

IN MEMORIAM BEST MODE

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On September 16, 2011, President Obama signed into law the Leahy-Smith America Invents Act (“AIA” or “Act”).¹ It embodies the most substantial legislative overhaul of patent law and practice in more than half a century. Commentators have begun the sizable task of unearthing and calling attention to the many effects the Act may have on the American and international innovation communities.² Debates have sprung up over the consequences to inventors small and large,³ and commentators have obsessed over the Act’s so-called “first-to-file” and “post-grant review” provisions. Lost in the frenzy to understand the consequences of the new Act has been the demise of patent law’s “best mode” requirement.

The purpose of this Essay is to draw attention to a benefit the best mode requirement provides—or perhaps “provided” would be a better word—to the patent system that has not been the subject of previous discussion. The benefit we describe directly challenges the conventional attitude that best mode is divorced from the realities of the patent system and the commercial marketplace. Our analysis suggests that patent reformers may have been much too quick to dismiss best mode as a largely irrelevant, and mostly problematic, doctrine.

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1. Pub. L. No. 112-29, 125 Stat. 284 (2011) (to be codified in scattered sections of 35 U.S.C.).

2. See Jason Rantanen & Lee Petherbridge, Commentary, *Toward a System of Invention Registration: The Leahy-Smith America Invents Act*, 110 MICH. L. REV. FIRST IMPRESSIONS 24 (2011), <http://www.michiganlawreview.org/assets/fi/110/rantanenpetherbridge.pdf>.

3. See Lee Petherbridge & Jason Rantanen, Jay P. Kesan, Debate, *America Invents, More or Less?*, 160 U. PA. L. REV. PENNUMBRA 229 (2012), <http://www.pennumbra.com/debates/pdfs/AmericaInvents.pdf>.

I. BACKGROUND ON THE BEST MODE REQUIREMENT

The requirement that a patent applicant disclose a “best mode” means that the applicant must include in its patent specification the best embodiment or “mode” of practicing the invention described and claimed in the application.⁴ Before the AIA, if it came to light during an infringement suit that an applicant knew of a best mode of practicing its invention and failed to disclose that best mode in its patent specification, courts were required to declare the relevant patent claims invalid.⁵

The policy purpose of the best mode requirement has been something of an enigma. Courts have reasoned, and commentators have repeated, that its purpose is to allow competitors to compete fairly with the patentee following the expiration of the patent.⁶ The underlying concern is that a strategically minded patent applicant can make an enabling disclosure of an invention it has conceived and at the same time keep secret details crucial to the practice of the most commercially valuable forms of the invention. When this happens, the public receives less than it bargained for in conferring a patent, and patentees that withhold best modes might obtain a de facto extension of their patent terms, thereby distorting the incentive structure Congress imposed with the patent system.

One might have thought these reasons adequate to support the best mode requirement. But they have not been. Commentators have complained that the requirement “ignores the realities of the patent system and the commercial marketplace”⁷ and, stemming from the fact that the patent laws of other countries do not appear to require patent applications to include a best mode, that foreign applicants are disadvantaged by the requirement. For these reasons, and perhaps for others, several blue ribbon panels recommended the abolition of the best mode requirement.⁸

The AIA adopted this recommendation in substantial part by stripping courts of the power to declare patents either invalid or unenforceable for failure to disclose a best mode.⁹ Therefore, while it is technically true that amended 35 U.S.C. § 112 still “requires” patent applicants to disclose a best mode if they know of one,¹⁰ courts will no longer enforce the requirement. There is little

4. See 35 U.S.C. § 112 (2006).

5. See *Chemcast Corp. v. Arco Indus. Corp.*, 913 F.2d 923, 928 (Fed. Cir. 1990).

6. See *Christianson v. Colt Indus. Operating Corp.*, 870 F.2d 1292, 1302 n.8 (7th Cir. 1989).

7. 3 DONALD S. CHISUM, CHISUM ON PATENTS § 7.05 (2010).

8. See, e.g., NAT'L RESEARCH COUNCIL, A PATENT SYSTEM FOR THE 21ST CENTURY 82-83 (Stephen A. Merrill et al. eds., 2004).

9. Leahy-Smith America Invents Act, Pub. L. No. 112-29, § 15(a)-(b), 125 Stat. 284, 328 (2011) (to be codified at 35 U.S.C. §§ 119, 120, 282(b)(3)).

10. 35 U.S.C. § 112(a) (2006), amended by Leahy-Smith America Invents Act § 4.

dispute that this development has, as a practical matter, effectively eliminated the best mode requirement from patent law.

II. WHY WE WILL MISS BEST MODE

The best mode requirement will be missed because it provides an important and unappreciated benefit to the patent system's incentive structure. More specifically, the requirement protects the "ultimate condition of patentability": the doctrine that for an invention to be patentable it must be nonobvious to a person having ordinary skill in the art at the time the invention was made. Indeed, the best mode requirement is part and parcel of the doctrine that only nonobvious inventions are patentable. Best mode plays a critical role in establishing the level of "inventiveness" necessary for a patent that the American patent system has long considered optimal.

Understanding the importance of the best mode requirement and its relationship to nonobviousness requires some explanation of the law and policy of nonobviousness. The law of nonobviousness measures whether subject matter claimed to be patentable is a sufficient technological advance over existing art to warrant the grant of a patent by comparing claimed subject matter to the prior art, including the very latest technological advances, and asking whether the differences would be apparent—or obvious—to a person having ordinary skill in the art. Because of this, the law of nonobviousness defines a territory of public domain, comprising merely obvious differences, at the bleeding edge of technological advancement that is not, and by law cannot, be claimed in a patent. The law thus insists on regions of unrestricted information around the very latest technological innovations.

One way to visualize this concept is to think of a sponge. The basic rule of law is that most information is free to be used and copied by anyone.¹¹ Accordingly, one can think of the law as creating a solid block, or nearly so, of unrestricted information. The patent statutes provide an important exception to this basic rule of law, and when applied have the effect of turning the solid block of information into a structure that resembles a sponge. This is so because patent law authorizes the insertion of protected pockets,¹² which can be thought of as "bubbles" of restricted information, into what would otherwise be a nearly solid block of legally unrestricted information.

Sponges with bubbles farther apart represent a law that contains a harder-to-satisfy nonobviousness requirement, and thus describe a law that thrusts more information into the public domain each time a patent is granted, or the contents of an application published.¹³ Sponges with bubbles closer together

11. *Cheney Bros. v. Doris Silk Corp.*, 35 F.2d 279, 280 (2d Cir. 1929).

12. *See* 35 U.S.C. § 271 (2006).

13. *See* Robert P. Merges, *Uncertainty and the Standard of Patentability*, 7 HIGH TECH. L.J. 1, 13-14 (1992).

represent a law that contains an easier-to-satisfy nonobviousness requirement—allowing later innovators to patent smaller incremental advances—and thus describe a law that pushes less information into the public domain each time a patent is granted, or the contents of an application published.

In keeping with the sponge analogy, the best mode requirement helps define the legally required distance between bubbles of restricted information. Specifically, it encourages a greater distance between bubbles and thus helps to limit the patentability of modest incremental improvements, the patenting of which may adversely impact the incentive structure imposed by the patent laws. The best mode requirement, in other words, cooperates with nonobviousness doctrine to protect the public domain.

How does best mode do so? In explaining how, we refer to two generic examples. Both stem from venerable patent law doctrines: the rule that while a species anticipates a genus, a genus does not always anticipate a species¹⁴ and the principle that patents are available not only for inventions but also for improvements to inventions.¹⁵ Because these common patentability situations are so similar—an especially effective or commercially valuable species of a vaguely described invention can be cast as an improvement to that invention—the incentive structure benefits of best mode revealed through these examples will be discussed together.

Sometimes a withheld best mode can be cast as an especially effective or commercially valuable species of a more broadly and vaguely claimed genus. By the rule that a genus does not always anticipate a species, the withheld best mode might therefore be separately, and potentially later, patented. The public domain-defining power of a patent from which the best mode was withheld is, accordingly, smaller. Had the best mode been included in the specification and not claimed, it would immediately have entered the public domain.¹⁶ In any event, it becomes unpatentable at a later time to the same applicant and is in the public domain and unpatentable as to any other applicant. In contrast, by withholding the best mode a known embodiment of an invention can in some cases be separately patented as a distinct “invention.”

Similarly, one of the most useful doctrinal concepts for separating obvious improvements from patentable ones is the commercial impact of the claimed “improvement” on the art supposedly improved. This doctrinal situation is tailored nearly perfectly for withholding best modes, as it is almost universally agreed that the incentive for patent applicants is to withhold information concerning the most commercially valuable embodiments. Thus, a patent applicant might withhold information concerning a commercially valuable embodiment

14. *See, e.g.,* Bristol-Myers Squibb Co. v. Ben Venue Labs., Inc., 246 F.3d 1368, 1380 (Fed. Cir. 2001) (evincing this rule).

15. 35 U.S.C. § 101 (2006) (unchanged by the AIA).

16. Johnson & Johnston Assocs. v. R.E. Serv. Co., 285 F.3d 1046, 1053 (Fed. Cir. 2002).

and later seek a patent relying on the commercial significance of the “improvement” represented by the embodiment to argue that the embodiment is itself distinctly patentable. Had the best mode been disclosed, by contrast, the possibility of an “improvement” patent either directed to or relying on that information would be diminished.

To extend this analysis, consider the consequences had the especially effective or commercially valuable species—the best mode—been disclosed. It is not simply the case that an embodiment practicing the specific best mode disclosed is barred from future patenting. Because of the way that the best mode requirement cooperates with nonobviousness doctrine, embodiments similar to or predictable in view of what the best mode disclosure adds to the prior art are also barred from future patenting. The disclosure of an especially effective or commercially valuable species often inherently discloses the common principles and characteristics of the species that make the species effective or valuable. The disclosure of such common principles and characteristics can thus predict a genus of commercially valuable prior art embodiments, and so often makes them apparent to persons having ordinary skill in the art. The more generic the common principles and characteristics, the greater the distance between the bubbles and the greater the size of the public domain created.

In addition, by requiring an applicant to disclose the details of the most effective species of the invention, best mode requires a more “complete” disclosure of an invention. More complete disclosures can establish larger regions of obvious subject matter and thus a thicker public domain, and not just because there are common principles and characteristics inherent in the best modes disclosed. More complete disclosures, particularly those that contain specific examples, can better reveal the interrelationships of the invention’s elements with each other and with relevant features of the prior art, and for this reason further extend the horizon made predictable by the disclosure.

Thus it is that the best mode requirement cooperates with nonobviousness doctrine to protect the balance between incentive and access in the patent system. Our analysis, moreover, implies that in a world with a best mode requirement the predictive capacity of a person having ordinary skill in an art will often be extended and innovators will often need to reach farther for their next patentable invention. This suggests that an important, and unexpected, policy purpose of best mode is to help establish the level of “inventiveness” necessary for an optimal patent system.

We finish with a final thought: best mode may enlist other doctrines to the cause of protecting the public domain. Even while best mode can produce patent disclosures that have broader prior art effect, it simultaneously can cooperate with the doctrines of claim construction and written description to produce patents with claims that may be construed as having a narrower scope. Detailed descriptions of especially effective embodiments of an invention can have the effect of introducing elements that courts often find, either through the application of claim construction or written description doctrines, to be essential ele-

ments of an invention. Competitors that do not employ such essential elements are not infringers. Thus, best mode can further help establish and maintain the public domain by limiting the amount of information restricted by patents, thereby increasing the distance between bubbles of patent-restricted information.