’s history, patents did not have claims at all. A patent case was resolved by looking at what the patentee had built, assessing whether it was different from what had been built before and then comparing it to what the defendant had built.¹⁴ When patentees began to write claims in the nineteenth century, they served as sign posts calling out the key new feature of the patentee’s invention, not as fence posts identifying the outer boundaries.¹⁵ It was not until sometime after 1870 that courts converted from a central claiming system, in which the patentee identified what was new about her invention, to a peripheral claiming system, in which the patentee sought to fence off whatever territory she could claim.¹⁶

Even after the move to peripheral claims, some vestiges of central claiming remained. A notable example is the so-called “Jepson” claim, in which patentees would claim their invention by stating what was already

¹⁰ See, e.g., ROBERT PATRICK MERGES & JOHN FITZGERALD DUFFY, *PATENT LAW AND POLICY: CASES AND MATERIALS* 26 (4th ed. 2007) (“[I]nnumerable cases analogize claims to the ‘metes and bounds’ of a real property deed.”); cf. *CAE Screenplates Inc. v. Heinrich Fiedler GmbH & Co.*, 224 F.3d 1308, 1319 (Fed. Cir. 2000) (“It is the totality of the prosecution history which defines and establishes the metes and bounds of the patent grant.”).

¹¹ See, e.g., JAMES BESSEN & MICHAEL J. MEURER, *PATENT FAILURE: HOW JUDGES, BUREAUCRATS, AND LAWYERS PUT INNOVATORS AT RISK* 46–94 (2008) (explaining how patent claims fail to provide sufficient notice of the boundaries of the invention).

¹² See Mark A. Lemley, *The Changing Meaning of Patent Claim Terms*, 104 MICH. L. REV. 101, 105 (2005).

¹³ See Dan L. Burk & Mark A. Lemley, *Fence Posts or Sign Posts? Rethinking Patent Claim Construction*, 157 U. PA. L. REV. 1743, 1744–45 (2009).

¹⁴ See *id.* at 1766–71.

¹⁵ See *id.* at 1767 (“[P]atent drafters began to break out of the text a distinct, separate statement of the novel features of the invention as a one sentence ‘claim,’ in order to avoid the possibility that the patent might be viewed as intended to claim everything in the full description of the invention.”).

¹⁶ *Id.* at 1769 (“Claims were initially thought of only as devices for clarifying the grant of a patent for validity purposes, but after some period of time, courts began employing claims in determining infringement as well. The result of this shift, not surprisingly, was for claims drafters to attempt to cover, by explicit claim language, every equivalent that a court might previously have recognized under the doctrine of equivalents. Peripheral construction of claims gave every incentive for inventors, and the attorneys who represented them, to begin claiming out to the very edge of what was patentable.” (footnote omitted)).

known and then identifying their improvement.¹⁷ Thus, a Jepson claim might read

In an automobile containing at least a chassis, wheels, a steering mechanism, a windshield, and wipers for said windshield, the improvement in which said wipers can be caused to function intermittently.

In a sense, virtually all inventions are Jepson inventions: very few patents cover entirely new things as opposed to improvements on existing things. But Jepson claiming has fallen out of favor. As late as 1980, nearly 15% of all patent claims were drafted in Jepson format.¹⁸ By 2008, that number had fallen to less than 1%.¹⁹

With the move to peripheral claiming, patent courts began focusing more and more attention on the language of the patent claims. That trend accelerated in 1996, when the Supreme Court decided that construing the meaning of those claims was a question of law for the courts.²⁰ Perhaps it was inevitable that courts interpreting patent claim language would attempt to give meaning to all words, as they do with statutes and contracts, rather than picking and choosing the words that seem important.

B. Combination Inventions and Obviousness

In any event, there was an important class of invention for which choosing the point of novelty did not seem to make much sense: the combination patent. Imagine a patent on a Reese's Peanut Butter Cup. Chocolate is known in the prior art. So, separately, is peanut butter. Reese, our inventor, combines them.²¹ What is the novel piece of the invention? Neither chocolate nor peanut butter is new; the novelty lies in the combination.

In many cases, patent courts must decide whether combination inventions of this sort are obvious to one skilled in the art.²² The rule against focusing on the point of novelty of an invention developed out of those cases,

¹⁷ *Ex parte* Jepson, 1917 Dec. Comm'r Pat. 62, 67–68.

¹⁸ Aaron R. Feigelson, *Endangered Species: The Jepson Claim*, 12:01 TUESDAY (June 2, 2009, 2:23 PM), http://www.1201tuesday.com/1201_tuesday/2009/06/jepson.html (updated June 4, 2009, 1:56 PM).

¹⁹ *Id.*

²⁰ See *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 372 (1996); *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1451 (Fed. Cir. 1998) (en banc).

²¹ The candy manufacturer used to advertise the supposed serendipity of this combination with an accidental collision between two people, one of whom says, "Hey, you got your chocolate in my peanut butter," to which the other replies, "You got peanut butter in my chocolate." See, e.g., *Vintage 80s Reese's Peanut Butter Cups Commercial W Walkers*, YOUTUBE (Aug. 17, 2009), <http://www.youtube.com/watch?v=DJLDF6qZUX0>.

²² See, e.g., Dan L. Burk & Mark A. Lemley, *Is Patent Law Technology-Specific?*, 17 BERKELEY TECH. L.J. 1155, 1159–82 (2002) (describing judicial confusion and error when assessing the validity of complex software and biotechnology patents).

and the Federal Circuit has been particularly insistent in obviousness cases that there is no “gist,” “heart,” “core,” or point of novelty of an invention.²³

C. *The Rule Expands*

But the point-of-novelty doctrine is not limited to the law of obviousness.²⁴ It also extends to anticipation: to invalidate a patent on grounds that it has been invented before, a single prior art reference must include all the elements of the claim in one document; if it doesn't, the reference can't anticipate the claim even if everyone agrees that the omitted element is well-known in the art.²⁵ The rule against selecting a point of novelty applies to the related doctrine of double patenting, which prevents acquiring two patents on the same invention.²⁶ It extends to the scope of patentable subject matter: a mathematical algorithm standing alone is probably not patentable, but the same algorithm implemented in a general-purpose computer probably is.²⁷ It affects what the patentee must disclose: a patent is invalid if the

²³ See, e.g., *Para-Ordnance Mfg., Inc. v. SGS Imps. Int'l, Inc.*, 73 F.3d 1085, 1087 (Fed. Cir. 1995) (“[T]here is no legally recognizable ‘heart’ of the invention.”); *Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc.*, 796 F.2d 443, 449 (Fed. Cir. 1986) (explaining that “[t]he court must view the claimed invention as a whole” and decrying the district court’s focus on a distilled “gist” or “core” of the invention); *Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861, 875 (Fed. Cir. 1985) (“[T]here is no legally recognizable or protected ‘essential,’ ‘gist,’ or ‘heart’ of the invention.”); *Rosemount, Inc. v. Beckman Instruments, Inc.*, 727 F.2d 1540, 1543 n.3 (Fed. Cir. 1984) (criticizing appellant for focusing on the “purported point of novelty” rather than the invention “as a whole” in its obviousness arguments (internal quotation marks omitted)); *W.L. Gore & Assocs. v. Garlock, Inc.*, 721 F.2d 1540, 1548 (Fed. Cir. 1983).

²⁴ For a nice discussion of the role of the doctrine in a variety of contexts, see Bernard Chao, *Breaking Aro’s Commandment: Recognizing That Inventions Have Heart*, 20 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 1183 (2010).

²⁵ E.g., *Panduit Corp. v. Dennison Mfg. Co.*, 774 F.2d 1082, 1100–01 (Fed. Cir. 1985) (“Notions of ‘concept,’ ‘essence,’ ‘key,’ ‘gist,’ etc., are no more useful in the context of § 102 than elsewhere, because they divert the fact-finder’s attention from the subject matter of the invention as a whole. . . . ‘Anticipation’ for the purposes of § 102 requires ‘the presence in a single prior art disclosure of all elements of a claimed invention arranged as in that claim.’” (quoting *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548 (Fed. Cir. 1983)).

²⁶ E.g., *Carman Indus., Inc. v. Wahl*, 724 F.2d 932, 940 (Fed. Cir. 1983) (“[R]ather than focusing on the point of novelty, we wish to clarify that double patenting is determined by analysis of the claims as a whole.”).

²⁷ Recently, the law on this subject has been in turmoil as a result of *Bilski v. Kappos*, 130 S. Ct. 3218 (2010), which held that *Bilski*’s patent claim was too abstract but failed to provide any framework for defining abstractness. See *id.* at 3231; see also *In re Bilski*, 545 F.3d 943, 976 (Fed. Cir. 2008) (en banc) (Newman, J., dissenting) (“The court today . . . impose[s] a new and far-reaching restriction on the kinds of inventions that are eligible to participate in the patent system . . . by redefining the word ‘process’ in the patent statute, to exclude all processes that do not transform physical matter or that are not performed by machines. The court thus excludes many of the kinds of inventions that apply today’s electronic and photonic technologies, as well as other processes that handle data and information in novel ways.”); *infra* notes 131–36 and accompanying text (describing *Parker v. Flook*, 437 U.S. 584 (1978), in which the Supreme Court held that a novel mathematical algorithm should not be patentable). But the

inventor fails to describe his best mode of practicing the invention even if the omitted description is of a favored way of practicing an element long known in the art.²⁸ It is relevant in claim construction: a patent claim cannot be construed to include elements that are not expressly present in the claim even if the text of the patent reveals that those elements are the heart of the invention.²⁹ It affects infringement: a defendant will escape liability if she omits even one element of a claim even if that element has nothing to do with the inventor's idea.³⁰ And while the doctrine of equivalents exists to avoid the unfairness of such a result by finding infringement where new products are only insubstantially different from the patented invention, that doctrine too has been limited so that each element of a patent claim must have an equivalent, not on the invention as a whole or what makes it unique.³¹ Finally, the rule against considering the point of novelty affects damages: a reasonable royalty is calculated based on the royalty base of

patentability of an algorithm implemented in a general purpose computer was clearly the law throughout the 1980s and 1990s. See, e.g., Julie E. Cohen & Mark A. Lemley, *Patent Scope and Innovation in the Software Industry*, 89 CALIF. L. REV. 1, 9 (2001). For a brief time before 1981, the courts did focus on the point of novelty in evaluating patentability, see, e.g., *Flook*, 437 U.S. at 588, but after 1981, that was no longer the case, see, e.g., *In re Taner*, 681 F.2d 787, 791 (C.C.P.A. 1982). For a discussion of the implications of *Bilski*, see, for example, Mark A. Lemley, Michael Risch, Ted Sichelman & R. Polk Wagner, *Life After Bilski*, 63 STAN. L. REV. 1315 (2011).

For other applications of point-of-novelty analysis with respect to patentable subject matter, see *In re Gulack*, 703 F.2d 1381, 1385 n.8 (Fed. Cir. 1983), which casts doubt on the viability of the "printed matter" exception to patentable subject matter because that doctrine improperly focused on the point of novelty rather than on the invention as a whole.

²⁸ See, e.g., *Ajinomoto Co. v. Int'l Trade Comm'n*, 597 F.3d 1267, 1274 (Fed. Cir. 2010) ("[T]he invention is the invention claimed. It is not limited, as Ajinomoto asserts, to vague 'innovative aspects' or 'inventive features' of the invention, terms that appear nowhere in our best mode case law." (citation omitted)).

²⁹ See *MBO Labs., Inc. v. Becton, Dickinson & Co.*, 474 F.3d 1323, 1330–31 (Fed. Cir. 2007) ("We sympathize with the district court's choice, since we agree that [the feature] is an essential element of the invention However, we cannot endorse a construction analysis that does not identify 'a textual reference in the actual language of the claim with which to associate a proffered claim construction.'" (quoting *Johnson Worldwide Assocs., Inc. v. Zebco Corp.*, 175 F.3d 985, 990 (Fed. Cir. 1999))); *Ventana Med. Sys., Inc. v. BioGenex Labs., Inc.*, 473 F.3d 1173, 1181 (Fed. Cir. 2006); *Ormco Corp. v. Align Tech., Inc.*, 498 F.3d 1307, 1322–23 (Fed. Cir. 2007) (O'Malley, J., dissenting).

³⁰ See *Allen Eng'g Corp. v. Bartell Indus., Inc.*, 299 F.3d 1336, 1345 (Fed. Cir. 2002) ("[I]f one or more of the claim limitations are not literally present in the accused device, [this] preclud[es] a finding of literal infringement . . ."). In *Larami Corp. v. Amron*, for instance, the inventor of a pump-action compressed air mechanism for extending the range of a water gun lost a patent suit against a defendant who used the same mechanism because the defendant's products did not include an element of the claim related to where the water was stored in the gun. 27 U.S.P.Q.2d 1280, 1283–84 (E.D. Pa. 1993). The water storage element was in the prior art, a necessary component of all water guns; the novelty of the patentee's invention was in the compressed air pump. See *id.* at 1281.

³¹ See *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 21, 29 (1997); *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 934–35 & n.1 (Fed. Cir. 1987) (en banc).

products actually sold,³² which is in turn affected by the scale of the product being claimed.³³ For example, if the inventor of the intermittent windshield wiper claims an improved car containing the wiper, damages may well be calculated based on the price of the whole car because we don't distinguish between the novel elements of the claim and the preexisting ones.

In short, the rule that there is no point of novelty, no heart of the invention, is well established in many areas of patent law beyond obviousness.³⁴ Indeed, the principle is so accepted that the Federal Circuit has used it to dismantle longstanding doctrines that depend on a point of novelty. In *Egyptian Goddess, Inc. v. Swisa, Inc.*, the court abolished the longstanding point-of-novelty test for design patents, which had required proof that the defendant copied a novel aspect of the plaintiff's design.³⁵ The court replaced the point-of-novelty test with the ordinary-observer test for infringement, which asks whether an ordinary observer would think the plaintiff's and defendant's designs were the same even if the similarities were already known in the art.³⁶

II. CRACKS IN THE FAÇADE

Despite the Federal Circuit's widespread adoption of the rule against focus on a point of novelty, the point-of-novelty approach keeps reappearing in a variety of contexts. Perhaps this is inevitable: it often makes little or no sense to ignore what is novel about the invention. Section A considers some contexts in which point-of-novelty analysis survives in patent law. Section B considers some circumstances in which it doesn't but arguably should.

³² *Cornell Univ. v. Hewlett-Packard Co.*, 609 F. Supp. 2d 279, 286 (N.D.N.Y. 2009) (“Calculation of a reasonable royalty . . . requires determination of . . . a royalty base, or the revenue pool implicated by the infringement . . .”).

³³ *See* *Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1324–25 (Fed. Cir. 2009) (describing patent damages and the relevant factors of a reasonable royalty calculus, including “what plaintiff's property was, to what extent defendant has taken it, its usefulness and commercial value as shown by its advantages over other things and by the extent of its use, and the commercial situation” (citations omitted in original) (quoting *Panduit Corp. v. Dennison Mfg. Co.*, 774 F.2d 1082, 1159 (Fed. Cir. 1985)) (internal quotation marks omitted)).

³⁴ *See, e.g.*, *Chao*, *supra* note 24, at 1185 (referring to the rule that there is no point of novelty as “one of the basic commandments in patent law”); Timothy R. Holbrook, *Extraterritoriality in U.S. Patent Law*, 49 WM. & MARY L. REV. 2119, 2160 (2008) (calling point of novelty a “rejected concept”); F. Scott Kieff, *Quanta v. LG Electronics: Frustrating Patent Deals by Taking Contracting Options off the Table?*, 2007–2008 CATO SUP. CT. REV. 315, 321 (2007) (arguing that the line of cases that focused on the point of novelty has been “jettison[ed]”).

³⁵ 543 F.3d 665, 678 (Fed. Cir. 2008) (en banc).

³⁶ *Id.* at 670, 678.

A. Ignoring the Commandment

Despite its status as a “commandment” of patent law,³⁷ the Federal Circuit has often ignored the no-point-of-novelty rule when circumstances demanded it. Here are a few examples.

I. Inventorship.—Joint inventorship is quite common.³⁸ And because joint inventors each own an undivided interest in the whole patent,³⁹ people other than the named inventor often claim that they should have been included as joint inventors as well.⁴⁰

An individual is a joint inventor of a patent if she contributes to the conception of that invention.⁴¹ Merely building the device someone else has designed is not invention.⁴² But if the putative joint inventor contributed to the conception of the invention as claimed, she is entitled to be listed on the patent and to jointly own the resulting invention.⁴³

That legal standard sits uneasily, however, with the rule against a point of novelty. Imagine that the inventor of the intermittent windshield wiper took my advice above and claimed a car with various features, including wheels, a chassis, a steering column, and an intermittent windshield wiper. Can the inventor’s lab assistant claim to be a joint inventor by suggesting that the car should have wheels? If we took seriously the idea that all claim elements were coequal, there would be no more value to contributing the novel feature of the invention than to contributing something from the prior art. But of course that is nonsense. And the law properly denies inventorship claims from people who contribute only knowledge found in the prior art.⁴⁴ In doing so, the law focuses on the point of novelty: those who con-

³⁷ Chao, *supra* note 24, at 1185.

³⁸ See John R. Allison & Mark A. Lemley, *Who’s Patenting What? An Empirical Exploration of Patent Prosecution*, 53 VAND. L. REV. 2099, 2117 (2000) (reporting that “[m]ost inventions in [their] study were not developed by a single individual” and that the median patent issued between June 1996 and May 1998 had more than one inventor).

³⁹ See *Schering Corp. v. Roussel-UCLAF SA*, 104 F.3d 341, 344 (Fed. Cir. 1997) (“Each co-owner of a United States patent is ordinarily free to make, use, offer to sell, and sell the patented invention without regard to the wishes of any other co-owner.” (citing 35 U.S.C. § 262 (2006))).

⁴⁰ For examples from among the myriad cases involving such claims, see *Shum v. Intel Corp.*, 499 F.3d 1272, 1274–75 (Fed. Cir. 2007); *Eli Lilly & Co. v. Aradigm Corp.*, 376 F.3d 1352, 1354 (Fed. Cir. 2004); *Univ. of Colo. Found., Inc. v. Am. Cyanamid Co.*, 342 F.3d 1298, 1303–04, 1308 (Fed. Cir. 2003); *Ethicon, Inc. v. U.S. Surgical Corp.*, 135 F.3d 1456, 1458–60 (Fed. Cir. 1998); *Stark v. Advanced Magnetics, Inc.*, 119 F.3d 1551, 1552 (Fed. Cir. 1997); *Burroughs Wellcome Co. v. Barr Labs., Inc.*, 40 F.3d 1223, 1226–27 (Fed. Cir. 1994).

⁴¹ *E.g.*, *BJ Servs. Co. v. Halliburton Energy Servs., Inc.*, 338 F.3d 1368, 1373 (Fed. Cir. 2003).

⁴² See *Ethicon*, 135 F.3d at 1460.

⁴³ See *id.* Indeed, she must contribute to only one claim in order to have ownership rights over every claim in the patent. *Id.*

⁴⁴ See, *e.g.*, *Eli Lilly*, 376 F.3d at 1362 (“A contribution of information in the prior art cannot give rise to joint inventorship because it is not a contribution to conception.”); *Pannu v. Iolab Corp.*, 155 F.3d

tribute new claim elements are inventors; those who contribute claim elements from the prior art are not. Any other rule would be unworkable because it would treat as joint inventors any number of people who did not in fact contribute anything that made the invention patentable.

2. *Inequitable Conduct*.—Patent law punishes those who lie to the patent office by deeming their patents unenforceable.⁴⁵ But “inequitable conduct” is committed not only by those who affirmatively mislead the PTO but also by applicants who withhold relevant prior art.⁴⁶ Relevance is, as always with patent law, determined by the patent claims.⁴⁷ Here too a strict rule that all claim elements are equal proves unworkable. Just as we don’t want the person who suggested adding wheels to a car to get credit for the intermittent windshield wiper, we don’t want windshield-wiper inventors to have their patents rendered unenforceable because they didn’t turn over prior art relating to wheels or car bodies.

Once again, the law accommodates this concern by reintroducing the point-of-novelty analysis. Relevant prior art is defined as information that a reasonable patent examiner would have considered material to a determination of patentability.⁴⁸ And courts regularly recognize that examiners will only consider prior art to be material if it is at the point of novelty of the invention.⁴⁹ We may act in other contexts as if all claim elements are equal, but in inequitable conduct, as in inventorship, we recognize that they are not.

1344, 1351 (Fed. Cir. 1998) (“All that is required of a joint inventor is that he or she (1) contribute in some significant manner to the conception or reduction to practice of the invention, (2) make a contribution to the claimed invention that is not insignificant in quality, when that contribution is measured against the dimension of the full invention, and (3) do more than merely explain to the real inventors well-known concepts and/or the current state of the art.”); *Ethicon*, 135 F.3d at 1460 (“One who simply provides the inventor with well-known principles or explains the state of the art . . . does not qualify as a joint inventor.”).

Combination patents present a problem for this rule because often each putative inventor is contributing a piece from the prior art. The inventor in that instance should be whoever thought to combine the prior art elements in a novel way. For further discussion of this issue, see *infra* Part III.A.

⁴⁵ See, e.g., *J.P. Stevens & Co. v. Lex Tex Ltd.*, 747 F.2d 1553, 1559–60 (Fed. Cir. 1984).

⁴⁶ See *id.*

⁴⁷ See *id.*

⁴⁸ *Id.* at 1562.

⁴⁹ See, e.g., *eSpeed, Inc. v. BrokerTec USA, L.L.C.*, 480 F.3d 1129, 1136–37 (Fed. Cir. 2007) (finding undisclosed declarations material because they were related to the point of novelty of the application); *Critikon, Inc. v. Becton Dickinson Vascular Access, Inc.*, 120 F.3d 1253, 1256–57 (Fed. Cir. 1997) (finding inequitable conduct where the examiner twice reiterated the importance of a specific point of novelty in the application and the applicant therefore should have known that any information related to that point of novelty would be material to the examiner); see also *Pharmacia Corp. v. Par Pharm., Inc.*, 417 F.3d 1369, 1373 (Fed. Cir. 2005) (“[T]hese misleading declarations go to the very point of novelty.”).

3. *Contributory Infringement.*—To infringe a patent, a defendant must make, use, or sell a product or process that incorporates each and every element of the patent claim.⁵⁰ If even one element is missing, there is no infringement. Infringement liability extends not only to those who actually make, use, or sell the infringing technology⁵¹ but also to those who materially contribute to infringement by another.⁵² A defendant contributes to infringement by selling a product that is a “material part” of a patented invention to another that he knows will use the product as part of an infringing combination.⁵³

We worry about holding the sellers of ordinary goods—say, car tires—liable for the uses to which their products are put. If every seller of tires, computers, or screws had to worry about patent infringement liability based on what her customers did with the products she sold, modern commerce would be much more difficult. As a result, patent law creates a safe harbor for the sellers of products. They are not liable for contributory infringement for selling products that are “staple article[s] . . . of commerce suitable for substantial noninfringing use.”⁵⁴ Because of this safe harbor, a seller’s liability for contributory infringement depends not only on whether some buyers use her product to infringe but also on whether other buyers have legitimate uses for the product. If the only substantial use of the product is in the patented combination, the product itself is essentially treated as within the scope of the patent, and the patentee can prevent its sale.⁵⁵

In effect, the doctrine of contributory infringement creates a point-of-novelty rule. If a component was already known in the prior art before the patentee’s invention—that is, it has other uses already—the sale of that component will not trigger liability. But one who sells a new component specially designed to work in the patented invention is liable. Liability for contributory infringement accordingly depends on whether the component sold is at the point of novelty of the invention or merely a claim element that recites the prior art.⁵⁶

⁵⁰ See MODEL PATENT JURY INSTRUCTIONS § 3.2 (2009), available at <http://www.nationaljuryinstructions.org/documents/NationalPatentJuryInstructions.pdf>.

⁵¹ 35 U.S.C. § 271(a) (2006).

⁵² See *id.* § 271(c).

⁵³ *Id.*

⁵⁴ *Id.*

⁵⁵ See 1 HERBERT HOVENKAMP, MARK D. JANIS, MARK A. LEMLEY & CHRISTOPHER R. LESLIE, IP AND ANTITRUST: AN ANALYSIS OF ANTITRUST PRINCIPLES APPLIED TO INTELLECTUAL PROPERTY LAW § 3.3a2 (2d ed. Supp. 2010) (discussing cases drawing this line).

⁵⁶ The line is not quite this clear. *Dawson Chemical Co. v. Rohm & Haas Co.* suggests that, in very unusual circumstances, a defendant might be liable for selling a preexisting product. 448 U.S. 176, 221–23 (1980). The chemical in that case, propanil, had been known for decades, but it had no known use until the patentees began using it as an herbicide and patented that use. See *id.* at 181–82. So we can think of propanil as a *useful product* as constituting the point of novelty of the invention.

4. *Exhaustion*.—A patent owner exhausts her control over a patented device with the first authorized sale.⁵⁷ That’s why one doesn’t need a patent license to drive a car or to resell it used, despite the fact that the car undoubtedly has patented technology in it.⁵⁸

This exhaustion doctrine is fairly straightforward when the item the patentee sells is the very item she patented. When the two don’t coincide, however, things grow more complicated. Selling a car with intermittent windshield wipers on it should exhaust the patentee’s rights over that particular automobile. So, arguably, should selling intermittent windshield wipers standing alone. But selling a car without intermittent windshield wipers shouldn’t exhaust the patent rights even if the car has all the other elements of the patent claim.

In *Quanta Computer, Inc. v. LG Electronics, Inc.*, the Supreme Court resolved this problem by asking whether the product being sold captured the “essential features” of the invention.⁵⁹ The sale there was by a licensee, Intel, of chips that defendant Quanta put into its devices. LG owned a patent on methods of configuring devices with those chips. Intel paid LG for a license to make the chips, on the theory that the chips had no substantial use except to infringe the LG patent, such that Intel would be contributing to infringement by selling them. After Intel paid LG for the license, LG sought to get paid again by the downstream device manufacturers, including Quanta, who LG claimed directly infringed its patents by using Intel products incorporating LG’s patents.⁶⁰ The Court concluded that LG’s license to Intel exhausted its patent rights because Intel made an authorized sale, not of the whole invention but of the “essential features”—that is, the product that was at the point of novelty.⁶¹

5. *Occasional Uses: Claim Construction, Obviousness, and Enablement*.—Even in claim construction and obviousness cases, the bastions of the “no heart of the invention” doctrine, courts don’t always apply that canon consistently. That’s because doing so often has silly consequences. For example, in *Slimfold Manufacturing Co. v. Kinkead Industries, Inc.*, the patent claim was to a device for bifold doors with an improved spring that allowed them to be easily installed.⁶² Doctrinally, the rule is clear: the invention is a door that has certain parts (e.g., wood, a knob, hinges). But the court ignored all that, reasoning that the invention as a whole was not the door but a pivot rod assembly for the door because all the other elements of

⁵⁷ *Quanta Computer, Inc. v. LG Elecs., Inc.*, 553 U.S. 617, 621 (2008).

⁵⁸ That is, of course, unless it’s more than twenty years old and the patents have expired. In which case, you really should get a new car. The American economy is counting on you.

⁵⁹ 553 U.S. at 631 (quoting *United States v. Univis Lens Co.*, 316 U.S. 241, 249–51 (1942)).

⁶⁰ This is admittedly a simplification of the facts. For more detail, see *id.* at 621–24.

⁶¹ *Id.* at 633–34, 638.

⁶² 932 F.2d 1453, 1455 (Fed. Cir. 1991).

the door were well known.⁶³ In other words, the *real* invention—the point of novelty—was the pivot rod assembly.

Courts in obviousness cases do something similar when confronted with patent claims in which the only difference between the claimed invention and the prior art is a different numerical range, whether of percentage chemical composition, binding activity, temperature, or any other element. For instance, in *Iron Grip Barbell Co.*, the prior art disclosed circular weights with one, two, and four handholds, and the patentee claimed a circular weight with three handholds.⁶⁴ The worry with these claims is that patentees may be filling in gaps in the prior art by identifying a known technology and claiming around the edges of that technology. In those cases, courts abandon their focus on the supposedly coequal elements of the invention and, surprisingly for a patent system that otherwise never puts the burden on the patentee to prove entitlement to a patent, presume that the invention is obvious.⁶⁵ To overcome that presumption, the patentee must show that the particular range chosen is “critical” to the success of the invention.⁶⁶ Only if the new range (the novel piece of the invention) is significantly different from the old will the patent be considered nonobvious.

Finally, one recent Federal Circuit decision has applied a point-of-novelty approach to enablement, the requirement that patentees provide sufficient instructions that one of skill in the art can make and use their invention.⁶⁷ In *Automotive Technologies International, Inc. v. BMW of North America, Inc.*, the court held that a patent claim that covered both mechanical and electronic impact sensors for airbags was not supported by a patent specification that only taught mechanical sensors.⁶⁸ The patentee tried to avoid this result by arguing that people in the field would know how to construct an electronic sensor and that, therefore, the patentee didn’t have to teach it.⁶⁹ The Federal Circuit rejected that argument, concluding that the specification, not the general knowledge of the field, must teach the “novel

⁶³ *See id.*

⁶⁴ *Iron Grip Barbell Co. v. USA Sports, Inc.*, 392 F.3d 1317, 1319 (Fed. Cir. 2004).

⁶⁵ *See, e.g., Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1368 (Fed. Cir. 2007) (“We find this case analogous to the optimization of a range or other variable within the claims that flows from the ‘normal desire of scientists or artisans to improve upon what is already generally known.’” (quoting *In re Peterson*, 315 F.3d 1325, 1330 (Fed. Cir. 2003)); *In re Peterson*, 315 F.3d at 1330 (“We therefore conclude that a prior art reference that discloses a range encompassing a somewhat narrower claimed range is sufficient to establish a *prima facie* case of obviousness.”); *In re Boesch*, 617 F.2d 272, 276 (C.C.P.A. 1980).

⁶⁶ *In re Woodruff*, 919 F.2d 1575, 1578 (Fed. Cir. 1990) (“The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. . . . [I]n such a situation, the applicant must show that the particular range is *critical*, generally by showing that the claimed range achieves unexpected results relative to the prior art range.”).

⁶⁷ *See* 35 U.S.C.A. § 112(a) (West 2011).

⁶⁸ 501 F.3d 1274, 1281–82, 1285 (Fed. Cir. 2007).

⁶⁹ *Id.* at 1283.

aspects” of the invention.⁷⁰ The court thus distinguished between the novel elements and other elements; the patent doesn’t have to teach the latter as long as people in the field can figure them out.

Inventorship, inequitable conduct, contributory infringement, and exhaustion are all doctrines that explicitly invoke the point of novelty. Not so for claim construction, enablement, or obviousness. But even in those latter doctrines we can find instances of courts paying attention to the heart of the invention when it seems foolish to do anything else.

B. *Blindly Following the Commandment*

As we have seen, courts don’t always follow their own point-of-novelty rule. Sometimes they do pay attention to the point of novelty of an invention. But in many other cases, courts recite the mantra that there is no heart of the invention and use that rule to decide cases. Quite often, though, applying the no-point-of-novelty doctrine leads them astray. I discuss some examples in this section.

1. *Repair and Reconstruction.*—We begin with the area of law that gives rise to the no-point-of-novelty doctrine: the law of repair. Once patent law established that the owner of a particular patented machine was free to use or sell it as he pleased, problems began to arise around owners’ efforts to repair the device rather than purchase a new one from the patentholder. The exhaustion doctrine was supposed to give the purchaser control over the thing he bought, not exempt him from ever having to buy from the patentholder again. Courts faced with these cases drew a line between “repair” of a patented invention, which was within the scope of the exhaustion right, and “reconstruction” of the invention, which was tantamount to impermissibly building a new copy.⁷¹

But how do we know when an owner is repairing and when he is reconstructing? In *Aro Manufacturing Co. v. Convertible Top Replacement Co.*, Convertible Top Replacement owned a patent on convertible car top

⁷⁰ See *id.* (“It is the specification, not the knowledge of one skilled in the art, that must supply the novel aspects of an invention in order to constitute adequate enablement.” (quoting *Genentech, Inc. v. Novo Nordisk A/S*, 108 F.3d 1361, 1366 (Fed. Cir. 1997)) (internal quotation marks omitted)). For criticism of this result, see Timothy R. Holbrook, *Patents, Presumptions, and Public Notice*, 86 IND. L.J. 779 (2011).

⁷¹ For discussion of this shift, see Arthur J. Gajarsa, Evelyn Mary Aswad & Joseph S. Cianfrani, *How Much Fuel to Add to the Fire of Genius? Some Questions About the Repair/Reconstruction Distinction in Patent Law*, 48 AM. U. L. REV. 1205 (1999), which explores the confused repair–reconstruction jurisprudence and discussing challenges for patentees in attempting to redefine “impermissible reconstruction” through contracts with their buyers, and Mark D. Janis, *A Tale of the Apocryphal Axe: Repair, Reconstruction, and the Implied License in Intellectual Property Law*, 58 MD. L. REV. 423 (1999), which argues that the exhaustion principle should not continue to serve as the organizing principle behind the repair–reconstruction line.

assemblies that functioned with fabric covers.⁷² The defendant, Aro, sold replacement fabric car tops.⁷³ The district court and the court of appeals held that Aro's sales of the replacement car tops crossed the line from repair into reconstruction because the top was a major feature of the invention so that no one could call it a "minor repair" to the overall invention.⁷⁴ The Supreme Court reversed. In language that gave rise to the no-point-of-novelty doctrine, the Court said that it didn't matter that the fabric tops were the most important part of the invention because "this Court has made it clear . . . that there is no legally recognizable or protected 'essential' element, 'gist' or 'heart' of the invention in a combination patent."⁷⁵

Bernard Chao has done an able job of dismantling the Supreme Court's reasoning in *Aro*.⁷⁶ I won't repeat his criticisms here. But it is worth noting that the Court's insistence that there was no heart of the invention led it to what may well be the wrong result. The Court held that car owners could bypass the patent on convertible top assemblies by replacing what is arguably the most important part of the top an unlimited number of times.⁷⁷ The issue is further complicated because the patent was on a combination. But unless the novel feature of the invention was something other than the whole assembly, the Court's decision allowed a third-party supplier to capture a significant part of the value supposedly resident in the invention.

2. *Written Description*.—Section 112 of the Patent Act requires that the patentee provide a written description of her invention that is sufficiently clear to enable any person having ordinary skill in the art to make and use the invention.⁷⁸ The Federal Circuit has interpreted this language to impose two separate requirements: that the patentee teach enough to enable a person having ordinary skill in the art to make and use the invention and, separately, that the patent contain a "written description" of the invention.⁷⁹

Courts and scholars have struggled to explain why we need a written description requirement separate from the enablement requirement.⁸⁰ After

⁷² 365 U.S. 336, 337–38 (1961).

⁷³ *Id.* at 338.

⁷⁴ See *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 270 F.2d 200, 205 (1st Cir. 1959).

⁷⁵ *Aro*, 365 U.S. at 344–45.

⁷⁶ See Chao, *supra* note 24, at 1205–14. Among other things, Chao points out that the two cases the Supreme Court relied upon as evidence of this proposition were 1940s cases that Congress specifically intended to reverse in passing the 1952 Patent Act. See *id.* at 1209–14.

⁷⁷ See *Aro*, 365 U.S. at 346.

⁷⁸ 35 U.S.C.A. § 112(a) (West 2011).

⁷⁹ See *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1340 (Fed. Cir. 2010) (en banc).

⁸⁰ See, e.g., *Moba, B.V. v. Diamond Automation, Inc.*, 325 F.3d 1306, 1323–24 (Fed. Cir. 2003) (Rader, J., concurring) (“[O]utside its proper context of policing priority, [the written description requirement] never makes sense but compounds the confusion, increases the chances for error, and augments the expense of the trial process. . . . The erroneous written description requirement . . . lacks both a statutory and a logical foundation.”); Christopher M. Holman, *Is Lilly Written Description a Paper*

all, if an ordinary scientist in the field understands the invention and can make use of it, shouldn't that be enough? The most reasonable theory is that proof of written description is necessary to show that the patentee was in possession of the invention at the time she filed her patent application.⁸¹ On this view, the written description requirement is designed to prevent "late claiming" by a patentee who changes her claims during the prosecution process to cover things she didn't actually understand when she filed her patent application. That approach was adopted by the Federal Circuit in *Gentry Gallery, Inc. v. Berkline Corp.*⁸² The patentee there amended its claims to cover the defendant's idea, one the patentee clearly didn't have in mind when it filed its original application.⁸³

Unfortunately, subsequent Federal Circuit decisions have used the no-point-of-novelty rule to read *Gentry Gallery*—and the late-claiming concern—out of written description law. *Amgen Inc. v. Hoechst Marion Roussel, Inc.* is instructive:

TKT's remaining arguments rely on *Gentry Gallery*. However, we see *Gentry Gallery* as similarly inapt. TKT would have us view *Gentry* as a watershed case, in reliance on an isolated statement—probably only dicta—that one of ordinary skill in the art would clearly understand that the location of the reclining controls on the claimed sectional sofa "was not only important, but essential to [the] invention." But as we recently indicated in *Cooper Cameron Corp. v. Kvaerner Oilfield Prods., Inc.*, "we did not announce [in *Gentry*] a new 'essential element' test mandating an inquiry into what an inventor considers to be essential to his invention and requiring that the claims incorporate those elements." . . . cf. *Aro Mfg. Co. v. Convertible Top Replacement Co.*

Tiger?: A Comprehensive Assessment of the Impact of Eli Lilly and Its Progeny in the Courts and PTO, 17 ALB. L.J. SCI. & TECH. 1 (2007) (concluding that the written description requirement has had a relatively minor impact in the courts and the PTO); Mark D. Janis, *On Courts Herding Cats: Contending with the "Written Description" Requirement (and Other Unruly Patent Disclosure Doctrines)*, 2 WASH. U. J.L. & POL'Y 55 (2000) (arguing that by perpetuating an artificial distinction between the written description and the enablement requirements, the Federal Circuit has given itself unchecked authority to invalidate patent claims for inadequate disclosure); Robert P. Merges, *Software and Patent Scope: A Report from the Middle Innings*, 85 TEX. L. REV. 1627 (2007) (arguing that most written description cases could have been decided on enablement grounds instead); Janice M. Mueller, *The Evolving Application of the Written Description Requirement to Biotechnological Inventions*, 13 BERKELEY TECH. L.J. 615 (1998) (arguing that the written description requirement would likely chill development in biotechnology and discourage prompt disclosure of new inventions); Harris A. Pitlick, *The Mutation on the Description Requirement Gene*, 80 J. PAT. & TRADEMARK OFF. SOC'Y 209, 222 (1998) (describing the establishment of a written description requirement as "an unmitigated disaster").

⁸¹ Enablement might serve that purpose too. See Timothy R. Holbrook, *Possession in Patent Law*, 59 SMU L. REV. 123, 147–50 (2006).

⁸² 134 F.3d 1473, 1479–80 (Fed. Cir. 1998); see also *Ariad*, 598 F.3d at 1341, 1351 (explaining that in order to satisfy the written description requirement, "the specification must describe an invention understandable to [the] skilled artisan and show that the inventor actually invented the invention claimed" (emphasis added)).

⁸³ See *Gentry Gallery*, 134 F.3d at 1479.

(“[T]here is no legally recognizable or protected ‘essential element,’ ‘gist’ or ‘heart’ of the invention in a combination patent.”)⁸⁴

Unfortunately, in doing so the Federal Circuit has replaced a conceptually sound basis for a separate written description requirement with one that is impossible to distinguish from enablement except that it seems to apply even when enablement doesn’t. A requirement that a patentee must describe and show possession of the “full scope” of a patented invention arguably makes no sense as applied to modern peripheral claims, which cover an infinite number of possible embodiments.⁸⁵ A written description doctrine that requires proof that the patentee actually possessed the novel features of the invention at the time of filing makes sense. A written description doctrine that doesn’t focus on those novel features does not.

3. *Best Mode.*—The first paragraph of § 112 also requires that the patentee set forth the “best mode” she knows of practicing her invention.⁸⁶ Unlike most doctrines in patent law, which focus on what the person of skill in the art would perceive, the best mode doctrine is entirely subjective. Whether the inventor has a preferred mode of implementing the invention and, if so, what it is depend entirely on the mindset of the individual named inventor.

In *Ajinomoto Co. v. International Trade Commission*, the patentee claimed a method for cultivating a strain of bacteria to produce L-lysine but did not disclose the particular bacteria the inventor favored.⁸⁷ The patentee argued that it had disclosed the best mode of practicing the “innovative aspects” of the invention, but the court rejected that argument, falling back on the idea that there is no point of novelty in a patent.⁸⁸ The best mode requirement, it said, “is not limited . . . to vague ‘innovative aspects’ or ‘inventive features’ of the invention, terms that appear nowhere in our best mode case law.”⁸⁹

The best mode doctrine has been criticized as a potential trap for the unwary because it is not obvious to nonspecialists that they must do more

⁸⁴ 314 F.3d 1313, 1333 (Fed. Cir. 2003) (alterations in original) (citations omitted); *see also* *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1565 (Fed. Cir. 1991) (chastising the district court for attempting to identify the “novel or important” part of the invention).

⁸⁵ Jeffrey A. Lefstin, *The Formal Structure of Patent Law and the Limits of Enablement*, 23 BERKELEY TECH. L.J. 1141, 1222–25 (2008).

⁸⁶ 35 U.S.C.A. § 112(a) (West 2011). The Leahy–Smith America Invents Act of 2011 provides that failure to satisfy the best mode requirement will no longer render a patent invalid in cases filed after September 16, 2011. Pub. L. No. 112-29, § 15. So this section is primarily of historical interest. But best mode remains a requirement for patentees, at least in theory.

⁸⁷ 597 F.3d 1267, 1270–71 (Fed. Cir. 2010).

⁸⁸ *Id.* at 1273–74.

⁸⁹ *Id.* at 1274.

than teach people of skill in the art how to make and use their inventions.⁹⁰ Unfortunately, the no-point-of-novelty rule heightens this problem. An inventor might know that she needs to disclose the technical details of her favored implementation of her new idea. Unless she reads patent cases, however, she is unlikely to suspect that she must disclose her favored ways of practicing those elements of the invention that have long been known in the art. Under this doctrine, the court would invalidate a patent on the car with intermittent windshield wipers if the inventor did not disclose her preferred brand of tires, a rather extreme requirement.

4. *Design Patents.*—The law of design patents quite prominently featured a point-of-novelty rule until recently. Unlike standard “utility” patents covering inventions, which are defined by the language of written claims, design patents covering new ornamental features of an object are defined in substantial part by a drawing of the patentee’s design.⁹¹ The basic test for infringement of a design patent is the “ordinary observer” test, which assesses “whether an ordinary observer, familiar with the prior art, would be deceived into thinking that the accused design was the same as the patented design.”⁹² But that test has long been supplemented by a requirement that the defendant have appropriated the point of novelty of the invention.⁹³ If the defendant’s use didn’t include the novel feature(s) in the patentee’s design, it couldn’t infringe.

In 2008, in *Egyptian Goddess, Inc. v. Swisa, Inc.*, the Federal Circuit changed the law of design patents to eliminate the point-of-novelty test for infringement.⁹⁴ The court worried that a focus on the point of novelty would confuse factfinders, particularly in the subset of cases in which the patentee’s invention was a combination of existing features rather than the development of a new one.⁹⁵ The focus, as with utility patents, must be on the overall appearance of the whole design, not on “small” differences at the point of novelty.⁹⁶ Novelty still matters, but now only as a defense that

⁹⁰ See Harold C. Wegner, *Continued Prosecution in a Continuation Application, or a Transco Best Mode Trap for the Unwary?*, 75 J. PAT. & TRADEMARK OFF. SOC’Y 837 (1993); see also NAT’L RESEARCH COUNCIL, A PATENT SYSTEM FOR THE 21ST CENTURY 120–21 (Stephen A. Merrill, Richard C. Levin & Mark B. Myers eds., 2004) (recommending that the doctrine be eliminated for other reasons). Legislation proposed in Congress in the past decade would have eliminated the doctrine. See Patent Reform Act of 2005, H.R. 2795, 109th Cong. § 4(d)(1)(B).

⁹¹ Mary Bellis, *Design Patent: The Importance of Great Drawings and Correct Formatting*, ABOUT.COM, http://inventors.about.com/od/designpatents/a/design_patent_f_4.htm (last visited Jan. 30, 2012).

⁹² *Egyptian Goddess, Inc. v. Swisa, Inc.*, 543 F.3d 665, 672 (Fed. Cir. 2008) (en banc).

⁹³ *Id.* at 670–71.

⁹⁴ *Id.* at 678.

⁹⁵ *Id.* at 677.

⁹⁶ *Id.*

must generally be assessed separately from infringement.⁹⁷ And subsequent Federal Circuit cases have used *Egyptian Goddess* as precedent in concluding that point of novelty is no longer the test for the invalidity of a design patent either.⁹⁸

Think about this for a minute. It is no longer the law that the defendant must incorporate the very thing that makes the patented invention patentable. As long as an ordinary observer would confuse the two products, the fact that that confusion arises from similarities that already exist in the prior art doesn't defeat a finding of infringement. It might or might not create a defense that the patent is invalid for anticipation, though again that seems to depend on what an ordinary observer would think when comparing the patented design and the prior art.⁹⁹ Translated for a moment into terms of utility patents, it is as though we granted a patent on a car having an intermittent windshield wiper as the novel feature and then allowed the patentee to sue a car maker that didn't include that feature because the cars otherwise had the same elements. That can't possibly be the right rule.

The Federal Circuit did express concerns with how the point-of-novelty test worked as applied to patents on combinations. I discuss that concern in more detail in the next Part.¹⁰⁰ And the court took some steps to try to sneak back in the prior-art comparison it had just rejected, declaring that the ordinary observer was henceforth one who was "familiar with the prior art."¹⁰¹ So one reasonable reading of the case is that the court intended not to make the point of novelty irrelevant but simply to change the burden of proof on whether the defendant appropriated the novelty of the patentee's invention.¹⁰² This concern with the appropriate burden of proof is similar to what motivates the court in utility patent cases to reject the practicing-the-prior-art defense¹⁰³: defendants shouldn't be able to turn a defense that they must prove by clear and convincing evidence into something that the plaintiff must prove by a preponderance of the evidence.

But if avoiding burden-shifting was the court's goal, it didn't do a very good job of achieving it. Whatever the legal standard, we don't want patentees suing defendants who do no more than practice the prior art. Such suits can't succeed in utility patent law because of the requirement that each element be present in the accused device. If the defendant is merely practicing

⁹⁷ See *id.* at 678.

⁹⁸ See, e.g., *Int'l Seaway Trading Corp. v. Walgreens Corp.*, 589 F.3d 1233, 1237–38 (Fed. Cir. 2009). For a discussion of this extension, see Marta Kowalczyk, Recent Developments, *Design Patent Infringement: Post-Egyptian Goddess*, 2010 U. ILL. J.L. TECH. & POL'Y 239, 250–56.

⁹⁹ See *Int'l Seaway*, 589 F.3d at 1237–38.

¹⁰⁰ See *infra* Part III.A.

¹⁰¹ *Egyptian Goddess*, 543 F.3d at 677, 681.

¹⁰² See *id.* at 678–79.

¹⁰³ See, e.g., *Kinetic Concepts, Inc. v. Blue Sky Med. Grp., Inc.*, 554 F.3d 1010, 1025 (Fed. Cir. 2009) (“‘[P]racticing the prior art’ is not a defense to patent infringement.”).

the prior art and the patent is construed so broadly that it covers what the defendant is doing, the patent will be invalid.¹⁰⁴ So to infringe a utility patent, the defendant must include the thing that makes the invention patentable. But after *Egyptian Goddess*, there is no longer such a requirement in design patent law. A design patent can now be infringed even by a product that lacks the new feature encompassed by the patent as long as an ordinary observer would think the two were substantially the same. The legal doctrine that prevented that from happening—the point-of-novelty test—fell victim to the commandment that inventions must not have a gist even when they do.

5. *Claim Construction and Infringement.*—In a peripheral claiming system, the outer boundaries of the patent are defined by the language of the patent claims. Application of the principle that all elements of a patent have equal significance creates traps for unwary patent owners. Many, perhaps all but one, of the elements of a patent claim are efforts to describe existing technology rather than to define what is new about the patentee's invention. But a defendant can avoid infringement by eliminating any one of those elements even if it appropriates the point of novelty of the patentee's invention in its entirety.

The result is that patentees often lose their infringement cases because the defendant designs around the patent by avoiding a seemingly unimportant but claimed feature of the invention. In *Larami Corp. v. Amron*, for example, the patentee invented a piston-pump mechanism for a water gun that allowed the gun to shoot much farther than prior guns.¹⁰⁵ The patent claim covered a water gun with various elements, including a “housing . . . having a chamber therein for a liquid.”¹⁰⁶ The patentee didn't invent holding water in the barrel of the gun; the element was just included to define the prior-art gun the patentee had improved. But because the defendant in that case stored the water outside the barrel of the gun, in a detachable reservoir, the court concluded that it did not infringe the patent.¹⁰⁷

In theory, the doctrine of equivalents takes care of problems like this by allowing a patentee to expand the scope of its claims to cover products that are only insubstantially different from the patented invention.¹⁰⁸ But the Federal Circuit, in *Pennwalt Corp. v. Durand-Wayland, Inc.*,¹⁰⁹ and the Supreme Court, a decade later in *Warner-Jenkinson Co. v. Hilton Davis Chemical Co.*,¹¹⁰ rejected the idea that a defendant could infringe under the

¹⁰⁴ See 35 U.S.C. § 102 (2006).

¹⁰⁵ 27 U.S.P.Q.2d 1280, 1281 (E.D. Pa. 1993).

¹⁰⁶ *Id.* at 1283.

¹⁰⁷ *Id.* at 1283–84.

¹⁰⁸ See, e.g., *Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 608–09 (1950).

¹⁰⁹ 833 F.2d 931 (Fed. Cir. 1987) (en banc).

¹¹⁰ 520 U.S. 17 (1997).

doctrine of equivalents because its product was insubstantially different from the patent as a whole.¹¹¹ Rather, the doctrine of equivalents, like literal infringement, must be measured element by element.¹¹² As a result, it falls victim to the same problem: the absence of an equivalent of a single prior-art element will doom a doctrine-of-equivalents claim. Indeed, the patentee in *Larami* lost its doctrine-of-equivalents argument for the same reason it lost on literal infringement: it didn't store the water "in" the chamber or anything like it.¹¹³

Could the patentee in *Larami* have solved this problem by drafting the claims differently? Perhaps, if it had foreseen the change *Larami* later made or if it had just been more parsimonious in the words it used in the claims. But the point for our purposes is that the patentee shouldn't have had to worry about the precise formulation of the words used to describe elements of its product that were already well-known in the art. By focusing attention on every element, including the old ones, the no-point-of-novelty rule makes it much more likely that patentees will lose the very cases we should want them to win: ones, like *Larami*, in which the defendant adopts the novel feature of the patent.

The uncertainty associated with words also means that the no-point-of-novelty rule renders patent scope less, not more, clear. Patent claims are supposed to give the world notice of what is and is not claimed.¹¹⁴ But when patent litigation focuses on ambiguities in the words of claim elements that don't even relate to what the patentee actually invented, the result is to enlarge the number of things we can't predict about the validity and infringement of a patent.

6. *Damages.*—If patent owners can hamstring themselves by including prior art elements in their patent claims, why do they do it? One answer has to do with the way damages are calculated. We award as damages either lost profits from sales or, if the patentee can't show lost profits, a reasonable royalty for the use of the invention.¹¹⁵ Those reasonable royalties are calculated as a percentage of the sales of a product; that is, the damage

¹¹¹ *Id.* at 28–30, 40 (holding that the doctrine of equivalents must involve an element-by-element comparison); *Pennwalt*, 833 F.2d at 934–36 (upholding the district court's doctrine-of-equivalents analysis because it proceeded element by element).

¹¹² See *Warner-Jenkinson*, 520 U.S. at 29; *Pennwalt*, 833 F.2d at 935.

¹¹³ *Larami Corp. v. Amron*, 27 U.S.P.Q.2d 1280, 1285–86 (E.D. Pa. 1993).

¹¹⁴ *White v. Dunbar*, 119 U.S. 47, 51–52 (1886) (noting that a claim should not be treated "like a nose of wax which may be turned and twisted in any direction, by merely referring to the specification, so as to make it include something more than, or something different from, what its words express. . . . The claim is a statutory requirement, prescribed for the very purpose of making the patentee define precisely what his invention is; and it is unjust to the public, as well as an evasion of the law, to construe it in a manner different from the plain import of its terms.").

¹¹⁵ See 35 U.S.C. § 284 (2006); Mark A. Lemley, *Distinguishing Lost Profits from Reasonable Royalties*, 51 WM. & MARY L. REV. 655, 655 (2009).

award reflects a percentage royalty rate multiplied by the royalty base (the total sales of the relevant product).¹¹⁶

But what is the relevant product? If it is a small component with limited sales, damages are likely to be small. But if the royalty base is large, damages are likely to be higher.¹¹⁷ And here is where the no-point-of-novelty rule works its mischief. Rather than focusing on the novel feature of the patentee's invention, the rule requires us to look at the whole claimed invention, regardless of whether the elements of that invention are novel or not. As a result, if the inventor of the intermittent windshield wiper claims a windshield wiper, his damages in a lawsuit will be measured by the sale of windshield wipers. But if he claims the identical invention as a car with an intermittent windshield wiper as an element, the royalty base is the sale of cars, a much larger number. As a result, patent plaintiffs tend to draft their claims to cover whole products, not the pieces they actually contribute, and they are inclined to sue downstream integrated manufacturers rather than upstream component suppliers.

One district court opinion, written by Federal Circuit Chief Judge Rader, suggests that the royalty base should be the smallest marketable unit that incorporates the invention.¹¹⁸ The Federal Circuit, by contrast, has suggested that the use of a broader royalty base is defensible although mistakenly characterizing the royalty base issue as involving the "entire market value rule."¹¹⁹ Regardless of which approach prevails, as long as the "smallest salable unit" is determined by the claims as a whole rather than by the novel component of the invention, it will be subject to manipulation by patentees seeking to increase the value of their patents.

C. *The Problem Is Systemic*

Treating old elements of an invention with the same force as the novel elements creates a number of problems for the patent system. Sometimes we avoid those problems by ignoring the commandment and focusing on the point of novelty. When we don't, we often go astray.

The problem is not simply with particular applications of the no-point-of-novelty principle. The problem is with the principle itself. It makes lit-

¹¹⁶ See Daralyn J. Durie & Mark A. Lemley, *A Structured Approach to Calculating Reasonable Royalties*, 14 LEWIS & CLARK L. REV. 627, 632 (2010).

¹¹⁷ See, e.g., Lemley, *supra* note 115, at 668–69. Theoretically, this should be balanced by a lower percentage of that higher base. In practice, however, factfinders aren't very good at considering the other contributors to value and will tend to overstate the appropriate royalty percentage. See, e.g., Mark A. Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 TEX. L. REV. 1991, 2029–35 (2007) (collecting evidence of this phenomenon).

¹¹⁸ See *Cornell Univ. v. Hewlett-Packard Co.*, 609 F. Supp. 2d 279, 287–88 (N.D.N.Y. 2009).

¹¹⁹ See *Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1339 (Fed. Cir. 2009). For an explanation of the court's error in terminology—and what the real "entire market value rule" is about—see Lemley, *supra* note 115, at 668 n.63.

the sense for a law focused on invention to pay no attention to what is inventive about the patentee's technology. A legal system that once focused on what the patentee actually added—demanding a working model of the invention and focusing the inquiry on that actual device¹²⁰—was replaced over time by a system that focuses on the words added by patent lawyers. In the early days of the patent system, there was no such thing as a patent claim. The claim developed as an optional device written by applicants to call attention to what was new and different about the invention.¹²¹ Those claims gradually became expected, then required, and then the central focus of the patent inquiry.¹²² Today, we have reified the claims of the patent to such an extent that we are unwilling even to look behind those claims to see what parts of them reflect the patentee's actual invention. The result shouldn't be surprising: both patentees and accused infringers use the ambiguity of those words to achieve their own ends.¹²³

The problem may be deeper than just the no-point-of-novelty rule. The heart of the problem may be the law's focus on the language of lawyer-created claims rather than inventor-created technologies.¹²⁴ But it seems clear that the no-point-of-novelty rule exacerbates the problem. It prevents us from distinguishing the words that represent what the patentee added from the words that don't, and it accordingly means that we are even further removed from the invention we are supposed to be protecting.

III. CAN WE LIVE WITH POINT OF NOVELTY?

Suppose we were to focus the attention of the patent system on the point of novelty of the invention. Would the sky fall? In this Part, I consider some objections to a point-of-novelty approach and conclude that they can be overcome without much difficulty.

A. Combination Inventions

The first objection to a point-of-novelty system is the one that caused courts to shy away from it originally: inventions often take the form of combinations of existing elements rather than the creation of new ones. Combination inventions require the combination of all the elements, so one could argue that all the elements, or perhaps none of them, reflect the point of novelty.

¹²⁰ See *History*, ROTHSCHILD PETERSON PATENT MODEL MUSEUM, <http://www.patentmodel.org/about/history> (last visited Jan. 30, 2012) (describing the history of the requirement that patent applicants submit a model of their invention).

¹²¹ See Burk & Lemley, *supra* note 13, at 1766–67.

¹²² See *id.* at 1767.

¹²³ See *id.* at 1744–45 & nn.5–9.

¹²⁴ For a suggestion along these lines, see *id.* at 1744–46.

Combination patents are indeed an important category of inventions. But it doesn't follow that a patent has no point of novelty simply because it is a combination of existing elements. The novelty resides precisely in a combination that didn't exist in the prior art: it is that new combination that should be the focus of our analysis. What we want to know is whether the idea to combine, say, chocolate and peanut butter, is new and nonobvious; who thought to combine them and when? Neither chocolate nor peanut butter is the "main" part of the chocolate-plus-peanut-butter claim; it is the combination of the two that is the central feature of the invention.

We think in precisely that way when considering inventorship claims. As noted above, a participant in the inventive process is not an inventor merely because she adds to the claims something known in the prior art. To be an inventor, she must make a substantial contribution to the novel aspects of the invention.¹²⁵ For a combination patent, a joint inventor accordingly must contribute to the idea of combining things that have never been combined before. There is no reason the same can't be true of novelty, nonobviousness, and infringement analysis.

B. *Burdens of Proof*

A second worry that animates the resistance to point-of-novelty analysis is one about the blurring of burdens of proof. For example, the Federal Circuit in *Egyptian Goddess* was concerned that the point-of-novelty element of infringement analysis allowed the defendant to sneak an invalidity argument (which he would have had to prove by clear and convincing evidence) into infringement, thereby taking advantage of a lower burden of proof.¹²⁶ This is the reason the Federal Circuit rejects "practicing the prior art" as a defense.

The fact that infringement and validity involve different burdens of proof is a good reason to keep the analysis of the two legally separate.¹²⁷

¹²⁵ See *supra* notes 41–43 and accompanying text.

¹²⁶ *Egyptian Goddess, Inc. v. Swisa, Inc.*, 543 F.3d 665, 678–79 (Fed. Cir. 2008) (en banc).

¹²⁷ There is substantial debate over the extent to which the burdens should differ. For arguments that the undifferentiated clear-and-convincing-evidence presumption of validity makes little sense, see, for example, *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 426 (2007), which explains that "[w]e need not reach the question whether the failure to disclose Asano during the prosecution of Engelgau voids the presumption of validity given to issued patents, for claim 4 is obvious despite the presumption. We nevertheless think it appropriate to note that the rationale underlying the presumption—that the PTO, in its expertise, has approved the claim—seems much diminished here"; Doug Lichtman & Mark A. Lemley, *Rethinking Patent Law's Presumption of Validity*, 60 STAN. L. REV. 45, 48, 59–61 (2007), explaining that "[a]s a result [of the presumption of validity], courts today regularly enforce overbroad and undeserved patents, and strategic applicants continue to apply for undeserved patents knowing that there is a good chance the PTO will err"; and Christopher A. Cotropia, Mark Lemley & Bhaven Sampat, *Do Applicant Patent Citations Matter? Implications for the Presumption of Validity* 3 (Stanford Law & Econ. Olin Working Paper No. 401, 2010), available at <http://ssrn.com/abstract=1656568>, which argues that the presumption is undermined because "patent examiners effectively ignore almost all applicant-

But it doesn't justify paying no attention to the point of novelty. It is perfectly straightforward to focus on the novel aspect of the patentee's invention separately in both inquiries, asking whether the defendant implemented the novel feature of the invention and whether the defendant can prove that feature was not in fact novel.¹²⁸

A focus on the point of novelty, even with different burdens of proof, avoids the conundrum created by *Egyptian Goddess* by which the defendant can infringe a design patent by copying only elements that are unquestionably in the prior art. We can still separate validity and infringement analysis and apply a different burden of proof, and we should. But we will at least be focusing both of those analyses on the right questions.

C. Patentable Subject Matter

A final proffered justification for the status quo lies in the history of point-of-novelty analysis in patentable subject matter. Patent subject matter eligibility is generally quite broad, but abstract ideas, laws of nature, and natural phenomena are excluded from its scope.¹²⁹ The courts have long distinguished between the patenting of natural laws or phenomena themselves and the patenting of practical applications or uses of those natural laws. The former are forbidden, but the latter are not.¹³⁰ Indeed, most inventions at their heart involve a new application of some natural law or object.

In 1978, however, the Supreme Court decided *Parker v. Flook*.¹³¹ The patent there involved the use of a computer program to calculate an "alarm limit" in a catalytic conversion process to warn that it might need to be shut down if temperature, pressure, or flow got too high.¹³² The physical process was known in the prior art, but the computer program and the mathematical formula it employed were new.¹³³ The Court ignored that fact, however:

[T]he novelty of the mathematical algorithm is not a determining factor at all. Whether the algorithm was in fact known or unknown at the time of the

submitted art, relying almost exclusively on prior art they find themselves." The Supreme Court recently considered this issue but declined to narrow the clear-and-convincing-evidence standard. *Microsoft Corp. v. i4i Ltd. P'ship*, 131 S. Ct. 2238, 2242–43 (2011). What is clear is that the patent statute requires at least some burden of proof be placed on defendants, *see* 35 U.S.C. § 282 (2006), so the burdens of proof for infringement and validity will never be identical.

¹²⁸ It is true that at some point in this process the court will have to identify a novel feature of the invention, so it may make sense to approach validity first if the parties cannot agree on the alleged point of novelty.

¹²⁹ *Bilski v. Kappos*, 130 S. Ct. 3218, 3225 (2010).

¹³⁰ *See, e.g., Lemley, Risch, Sichelman & Wagner, supra* note 27 at 1335–37.

¹³¹ 437 U.S. 584 (1978).

¹³² *Id.* at 585–86.

¹³³ *Id.*

claimed invention, as one of the “basic tools of scientific and technological work,” it is treated as though it were a familiar part of the prior art.¹³⁴

The court offered an interesting twist on the point of novelty: it dissected the invention to find the point of novelty but then concluded that the novel mathematical algorithm should be ignored because mathematical algorithms shouldn’t count. That conclusion was quite remarkable. Under that approach, many drugs would be unpatentable because the discovery of their efficacy involves the mere identification of a previously unknown natural phenomenon.¹³⁵ Computer software would be unpatentable because it is composed of algorithms. Even the classic mercury thermometer might not be patentable because it was based on the discovery of a physical attribute of mercury: the fact that it expands at a predictable rate as temperature increases.¹³⁶

Fortunately, this *Flook* approach was short-lived. The Supreme Court repudiated it three years later in *Diamond v. Diehr*, which held valid a patent claim almost exactly parallel to the one in *Flook*.¹³⁷ Since *Diehr*, it has been generally accepted that patentable subject matter is evaluated by considering the claim as a whole. As long as some elements of the claim include some physical device or transform an article to another state or thing, it doesn’t matter that the novel piece of the invention is based on an abstract idea or a natural phenomenon.¹³⁸ While the Federal Circuit and Supreme Court decisions in *Bilski v. Kappos* revived parts of *Flook*’s holding, they did not revive its dissection approach.¹³⁹

It may be reasonable, therefore, to worry that a general focus on the point of novelty of the patent will mark a return to the bad old days of restrictive patentable subject matter eligibility. In fact, however, the two are not necessarily connected. First, the substantive restrictions on patenting abstract ideas or laws of nature are arguably misguided.¹⁴⁰ There is good reason not to allow the patenting of ideas that we were already using,

¹³⁴ *Id.* at 591–92 (citation omitted) (quoting *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972)).

¹³⁵ Taxol, for instance, a drug used in chemotherapy treatments, is derived from the bark of the Pacific yew tree. *Chemotherapy Drugs—Taxol*, CHEMOCARE.COM, <http://www.chemocare.com/bio/taxol.asp> (last visited Jan. 30, 2012).

¹³⁶ See *Mercury—Thermometers*, U.S. ENVTL. PROTECTION AGENCY, <http://www.epa.gov/mercury/thermometer-main.html> (last visited Jan. 30, 2012).

¹³⁷ 450 U.S. 175, 187–88 (1981).

¹³⁸ See, e.g., *id.* (“It is now commonplace that an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.”).

¹³⁹ *Bilski v. Kappos*, 130 S. Ct. 3218, 3230 (2010) (stating that *Diehr* “established a limitation on the principles articulated in *Benson* and *Flook*. . . . *Diehr* emphasized the need to consider the invention as a whole, rather than ‘dissect[ing] the claims into old and new elements and then . . . ignor[ing] the presence of the old elements in the analysis.’” (alterations in original) (citations omitted) (quoting *Diehr*, 450 U.S. at 188)).

¹⁴⁰ See Michael Risch, *Everything Is Patentable*, 75 TENN. L. REV. 591, 624–28 (2008).

whether knowingly or unknowingly. But the novelty and inherency doctrines accommodate that concern.¹⁴¹ There is also good reason not to grant a patent on an idea in the abstract¹⁴² before it has been put to a specific, valuable use, but the utility doctrine specifically forecloses that possibility.¹⁴³ And there is good reason to worry about overbroad patent claims that lock up a wide swath of potential future applications. But the enablement and written description doctrines largely address that concern.¹⁴⁴ If my discovery of a previously unknown idea or natural phenomenon has resulted in useful applications that the world never had before, and if I limit my patent claim to those useful applications, why shouldn't I be entitled to a patent?

Second, even if we think it important to preserve a separate abstract idea doctrine and not to count the new discovery itself, it is possible to do so in a point-of-novelty regime without adopting the dubious reasoning of *Flook*. Consider the thermometer. We could call the point of novelty the temperature-responsive expansion of the element mercury, and—per *Flook*—disentitle it to patent protection. But we don't have to. We might instead observe that the *application* of that fact about the natural world—putting the mercury in a test tube and marking it with temperature indicators—is itself the point of novelty. Or the point of novelty could be the combination of the natural phenomenon with the practical application.

In short, the no-point-of-novelty rule has had the incidental benefit of avoiding a problematic interpretation of patentable subject matter. But that fact doesn't justify the whole edifice. We can and should reject the reasoning of *Parker v. Flook* even in a point-of-novelty regime.

CONCLUSION

Patent law today goes out of its way to avoid focusing attention on what the patentee actually invented—the point of novelty of the invention. As one might suspect, the results have not been encouraging. We will better foster invention if we pay more attention to the inventions we are supposed to be promoting. Within some doctrines, the Federal Circuit does this either expressly or implicitly. In other areas, however, its refusal to pay attention to the point of novelty results in problematic outcomes. Going forward, courts should focus on the point of novelty in assessing patents. Doing so would be an important step towards a patent law that focuses on

¹⁴¹ See Dan L. Burk & Mark A. Lemley, *Inherency*, 47 WM. & MARY L. REV. 371, 407–08 (2005) (explaining the inherency doctrine).

¹⁴² I believe there is room for a narrow abstract ideas doctrine focused on overclaiming. See Lemley, Risch, Sichelman & Wagner, *supra* note 27, at 1328–29. But that doctrine would not exclude any novel element of a patent claim in deciding whether the invention was patentable subject matter.

¹⁴³ See, e.g., *Brenner v. Manson*, 383 U.S. 519, 535 (1966).

¹⁴⁴ *O'Reilly v. Morse*, 56 U.S. (1 How.) 62, 112–14 (1854); see also Lemley, Risch, Sichelman & Wagner, *supra* note 27, at 1329–32, 1340.

what the patentee actually invented rather than what the patent lawyers wrote.